Collected Essays on Learning and Teaching

Learning Without Boundaries? Apprentissage Sans Limites?

Volume VI

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Foreword

On behalf of the Editorial Board, I am pleased to present Volume VI 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). From its inception as a CD-format collection, *CELT* has grown into a multi-faceted print and online journal publishing research on the Scholarship of Teaching and Learning (SoTL) by both Canadian and International authors. Since the journal moved to its online platform in 2011, tens of thousands of full-text articles have been downloaded each year by people from across the world, upholding *CELT’s* open access policy as part of our commitment to a global exchange of knowledge.

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 six years by submitting manuscripts to the Windsor-based team. All six volumes of *CELT* can now be accessed on the journal’s website: celt.uwindsor.ca.

This year we received 36 manuscripts from instructors across Canada, the United States, Europe, New Zealand, and Australia. Each manuscript was read by three reviewers representing an international network of faculty and educational developers. Volume VI features 25 articles, and reflects the work of over 50 authors who presented in 2012 at STLHE’s 32nd Annual Conference in Montréal. Co-hosted by McGill University, Concordia University, Université de Montréal and Champlain College Saint-Lambert, the Conference marked STLHE’s return to Québec after over 20 years of touring the country. Please feel free to explore *CELT* in the order most convenient to you, and to print out one or more of the articles to read and to consult at your leisure.

The Editors once again thank Managing Editor Jessica Raffoul, Media Artist Peter Marval, the authors, the reviewers, as well as the staff of the Centre for Teaching and Learning at the University of Windsor for their ongoing efforts to produce *CELT*. We look forward to examining the theme of the 2013 STLHE conference “Learning to live, learning for life” in Volume VII of *CELT*.

Alan Wright, University of Windsor,

for the Editorial Board consisting of
Liv Marken & Kim West, University of Saskatchewan,
Katrina Falkner, University of Adelaide, AU,
Gordon Joughin, University of Queensland, AU, &
Mark Schofield, Edge Hill University, UK
La communauté d’apprentissage :
une approche innovante au développement pédagogique des formateurs

Claire Bélanger
Université de Montréal

De 2010 à 2011, je me suis engagée, en tant que conseillère en pédagogie au Centre d’études et de formation en enseignement supérieur à l’Université de Montréal, dans un processus d’accompagnement et d’étude d’une communauté d’apprentissage. Cette communauté d’apprentissage regroupait des professionnels de la Direction de la santé publique qui donnaient de la formation à des étudiants provenant de différents programmes de l’Université. Étant donné les effets positifs de la participation à la communauté sur la pratique d’enseignement de ces formateurs, j’ai souhaité partager mon expérience avec les enseignants universitaires et les personnes qui les accompagnent dans leur développement pédagogique. Plus particulièrement, mon article a pour but de fournir des informations sur ce qu’est une communauté d’apprentissage, des moyens pratiques de mise en œuvre de ce type de dispositif ainsi que de ses retombées possibles.

Le contexte

Les professionnels de la Direction de la santé publique reçoivent des étudiants de l’Université de Montréal dans le cadre de stages ou de formations courtes. Pour ces professionnels, l’enseignement n’est pas leur premier métier. Ils sont d’abord des médecins, des infirmières, des sociologues, des urbanistes, des travailleurs communautaires qui, au fil de leur parcours professionnel, en sont venus à assumer des responsabilités de formation.

Un sondage mené auprès de ces professionnels avait fait ressortir leurs besoins de formation en pédagogie. Ils désiraient fortement acquérir de nouvelles stratégies pédagogiques et approfondir leur pratique dans le but d’accroître l’apprentissage des étudiants. Ils avaient tous déjà suivi des ateliers pédagogiques de courte durée, jugés insuffisants à soutenir un changement de pratique. Lorsque la Direction de la santé publique m’a demandé de proposer un nouveau dispositif de développement pédagogique à ses professionnels, l’occasion me semblait propice à l’expérimentation d’une modalité de codéveloppement pédagogique, la communauté d’apprentissage.

Pourquoi cette modalité? Deux raisons ont motivé mon choix. Dans un contexte où des adultes veulent progresser en enseignement, le recours à une communauté comme approche au développement pédagogique devient
un choix judicieux, car elle repose sur des principes reconnus en andragogie tels que (Knowles, Holton et Swanson, 2005):

- Les adultes sont motivés à apprendre si les activités répondent à leurs situations, préoccupations et intérêts immédiats.
- La source la plus importante d’apprentissage pour les adultes est leur expérience professionnelle et personnelle.
- Les adultes ont un besoin profond d’autonomie dans leur apprentissage.
- L’hétérogénéité des groupes d’adultes doit être prise en compte.

De plus, à l’instar de Palmer (1998), je crois que la progression en enseignement dépend d’une pratique partagée et d’un dialogue entre les personnes qui sont responsables de formation. On y va par essai et erreur, mais notre volonté d’expérimenter est sévèrement compromise si nous n’avons pas une communauté qui encourage de tels risques.

Douze professionnels-formateurs ont décidé de se joindre à la communauté qui a été mise sur pied.

La communauté d’apprentissage

Comme définition de communauté d’apprentissage, je retiens celle de Cox (2004), pensée en fonction de l’enseignement universitaire. Une communauté d’apprentissage est un groupe de personnes impliquées dans la formation qui s’engagent volontairement et activement dans un processus de développement pédagogique individuel et collectif d’une durée habituelle d’un an.

En quoi une communauté d’apprentissage est-elle différente d’une série d’ateliers ou des rencontres pédagogiques dans une unité? J’aimerais porter votre attention sur les éléments innovants de cette modalité de développement pédagogique. La communauté d’apprentissage repose sur un projet commun de renouvellement de pratique que se sont donné les formateurs et qui constitue la raison principale de l’appartenance des membres à la communauté, de leur désir d’y contribuer et d’y participer. Elle a comme point de départ les expériences et les questions des formateurs au regard de leur pratique d’enseignement et non des thématiques préalablement établies. Souple et évolutive, cette modalité vise le développement des savoirs et compétences pédagogiques des formateurs plutôt que l’atteinte d’objectifs spécifiques. Enfin, la communauté d’apprentissage s’inscrit dans la durée.


La démarche sur laquelle repose la communauté de pratique

L’analyse des situations problématiques ou des questions se fait à l’aide d’une démarche structurée de pratique réflexive. J’ai choisi d’adopter et d’adapter le modèle de processus réflexif de Korthagen et Vasalos pour trois raisons : la réflexion est intégrée dans une démarche d’action; elle est alimentée par les pairs; les aspects théoriques sont présentés « Just-in-time ». La figure 1 apporte une vue d’ensemble sur la façon dont le processus réflexif a été scénarisé tout au long des rencontres.

La démarche réflexive est structurée en cinq phases : expérience ou question, analyse, choix d’une nouvelle stratégie, recherche de nouvelles stratégies et expérimentation. Cette modalité vise à développer les savoirs et compétences pédagogiques des formateurs plutôt que de les réduire à des objectifs spécifiques. Elle est souplesse et évolutive, ce qui permet le développement de la créativité et de l’innovation parmi les participants.
La communauté d'apprentissage

Déroulement des rencontres

Les rencontres de la communauté duraient deux heures. Elles se déroulaient sensiblement de la même façon.

Retour sur la rencontre précédente : La rencontre débutait par une période d’échange sur ce que les membres avaient pu mettre en pratique ou observer pendant leurs formations du dernier mois. Ils partageaient leurs expériences, leurs trouvailles, les échanges qu’ils avaient eus avec d’autres formateurs ou des questionnements reliés au dernier sujet traité.

1. Exposition du problème ou de la question : Un membre décrivait une situation problématique rencontrée dans son enseignement ou une question qu’il se posait au regard de sa pratique. Le problème avait été présenté brièvement dans un message envoyé par courriel aux membres avant la rencontre. Les membres l’écoutaient avec empathie et lui posaient des questions de clarification. La personne qui exposait le problème terminait en indiquant ses attentes aux membres de la communauté.


3. Recherche de nouvelles stratégies : Les membres exprimaient leurs idées, faisaient des suggestions pratiques et exploraient ensemble des pistes de solution.

4. Plan d’action : Le membre qui avait exposé sa situation faisait une synthèse de ce qu’il avait reçu du groupe et indiquait de quelle manière il comptait donner suite à leurs suggestions.

Retour sur la rencontre : Les membres étaient invités à partager ce que la discussion leur avait apporté.

Mon rôle d’accompagnement

Je partageais l’animation des rencontres avec Nicole Beaudet, une professionnelle du secteur enseignement recherche de la Direction de santé publique. Son rôle se situait davantage au plan organisationnel, le mien plutôt sur le plan du processus d’accompagnement pédagogique : guider la démarche pour susciter et favoriser la réflexion et la discussion ; offrir des repères pour aider les membres à mieux comprendre leurs situations de formation ; proposer des ressources pour se former à l’enseignement ; donner de la rétroaction. Le défi ? Trouver l’équilibre dans mes interventions : « ni trop présente, ni trop distante » (Jorro, p.6, 2012).

Retombées de la communauté de pratique

En tant que conseillère en pédagogie, j’ai le souci de l’efficacité de mes interventions, efficacité que je mesure par la qualité des apprentissages réalisés par les enseignants et par le transfert dans leur pratique. J’avais donc décidé de mener une étude sur les effets de la communauté sur la pratique des formateurs.

L’analyse de transcriptions des rencontres de la communauté de pratique, des notes d’observation et des réponses aux questionnaires administrés à deux reprises a permis de dégager les apprentissages jugés significants.

Méthodologie

Les quatre dimensions provenant de la typologie proposée par Kirkpatrick (1994) servent à catégoriser les résultats. Ces quatre dimensions sont : la satisfaction, les changements aux plans de l’apprentissage, des comportements et du rayonnement. Comme l’indique la figure 2, la dimension apprentissages comprend les changements dans les attitudes et les connaissances pédagogiques ; la dimension comportements concerne les changements liés à la pratique d’enseignement et à l’engagement du formateur face à son développement pédagogique ; et la dimension rayonnement regroupe les effets perçus du changement sur les étudiants et pour l’institution.

Présentation des retombées

Satisfaction

L’évaluation de la satisfaction des participants est importante pour connaître les effets bénéfiques immédiats de la communauté d’apprentissage. Selon l’étude de Rust...
Les écrits démontrent que la transformation d’un groupe en véritable communauté d’apprentissage, avec la force du lien et de l’intentionnalité de rassemblement que cela implique, n’est pas automatique. Les risques d’abandon ou de manque de cohésion sont réels. Dans notre cas, le taux de participation s’est maintenu d’une rencontre à l’autre. Les seuls membres qui ont quitté, l’ont fait pour des raisons liées à un congé de maternité, à l’enseignement et aux changements d’emploi. Des recrues se sont jointes sans plus de difficultés. L’enthousiasme des membres ressort dans les commentaires suivants :

◦ J’ai hâte que ce soit mon tour (de présenter un cas). J’ai hâte de le faire!
◦ Je suis comblée!

Apprentissages réalisés

Suite aux rencontres, les membres Affirment mieux comprendre ce qu’ils font sur le plan pédagogique. Les apprentissages réalisés sont de l’ordre des connaissances et des attitudes. En ce qui a trait à l’acquisition de connaissances, ils rapportent avoir une meilleure compréhension de leur rôle d’accompagnement auprès des étudiants. La plupart ont appris de nouvelles stratégies, techniques, ou méthodes pour enseigner et faire apprendre, ou évaluer les formations qu’ils offrent.

◦ J’ai appris des trucs concrets.
◦ J’ai mieux compris la complexité d’un processus de formation.
◦ J’ai mieux compris des éléments fins de la pratique réflexive.

Pour ce qui est des conceptions pédagogiques, des membres soulignent un changement quant à leur façon de concevoir l’enseignement et l’apprentissage, passant d’une centration sur le contenu à une centration sur l’apprenant.

◦ Un des cheminement dans la communauté d’apprentissage, c’est d’apprendre à concevoir notre rôle d’une autre façon et de travailler davantage avec le groupe d’étudiants. Partir d’eux.

Les formateurs ont aussi noté des changements sur le plan
de leurs attitudes envers les apprenants et eux-mêmes. Plusieurs ont souligné avoir développé une attitude de confiance envers leurs apprenants et leur capacité d’apprentissage, ainsi qu’une meilleure confiance en eux-mêmes en tant que formateurs.

◦ J’ai commencé à me faire confiance comme formatrice.
◦ J’ai commencé à ravoir le goût d’enseigner.
◦ J’ai commencé à faire confiance aux savoirs de mes étudiants.
◦ J’ai davantage confiance dans le processus d’apprentissage d’un groupe.

Comportements adoptés

Outre les apprentissages réalisés, la majorité des changements rapportés concernent l’adoption de nouveaux comportements. Ces changements relèvent soit de la pratique d’enseignement ou de l’engagement en pédagogie. La majorité des membres rapportent avoir changé leurs pratiques, et ce, tant au moment de la planification de leur formation que de la prestation et de l’évaluation de celle-ci. De fait, les formateurs rapportent se préoccuper davantage de planifier chaque séance de formation, de mieux cibler les attentes et de structurer différemment l’ensemble de leur formation. Plusieurs rapportent faire moins appel à l’exposé magistral et avoir recours à des méthodes actives et interactives.

◦ J’ai arrêté de vouloir tout couvrir la matière en allant trop vite.
◦ J’ai modifié mes objectifs d’apprentissage.
◦ J’ai ajouté de l’attente, du silence, du temps.
◦ Varier aux 15 minutes.
◦ J’ai inversé mes présentations dans mon atelier. Cela peut sembler banal, mais pour moi ce ne l’est pas.

Les réponses de certains membres indiquent également un changement concernant leur engagement en pédagogie. Ils disent attacher plus d’importance à la pédagogie et ils comprennent mieux leur pratique.

Rayonnement

Suite au changement apporté à leur pratique d’enseignement, certains formateurs ont constaté des répercussions sur les étudiants, par exemple un formateur souligne que « les étudiants semblent sortir de la formation plus emballés ».

Conclusion

La participation des professionnels à la communauté de pratique leur a permis de faire connaissance et de nouer des liens avec des collègues. Ils ont pris conscience que comme formateurs ils vivaient des difficultés semblables et qu’en discuter les stimulait à essayer d’autres stratégies pédagogiques. Elle les a amenés à repenser leur pratique de formateur, à s’attribuer de nouveaux rôles, à changer leurs attentes au regard des étudiants et à utiliser de nouvelles méthodes d’enseignement et de formation. Ces résultats sont encourageants et démontrent que cette forme de formation est efficace pour soutenir un changement de pratique.

Références


Cox, M. (2004). Introduction to Faculty Learning Communities. New Directions for Teaching and Learning, 97, 5-23.


Biographie

Claire Bélanger est conseillère en pédagogie universitaire à l’Université de Montréal. Elle accompagne des enseignants, des équipes enseignantes et des directions dans des démarches d’amélioration de cours et de programmes. Ses communications ont principalement pour objet le conseil et l’accompagnement pédagogique ainsi que le développement de la pratique enseignante. Pour plus d’information : claire.belanger@umontreal.ca.
Introduction

Webb (1997) defines curricular alignment as “the degree to which expectations [i.e., standards] and assessments are in agreement and serve in conjunction with one another to guide the system toward students learning what they are expected to know and do.” Curricular alignment can be used as a way to see what the pedagogical material asks from the students, if it fits the requirements, and also to see to what extent what has been taught in class is assessed in the evaluations (Martone & Sireci, 2009). The fact that professional or academic freedom is often offered to teachers and lecturers in higher education does not take away from the need to follow these guiding pedagogical principles and to offer optimal learning opportunities to students through the evaluations for equity purposes (Martone & Sireci, 2009).

In this paper, we provide a method, based on previous research and our own experience, to implement a curricular alignment effort in higher education when little or no precedent or guidelines are present. This method can be used both by individual professors as a professional development tool, or by a department that wishes to undertake discussions among their professors on curriculum and coherence, or bring objective evidence to the table for such ongoing discussions (Bateman, Taylor,
It can also be used by states to measure alignment of standardized tests with what is being taught (Beach, 2011; Pellegrino, 2006; Porter, McMaken, Hwang, & Yang, 2011). Following a rigorous method to analyze the content of pedagogical material and evaluations will bring an evidence-based and objective view to higher education teachers and lecturers and provide them with a precious tool to improve students’ learning (Biggs, 1996; Cohen, 1987; Squires, 2009). In our own experience, we found that conducting curricular alignment in a professional development fashion brought forward many interesting improvement avenues and eased the resistance to change that can be encountered when curricular alignment is mandatory and intends to impose a homogenous structure.

Method

Departmental settings

In order to assess new departmental policies, a first curricular alignment project was introduced in 2012 at Vanier College in Montréal. Vanier is an Anglophone Collège d’enseignement général et professionnel (CÉGEP), the first higher education level in Quebec where all students have to go through two mandatory FSL courses of various difficulties depending on their baseline level. Our aim was to conduct a curriculum alignment analysis of seven different level 3 courses (602-102-MQ, intermediate) taught by six instructors. The participation of the teachers was never mandatory and we offered them this opportunity as a pilot project. We found that it is important, when curricular alignment is used as a professional development tool, not to coerce teachers in the process so that they do not feel that their competence is questioned or threatened. Such attitude allows all the participants to approach the project with an open mind and to see the results as providing them with a fair mirror of their course and an otherwise impossible mean of comparison with colleagues.

Research team

Our team included one project coordinator (the main author), two teachers who acted as experts (the third and fourth author), and a statistician (the second author). The targeted teachers and departmental administration were also an important part of the process.

A division by area of expertise between the role and involvements of the authors enabled us to assess various aspects of the situation. At least two experts have to be involved in order to ensure inter-rater agreement. Having someone to deal solely with the quantitative aspect of the research is also important since experts in the field of the courses being studied are not always experts in statistics and data processing. Someone with sufficient experience should be made responsible for coordinating administration, participation, and general project management.

The teachers whose courses are analyzed also have a key role to play, namely in interpreting the data and bringing essential feedback to the research team. When presenting the results to those professors, we found it important to keep them confidential; never could a teacher pinpoint who taught which course. Such anonymity allows open discussions about the content of each course without labelling individuals and permits more constructive criticism coming both from the researchers and the professors. We found that when looking at the results, professors often recognized themselves but tended to keep the anonymity during the discussions.

The involvement of the institution’s administration is also crucial in order to procure tangible results from a curricular alignment project. They are usually the ones that support the project financially and at least partially delimit the issues at stake. Following the results of the projects, new departmental policies can be established, and old ones can be changed or straight-out removed. The expectations of the department and administration and what type of decisions can be made on the basis of the results of the alignment analysis have to be clear from the start.

Choice of the taxonomies

Our aims were, first, to measure the congruence between evaluations in the course and corresponding ministerial standards and, second, to measure the degree of fairness between the evaluations of the classes.

With the gathered information, we were also able to start an enriching discussion with each instructor as to how adequate the composition of their evaluation was in regards to the level of the course they were teaching and in comparison with colleagues. In this sense, evaluation items in written and oral expression as well as in reading comprehension were coded using taxonomies selected and forged to refine the understanding of what is being evaluated. Regarding the particular choice of taxonomy, it is
Curriculum Alignment

It is crucial to take valid a priori decisions depending on what is expected out of the curricular alignment exercise. They have to be chosen with the previously defined objectives in mind and have to be based on existing literature on the assessed subject, if such literature is available. If governmental or institutional policies apply to the course at hand they should be treated as mandatory. They also should elicit stricter treatment and recommendations as they are compulsory to the requirements of the courses and do not solely apply to professional development and fairness to students.

The choice of taxonomy has to reflect the content, subject, and discipline of the class that is being assessed. Since we assessed a language class in which oral and written expression, reading comprehension, grammar, and vocabulary were taught, taxonomies applying to these components were used. Reading processes (Giasson, 2011; Irwin, 1986), and question-answer relation (Pearson & Johnson, 1978), are a few of the taxonomies that we used, but since the aim of this paper is to guide the implementation of a similar program in any discipline, we will not detail the rationale behind our choice. We will, however, redirect the reader to the full report for further theoretical discussion about these issues (Gagné et al., 2012). The investigators can also put ad hoc taxonomies together in order to address particular needs. For example, a project held for an anatomy class could decide to assess which biological systems are evaluated in each question.

Encoding and data processing

All six teachers in the study had to hand in their pedagogical material and evaluations. The questions in the evaluations were divided into different items when they were two- or threefold (e.g., Is the sentence above true or false [1]; Justify your answer [2]). Simple division was used to calculate the value of each evaluation, question, and item on the final grade. Knowing the exact value of each item allowed us to see its weight not only in terms of points on the final grade of the student, but also in relation to the taxonomies they represent.

As for the assessment of the evaluations, the two experts first went through the content of a whole course together in order to pinpoint divergences of opinion and to form a common understanding of each taxonomy. Second, the experts both coded the rest of the courses. Such double coding can be tedious and seems redundant but the analysis of the divergences in classification can be interesting per se. They allow for inter-rater agreements to be calculated and for divergences to be corrected when they occur. This extensive double coding allowed us to attain inter-rater agreements of 86.5% at the end of the process in average across taxonomies, which is excellent. If time and resources are insufficient to conduct such an extensive coding, we still advise experts to go through a few evaluations together or to have as much cross-verification as possible in order to ensure quality and reliability of the classifications.

Results and Possible Analysis

Given the scope of this paper, we will present, as examples of the possible applications of a curricular alignment project, a fraction of the analyses conducted in our case. If the reader is interested to obtain more in depth presentation of the theoretical background, methodology and results, we strongly encourage referring to the full report (Gagné et al. 2012). It has to be noted that only descriptive statistics have been used in our project since statistical significance was not what was sought here. We preferred a descriptive approach, at the edge between quantitative and qualitative analysis, which was sufficient for a first project and still allowed in depth discussions.

The first analyses that should be conducted are those that refer to official constraints. In our case, the only official constraint imposed on the teachers by the department is a minimal weight in percentage for each ministerial objective. It is possible to continue straight to further analysis when apparent validity is met in regards to the official requirements, as it is the case in our results. If it happens that one or many professors did not meet these baseline requirements, it is at the discretion of the research team and the department to see how rectifications can and should be brought to the concerned professors. If divergences from the official constraints are important enough, the content of the course in question should not be included in the other analysis since it is not valid for comparison with other courses.

In our case, it is possible to see that beyond the minimum weight for each objective, there is a discretionary 30% of the final mark which professors can use as they wish. Comparing how this discretionary margin is distributed across objectives between professors brings more instructive feedback and falls in the food-for-thought and professional development category of analysis.

The composition of the different evaluations and
the number of evaluations of each type can also be compared, even before taxonomies are taken into consideration, and can be applied to any discipline. In our case, this is one of the places where we observed the greatest discrepancies between the professors. Indeed it is understandable that different professors have different preferred means of evaluation but the fact that the total number of items for one whole course can vary between 132 and 319 brings important questions as to what amount of work and preparation is asked from the students for the different versions of what is supposed to be the same course. Like the differences in official guidelines, these inconsistencies between professors have to be kept in mind through the rest of the analyses since they will have an impact on the forthcoming analysis and this impact is quite complex to quantify.

When it comes to the analysis of the particular taxonomies, they can be explored both in terms of number of items and of weight on the final mark, alone or in combination with each other. Often, analyses will seem to show similar patterns among teachers. In these cases, looking at the differences with the average or standard will be more informative. Figure 1 shows which kind of analysis the classifications we used can lead. For example, we compared the repartition of items for each teacher in one single ministerial objective, in terms of one particular taxonomy. In brief, such combination brings questions such as “How should this objective be evaluated?” and “Is a particular combination preferable to another in terms of learning opportunities?” and have fed lively and productive discussions in our department.

Table 1
Percentage attributed to each ministerial objective

<table>
<thead>
<tr>
<th>Professor</th>
<th>Obj. 1</th>
<th>Obj. 1</th>
<th>Obj. 1</th>
<th>Obj. 1</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. 1</td>
<td>20 %</td>
<td>21 %</td>
<td>49 %</td>
<td>10 %</td>
<td>0 %</td>
</tr>
<tr>
<td>Prof. 2</td>
<td>28 %</td>
<td>20 %</td>
<td>37 %</td>
<td>12 %</td>
<td>3 %</td>
</tr>
<tr>
<td>Prof. 3</td>
<td>21 %</td>
<td>27 %</td>
<td>38,5 %</td>
<td>10 %</td>
<td>3 %</td>
</tr>
<tr>
<td>Prof. 4</td>
<td>18 %</td>
<td>18 %</td>
<td>54 %</td>
<td>10 %</td>
<td>0 %</td>
</tr>
<tr>
<td>Prof. 5</td>
<td>21 %</td>
<td>25,5 %</td>
<td>37,5 %</td>
<td>15 %</td>
<td>1 %</td>
</tr>
<tr>
<td>Prof. 6</td>
<td>22 %</td>
<td>24 %</td>
<td>42 %</td>
<td>11 %</td>
<td>1 %</td>
</tr>
<tr>
<td>Prof. 7</td>
<td>23 %</td>
<td>20 %</td>
<td>47 %</td>
<td>10 %</td>
<td>0 %</td>
</tr>
<tr>
<td>Average</td>
<td>21,86 %</td>
<td>22,21 %</td>
<td>43,57 %</td>
<td>11,14 %</td>
<td>1,14 %</td>
</tr>
<tr>
<td>Minimum weight</td>
<td>30 %</td>
<td>30 %</td>
<td>10 %</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

Table 2
Content of the evaluations

<table>
<thead>
<tr>
<th>Professor</th>
<th>Number of evaluations</th>
<th>Minimum number of item</th>
<th>Maximum number of items</th>
<th>Total number of items for the evaluations</th>
<th>Average number of items per evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>13</td>
<td>1</td>
<td>65</td>
<td>171</td>
<td>12.92</td>
</tr>
<tr>
<td>P2</td>
<td>12</td>
<td>1</td>
<td>64</td>
<td>192</td>
<td>16.00</td>
</tr>
<tr>
<td>P3</td>
<td>8</td>
<td>1</td>
<td>65</td>
<td>252</td>
<td>31.50</td>
</tr>
<tr>
<td>P4</td>
<td>8</td>
<td>1</td>
<td>20</td>
<td>166</td>
<td>8.38</td>
</tr>
<tr>
<td>P5</td>
<td>8</td>
<td>1</td>
<td>261</td>
<td>319</td>
<td>39.88</td>
</tr>
<tr>
<td>P6</td>
<td>8</td>
<td>1</td>
<td>248</td>
<td>303</td>
<td>37.88</td>
</tr>
<tr>
<td>P7</td>
<td>9</td>
<td>1</td>
<td>43</td>
<td>132</td>
<td>14.67</td>
</tr>
</tbody>
</table>
Curriculum Alignment

Discussion and Future Directions

Overall, we found satisfying consistency between teachers. The results show that the courses are aligned with ministerial standards and they offer a good balance between them in this regard. We observed important discrepancies in terms of the number of items but also regarding the reading processes that we expect our comprehension questions to allow the students to use. Once the teachers had recognized themselves, it often led to interesting insight in terms of best practices. Conducting a curricular alignment project in a higher education setting asks for proper planning and communication between all actors involved but can bring an inestimable amount of objective information towards improving the quality of both the teaching and the services offered to students. We agree with Bateman et al. (2009); this kind of analysis provides teachers with a common objective vocabulary and understanding of course content. In our case, the discussion can move from, “in my course, I feel that…” to “about the amount of microprocesses questions, I think that at this level of proficiency, our students should be given the opportunity to….” Future directions will lead us to investigate the degree of alignment between two or more FSL departments and also between high schools and our college courses.

References


**Biographies**

Philippe Gagné is a French as a Second Language faculty and principal researcher for this action research at Vanier College in Montreal. He is a Ph.D. student in Education at Université du Québec à Montréal.

Laurence Dumont is a neuropsychology masters student at Université de Montréal. She is conducting cognitive and behavioral studies on normal subjects and acted as our statistics expert.

Sabine Brunet, linguist with a master degree in didactics from Laval University, is a full time teacher at Vanier College who has developed many courses among which multilevel courses in French as a second language in business writing. She participated in the project as an expert during two semesters.

Geneviève Boucher graduated from Ohio University with a masters degree in French literature. She is a full time teacher at Vanier College in the French department and has developed many courses for different level of French. She joined the research team as an expert in fall 2011 as she took part in the first segments of the project.
Support for New Faculty Members: What do They Perceive They Need?

Jennifer Boman, Michelle Yeo, & Theresa Matus
Mount Royal University

In this article we report the outcomes of a needs assessment administered to new faculty members who were hired within the last four years at Mount Royal University. Our purpose in conducting this needs assessment was to gather information to guide the redevelopment of the institution’s support program for new faculty in light of a changing institutional context (i.e., the transition from a college to a university). Faculty members were asked what kinds of support and resources they perceived themselves as needing during the first year of their full-time appointment and what gaps were present in their professional development. We review the key themes in faculty members’ self-identified needs and summarize the principles behind a new faculty development program that was informed by the results of this research.

Introduction

Although beginning a full-time academic career is an exciting prospect for many new faculty members, this sense of anticipation often transitions to considerable anxiety once the job begins. The transition to a faculty career is a demanding one. New faculty members must learn and navigate the expectations of their new role while simultaneously executing and balancing the various responsibilities associated with being a faculty member. The literature on new faculty over the last two decades consistently indicates that adaptation to this role is often characterized by significant concerns (Boice, 1991; Eddy & Gaston-Gayles, 2008; Menges, 1999; Olsen & Sorcinelli, 1992). For example, new faculty report stressors such as unclear expectations, challenges in balancing professional and personal responsibilities, and a significant shortage of time to accomplish everything (Austin, 2003; Boice, 1991, 2000; Menges, 1999; Rice, Sorcinelli, & Austin, 2000; Sorcinelli, 1994, 2000, 2002). In particular, many new faculty members suggest that they spend the majority of their time engaged in teaching preparation and yet still do not feel prepared for their classes (Murray, 2008; Solem & Foote, 2006). In addition to these stressors, some new faculty perceive a lack of support from colleagues, which can contribute to a sense of isolation in their new role (Sorcinelli, 1992). Taken together, these findings highlight the need for support for new faculty.

The literature on new faculty describes several different approaches to new faculty support, ranging from orientations to intensive courses on teaching development to formal and informal mentoring programs...
(Cawyer, Simonds & Davis, 2010; Fink, 1992; Postareff, Lindblom-Ylänne, & Nevgi, 2007; Solem & Foote, 2006; Sorcinelli, 1994; Trigwell, Rodriguez, & Han, 2011). These initiatives are designed to address concerns shared by new faculty, such as the need for relationship building among colleagues and the need for teaching and research support. More recently, attention has also been given to the need to prepare future faculty before they take on faculty appointments (Eddy & Gaston-Gayles, 2008; Murray, 2008; Solem & Foote, 2006). Research on new hires suggests that, while graduate school may offer some initial socialization to a faculty career, there are inconsistencies in the types of preparation provided to graduate students (Austin, 2003; Eddy & Gaston-Gayles, 2008). Given that new faculty members may be arriving at institutions with varying degrees of preparation and experience, their needs for professional development and support may differ according to their diverse experiences.

The purpose of our study was to identify the needs of new faculty at our institution and to use this information to guide the redevelopment of a support program for new faculty. Our institution, Mount Royal University, is a medium-sized undergraduate teaching institution with approximately 400 full-time faculty members and 14,000 students. It was previously Mount Royal College but was accepted into the Association of Universities and Colleges of Canada and designated a university in 2009. Our reason for conducting this study was prompted, in part, by a changing institutional context and the hiring of a large number of new faculty members within a span of five years. The existing new faculty support program was developed when the institution was a college; therefore, we wished to take stock of the professional development needs of current new faculty to bring the program up to date.

Data Collected

We conducted a needs assessment of faculty members who were hired into full-time positions at Mount Royal during the previous four years. This group contained faculty members in their first academic appointments (including new PhDs as well as those with professional/industry experience), those with experience at other institutions but new to Mount Royal, and those transitioning from part-time to full-time appointments. Eligible participants were emailed a link to an anonymous online survey in which we asked them to reflect back on what they needed as a new faculty member with respect to orientation; building relationships; support for teaching, research, and service; and information about the tenure and promotion process during their first year. We also asked participants what gaps remained in their professional development after their first year and what advice they had for the structure and content of a program for orienting new faculty. In total, 41 faculty members completed the needs assessment, which reflects approximately a 25% participation rate.

Themes Arising From the Data

Importance of collegial relationships

The value of forming relationships with others in the institution was a dominant theme throughout the survey. New faculty members appreciated the opportunity to connect with others who were new as well as to form relationships both within and outside of their departments. Participants mentioned several different purposes for these relationships. First, many participants acknowledged that there is much to be learned from talking to faculty members in other disciplines and that it is a good opportunity to share ideas. In particular, new faculty wanted to talk to cross-department colleagues about teaching and also wanted to form research networks with colleagues who had similar interests. Others suggested that getting to know individuals across the institution helped them to understand the culture and provided necessary social opportunities. Finally, many new faculty members mentioned the value of having supportive networks. While they noted that orientation activities provided initial opportunities for connecting with other faculty members, many expressed a desire for more formalized ongoing mentoring throughout the year. This need for mentorship was mentioned across all categories of the faculty role, including teaching, research, service (e.g., mentorship for those new to committees), and the tenure and promotion process.

Individualized support

A second theme throughout the survey was the need for individualized support. It was apparent in the survey responses that some new faculty members had a high
need for intensive support throughout the first year, while others needed much less support. For example, some new faculty were already very experienced teachers and felt well equipped for their teaching responsibilities. Other new faculty members had never taught before and needed a great deal of support in all areas of teaching, from course design to presentation methods to assessment to classroom management. A similar picture emerged for research. Some new faculty came with well-developed research plans and simply needed resources like time and money to continue their research. In contrast, other faculty members reported that they needed help in developing research networks and identifying a program of research. Not surprisingly, the need for individualized programming also came across in responses to new faculty members’ need for orientation. Some new faculty were not ‘new’ in that they had been at the institution for several years prior to starting their full-time position and did not need the same depth of orientation as someone brand new to the institution.

Clarity of expectations

Although new faculty members had diverse needs with respect to support for teaching and research, one common thread across the survey responses was a shared need among new faculty to better understand the expectations of their faculty role. The theme of understanding what is expected of faculty members at the institution was mentioned across the categories of teaching, research, service, and tenure and promotion. Part of the confusion about expectations related to understanding what the performance expectations were for tenure and promotion and the other aspect involved understanding the actual process of tenure and promotion. As one faculty member mentioned, “This has been an ongoing mystery.” Some of the uncertainty identified by new faculty may relate to the fact that the institution was in the process of developing tenure and promotion criteria during the time that many new faculty members were hired. However, understanding expectations is identified as a key concern for many new hires in the literature on new faculty (Solem & Foote, 2006; Murray, 2008).

Principles for the Renewed Program

In addition to better understanding the needs of new faculty members, we also felt the needs assessment was a valuable opportunity to have new faculty themselves contribute to the redevelopment of the new faculty support program. As such, we asked faculty members for their suggestions regarding what they would find helpful in a redesigned program. The following three principles emerged in the survey, via broader consultation, and were also supported by our review of the literature. We used these principles as the cornerstone for the program’s redevelopment.

Choice and responsiveness

New faculty members identified the principle of choice as a key component of a new faculty support program. As one participant noted, “it would be useful to offer a variety of sessions and allow people to sign up for what they feel would be most beneficial.” Indeed, when new faculty were asked what suggestions they had for content for a new program, the ideas were diverse and covered a wide range of topics. It is evident that new faculty members have different needs, and we agree that offering as much choice as possible would help individualize the program. The principle of choice also speaks to ‘just in time learning’ in that participants would be better able to access content and information as they needed it. Finally, offering new faculty members choices about what and when to attend would help us be more responsive in terms of the level of support. Individuals who required more intensive support would be able to sign up for additional offerings within the program and participants would have the option of attending sessions that focused more on issues of relevance for those new to teaching.

Opportunities for collegial relationships

A second principle that was highlighted in the survey data was new faculty members’ desire for a new program to preserve opportunities to build relationships with colleagues. Participants consistently listed the sense of community with other faculty members as a key component of a support program. As one participant commented, “orientation is incredibly useful for the connections you make.” Other participants added that there is great value in opportunities throughout the year to reconnect with other new faculty members and to “talk/normalize experiences.” Participants also felt that relationships with a mentor or more experienced
A colleague would be a particularly useful form of support during their first year.

**Current and collaborative professional practice**

New faculty members’ desire for a program that is collaborative in nature was emphasized in the survey results. For example, participants wanted information about current best practices in teaching and assessment but they also wanted to take an active role in suggesting ways to use the information and adapt it to their context. As one participant suggested, there is no ‘one-size-fits-all’ approach to teaching and new faculty members themselves have expertise and experience to draw on and share with others in a collaborative fashion. New faculty members seemed to have a strong sense of identity as ‘professionals’ and wanted a program that acknowledged their expertise as well as their needs for growth.

**Reflections and Next Steps**

Hearing from new faculty members in their own words about their needs helped us to formulate principles for a new faculty development program. Their responses were consistent with established themes in the literature and confirmed our intuitions about needed changes. A key change we incorporated into our new program included a move to allow more choice, creating a wider range of optional sessions for new faculty. We now hold a brief orientation and delay some orientation material until later (allowing for more initial time in departments). We are creating a listserv for new faculty to keep them connected with each other and to serve as a mechanism to get ongoing feedback on ideas for professional development sessions. In addition, we are exploring the possibility of an institutional mentoring program for new faculty that crosses departmental boundaries. Finally, we intend to create an optional professional learning community for new faculty, which would provide an ongoing and structured place to explore the theory and practice of teaching along with other issues for new faculty who would benefit from this level of support. Through ongoing review processes and consultation, we hope to continue to adapt the program, not only to individual participant needs, but also to institutional context, as well as broader changes within the post-secondary environment.

**References**


Biographies

Jennifer Boman is a Faculty Development Consultant and Assistant Professor in the Academic Development Centre at Mount Royal University. Her research interests include new faculty and graduate teaching assistant development, program design and evaluation, and the impact of teaching behaviours on student learning and motivation.

Michelle Yeo is a Faculty Development Consultant and Associate Professor in the Academic Development Centre at Mount Royal University. Her research interests include new faculty induction and experience, new literacies, and student experiences at post-secondary institutions.

Theresa Matus is the Director of the Academic Development Centre at Mount Royal University.
Birth of the Wikipedia Assignment

Mike Wesch’s (2007a) video *A Vision of Students Today* (over 4.8 million viewers) or his more recent (2007b) *Web 2.0…The Machine is Using Us* (over 11.6 million viewers) are exemplars of how knowledge is socially constructed and how widely it can be shared. His keynote at the Society for Teaching and Learning in Higher Education’s (STLHE) 2010 annual conference raised important questions about who creates and edits knowledge and caused me to think about how I might help graduate students develop their skills in knowledge investigation, critique, and dissemination.

Shortly after that event, I heard faculty at a workshop asserting their assignments were much stronger since they had stopped allowing students to use Wikipedia. I pondered this, wondering how disallowing a particular knowledge source helped students develop habits of scholarly inquiry. Soon after, at a graduate orientation came a reminder from our Department Chair that, in graduate school, students were required to do more than use existing knowledge: they must create new knowledge.

This confluence of events caused me to think deeply about how we ask students to interact with knowledge and reflect on their role in that regard. As a result, I gave my students an assignment that required them to locate a course-related Wikipedia page and critique it, discuss its strengths and limitations, provide recommendations for improvement, and make the appropriate edits. The assignment was intended to help students develop their research skills in an introduction to graduate study course and also to prompt a discussion about the use of sources and cross-referencing.

In this paper, I outline the transformative learning (Mezirow, 1991) students experienced as a result of this assignment and discuss the paradigm shifts that can result when students engage in knowledge critique and diffusion.
Background Rationale

Hammett and Collins (2002) note that graduate students expect to “see themselves as producers of knowledge and acknowledged members of an academic community” (p. 439). While students may be encouraged to publish or present their work, they may have little authentic opportunity to practice these graduate-level skills, particularly if they take a course-based route.

Wikipedia provides a platform that allows a student (at any stage) to engage in knowledge critique and publication. As Maehre (2009) outlines,

“The students enter a turbulent environment where every syllable has to be defended by people with no authority over anyone else, where no editor has final say. This shows the student that the content of the work is paramount, not the author’s credentials, however imperfect may be the process of shaping that content. (p. 235)

Critical literacy skills

While content is important, process skills such as critical thinking, problem solving, self-guided inquiry, and appropriate use of resources are essential in this century (Simmons, 2013) and are part of Ontario’s expected graduate outcomes (McMaster University, 2010). Heil (2005), however, notes that students often take the route that yields the quickest information, foregoing academic journals and scholarly databases in favour of websites such as Wikipedia. O’Sullivan and Scott (2000) found students primarily chose internet resources for reasons of expediency, with only 10% noting limitations to information.

Post-secondary graduates must be critical of resources and technically savvy regarding online collaboration tools. We live with socially constructed knowledge, or “knowledge and information with multiple creators, collaborative knowledge created without traditional hierarchies of power, and through dispute and negotiation” (Maehre, 2009, p. 232). The 21st century world calls for graduates who can collaborate easily with others in this regard. Critiquing and contributing to Wikipedia provides an opportunity for students to begin to develop these skills.

Methods

Students in two Fall 2011 sections of an entry course in graduate education were given the following assignment:

Contribute to Knowledge: Review a Wikipedia site (topic related to course) for strengths and potential areas for improvement, particularly regarding literature cited. Edit the site with your recommended changes. Accompanying paper approximately 4-6 pages (plus printed screen of site before your edits) cites several sources and makes strong connections to scholarly literature.

Ethics approval was granted to invite all students (38) to complete an online survey about their experiences with and reflections on the Wikipedia assignment. Nine students completed the survey comprised the following questions:

1. What benefits did you experience in completing the Wikipedia assignment?
2. What challenges did you experience?
3. What recommendations would you make for changing the assignment?
4. What do you recall as your key learning at the time of doing the assignment?
5. What did you learn through this assignment about the construction of knowledge?
6. In what ways, if any, have your perspectives shifted regarding use of Wikipedia and other resources for academic work?
7. As you now reflect back on the assignment, is there anything else you have learned?
8. Is there anything else you’d like us to know about your experiences with the Wikipedia assignment?

Findings

Overall, students’ experiences of the Wikipedia assignment
were extremely positive. For example, one said, “I have never been challenged in an assignment like that before,” and another commented, “Fantastic experience. I would highly recommend it!” In this section, I first list challenges and then discuss what students learned about knowledge use and creation.

Challenges

The assignment was not without its challenges. Students noted,

Challenging to determine the depth to which to go in the assignment. Have the class sign up for topics so that you do not have multiple people in the same class editing one page. Provide some guidance on how to edit, code, and link on Wikipedia.

How much time and effort this assignment took. It was exhausting and after I had edited I was so excited to share my page with my family only to find out it was almost completely gone. It was a bit discouraging. This requires much more time and effort than any paper I have done in the past. Hours of reading, learning how to navigate the site, making changes, editing, and reflecting.

One student expressed frustration at website management issues, saying “some of the pages are locked and you have to be a member for a certain period of time. It was incredibly frustrating because I have very valuable information for that topic that I wanted to share and couldn’t.”

One student was cynical about who controls the site, adding, “I would be very wary of who is in charge of the site, why certain things stay and certain things change. I love the idea of the site in theory but I am a bit sceptical if it is really a free arena.” In addition, the students noted the temporal character of online resources:

I learned that construction of knowledge using Wikipedia is too easy. Yet, it raises awareness and critical thinking about what is constructed on the Internet... most of the sources which the previous individual had used were all expired or non-existent at this point.

Thus, while students experienced technical challenges, these also contributed to their learning about online knowledge construction through Wikipedia.

Perceived peer pressure

While many noted technical challenges as reasons for not editing, some commented on their discomfort at changing others’ posts:

I did not feel I had the authority or knowledge to put up what I had researched - I did not change any facts put up by previous editors; I felt I would be doing something wrong removing information put up by someone else.

One student reflected a sense of ‘imposter syndrome’ (Brookfield, 1995), regarding the ability to make a meaningful contribution:

I edited a page, and yes I did my best to research my topic as much as possible, but in the end I do not know if I was right. What if what I put down on that page is wrong? I may have aided in the deconstruction of knowledge.

Wikipedia as a scholarly source

While no comment was made by instructors on the veracity or reliability of Wikipedia as a resource, students quickly came to their own conclusions. One said, “For academic work, I generally use Wikipedia to get this overview and then go to more academic sources.” Another noted, “To a certain extent it can be trusted but due diligence on the part of the student is a must to make sure information is correct” and another remarked, “I am much more cautious about what resources I use. I look at how academically strong my resources are.”

Meta-cognition about knowledge use and creation

Students reflected on learning new skills of “critiquing
sources of knowledge, learning to review and modify knowledge available online” and another discovered “the importance of accountability online and how I have valuable things to add to the body of knowledge and the construction of knowledge.” One remarked, “knowledge changes and expands a lot faster than we think.” Some comments were specific to Wikipedia:

I looked at how frequently certain pages were accessed, and how they’ve grown...the different security levels...the discussion board component of each page and all of the discussion (and arguments) that take place with regards to what should be on a certain page. I also learned about other projects Wikipedia is involved in, particularly in the higher education context.

One student’s reflection described the assignment’s impact on their thinking about Wikipedia as a resource that they could use, contribute to, and critique:

A rare opportunity to actually make a contribution to something. Made me really look at the language I was using and how I was writing...about what type of information I would want to read if I was looking at the page and to consider the reader when I was writing...Typically, students are told to stay away from Wikipedia because ‘Joe Blow’ can edit it and therefore the information isn’t always reliable. However...I started looking into a lot of things Wikipedia does to increase the accuracy of the information that is posted, such as levels of security for pages that are frequently edited, as well as moderators that designate what needs to be done to pages to improve them. I think the assignment made me realize that Wikipedia isn’t something that students should shy away from; it’s something that, similar to everything else on the Internet, should be questioned.

Another said,

The power of social construction is incredible. Combining this assignment with the video by Mike Wesch resulted in me thinking about things in a different way...who determines what is knowledge? And what exactly is ‘knowledge’...what is ‘agreed’ upon and published on the Wikipedia page is knowledge and people socially constructed this.

This critical questioning led to empowerment. Most commented on the assignment’s impact on their developing identity as scholars. For example, one said, “I was able to become an ‘author’ of an ‘article’ on the internet,” while another realized “I was able to contribute to the body of knowledge...to improve the information available to people on the internet.” One said, “I felt like I was a part of something bigger than just an assignment – I was contributing to knowledge that could be around for many years to come,” while another remarked that he or she “came to realize that creating knowledge was actually about constructing the self.”

Recommendations

Most recommendations the students made pertained to technical issues; technical support would clearly be helpful. Another challenge was that two students chose the same website and struggled editing each others’ work during the assignment period – but they also noted that this was a realistic challenge of Wikipedia edits. It is worth noting the students’ growth in spite of these challenges:

I think that you’ve really tapped into an area that needs to be further explored because of how unique and relevant it is...how Wikipedia can be used for different assignments and try and get other instructors on board to try something new and help them do it. I think sometimes it’s just easier to say ‘do a paper’ for 40% of your mark than come up with something innovative like this, so kudos for stepping outside of the box.
Final Thoughts

If the role of graduate students is critiquing existing knowledge and transforming it, the more opportunities provided for doing that, the better. I agree with Maehre (2009) that “we are far too deep into a world dominated by dynamic social knowledge to deem it amateurish or somehow beneath the notice of our students” (p. 235).

Students outlined significant learning as a result of this assignment. Not only did they become knowledgeable about the particular topic they had chosen as they researched further details for their recommendations, they also experienced frame of reference shifts as they re-construed their perceptions of their role in knowledge creation (Kelly, 1955).

Author’s Note

I am grateful to three anonymous reviewers whose advice has assisted in this preliminary article and in framing directions for Phase 2 of the research, now underway.

References


Biography

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Transcending Boundaries in Legal Education: A Vehicle for Teaching Students to Think Critically

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Legal education has traditionally been defined by many boundaries. Characterized by taxonomic structures and doctrinal categories, legal education is, for the most part, still seen as inextricably linked to a particular political geography and state normativity. The purpose of this paper is to demonstrate the pedagogical benefits of shattering established boundaries in legal education. It will assess how teaching from multiple perspectives in an integrated curriculum inculcates critical thinking skills in students, better enabling them to question assumptions, uncover hidden assumptions, and graduate as independent and innovative legal thinkers. Focusing on the ‘transsystemic’ McGill Law Program, this paper will discuss the rewards of engaging students in an intellectually pluralistic and tradition-neutral legal curriculum, one that eschews silos and borders and focuses on creating agile and creative minds in future jurists who will be able to confront contemporary legal issues holistically and with a critical perspective.

Introduction

Law is a discipline that has been traditionally taught in a manner defined by many boundaries. The most obvious of such boundaries is related to jurisdiction or political geography. After all, at a very basic level, the law in force in a given jurisdiction (be it a country, state, province or municipality) is seen to be the one relevant and applicable to legal practice in that jurisdiction. The practice of law, in turn, is often referred to as amongst the most jurisdictionally restrictive of all professions in the sense that it is extremely difficult for lawyers educated and trained in one jurisdiction to move freely to practice law in others.

This traditional paradigm for law as a profession has had a tremendous influence on legal education, as the geographic boundaries that define law and the legal profession carry over into the academy. As a result, teaching the law in force in the particular jurisdiction in which a university is located is still the norm in most law schools, even those ranked amongst the best in the world. Moreover, it is still a prevalent view in many law schools that covering all relevant legal materials is a pedagogical problem. Professors often worry that there is not enough class time to teach all of the law in force in their own jurisdiction and therefore that they cannot afford to spend time teaching students the law in other jurisdictions. After all, it is argued, students will not be applying foreign law in the courts and in the law offices where they will
practice. Indeed, beyond the particular context of legal education, general concerns about engaging with, or importing, foreign law are sometimes expressed. Justice Scalia of the United States Supreme Court, for instance, has gone so far as to refer to foreign law as “meaningless” and “dangerous dicta”, stating that the highest Court in the U.S. “should not impose foreign moods, fads, or fashions on Americans” (Lawrence v. Texas, 2003, p. 598).

In 1999, the Faculty of Law at McGill University in Montréal, Quebec, Canada, moved away from this traditional conception of legal education as inextricably tied to a particular political geography or state normativity. Breaking the mold of legal nationalism in the classroom, McGill embarked on an ambitious and creative curricular innovation. Titled the ‘transsystemic’ law program, McGill’s curriculum adopted a pedagogical approach based on the integrated study of multiple legal traditions (in particular, but not exclusively, the two major western legal traditions of civil and common law) as well as alternative sites of law (such as aboriginal and religious conceptions of law, and interdisciplinary approaches to legal issues) within blended courses.

From a pragmatic standpoint, the result was the creation of a program in which all students graduate with both civil law and common law degrees following three to four years of study. While students take compulsory and optional courses, in English or French, that cover the full range of subjects one finds in most law faculties, the difference is that at McGill, these courses are offered from an integrated and transsystemic perspective. Upon completion of the program, students leave McGill as ‘cosmopolitan jurists’ prepared to take on legal practice in today’s evermore transnational world.

From an academic perspective, however, the result was the creation of a uniquely comparative, multi-systemic, pluralistic, and dialogic program of studying law. This program is personified by the integration of many voices, perspectives, and lenses without jurisdictional or systemic boundaries, highlighting a dialogue with, and learning from, other legal cultures and jurisdictions. Regardless of the precise ways in which students identify with one system or another, it is clear that they are constantly forced to ask difficult questions about the legal ‘other’ in the classroom. The effect of these changes has been a shift away from a professional model of legal education to a much more intellectual and conceptual one.

The purpose of this article is not, however, to explain, or even to laud the McGill Law Program. Many scholarly articles have already been written on the subject and, indeed, in 2005 an entire special edition of the McGill Law Journal was devoted to the topic of “Navigating the Transsystemic.” Rather, the purpose is to demonstrate the transformative effect of this curricular innovation on course objectives and syllabi that has, in turn, altered our pedagogy in such a way as to enhance critical or flexible thinking skills in our students, highly prized skills in today’s institutions of higher education (Tsui, 2006).

Overview of the Integrated Law Program

The new program required McGill law professors to rethink their legal pedagogy and to invent a “new mental map” to teach students traditional law courses (Arthurs, 2009, p. 635). There were no published coursepacks or textbooks to which they could immediately turn. Rather, a complete overhaul of course syllabi, together with teaching methods and modes of evaluation, was required. This is because one of the effects of teaching law in the traditional, jurisdictionally restrictive model is that the doctrinal and taxonomic structures inherent to a given legal tradition inevitably inform the organization of course syllabi. Before the implementation of the integrated program, many of McGill’s courses followed this conventional model of legal education, emulating its divisions by organizing course material into established doctrinal categories. Taking the course on Contract Law as but one example, the common law Contract Law syllabus used to contain headings or divisions that included typical common law contract doctrines. Such headings would include ‘Consideration’, an esoteric and often problematic topic but something the common law tradition requires before a contract is recognized by the state and enforced in the courts. Another would be ‘Undue Influence’, a common law doctrine that enables a party to ask for relief from a contract into which he or she has entered due to an abuse of a relationship of trust and confidence that enabled the stronger party to take unfair advantage of the contracting party.

When, however, the Contracts course becomes blended or integrated and seeks to expose students to multiple perspectives on Contract Law, including the civil law’s conception of contractual obligations, this established structure and traditional doctrinal division
cannot be maintained for the simple reason that the civil law tradition does not recognize or give voice to concepts such as Consideration or Undue Influence. In fact, one quickly discovers that in most cases, the nomenclature and syntax of the different legal traditions do not match up. There are myriad examples of this lack of direct translation that exist from the perspective of both legal traditions. Just as Consideration means little in the civil law tradition, the civilian notions of ‘Object,’ ‘Cause,’ or ‘Intensity of Obligations’ are equally incomprehensible to the common law jurist.

This inability to match nomenclature has the fortunate effect of requiring course syllabi to be reorganized around broad themes, and course content to be reframed around larger questions rather than dogmatic doctrinal categories. As a result, instead of a course topic entitled ‘Consideration,’ an integrated contractual obligations course would have a heading such as ‘Conditions of recognition of contract by the state,’ or ‘What else besides consent?’ Rather than itemizing ‘Undue Influence’ as the doctrinal lesson of a particular class, the topic is taught as part of a larger question of how one achieves social control of contracts through judicial intervention for reasons of procedural and substantive unfairness. And instead of ‘Intensity of Obligations,’ a blended course syllabus would address the broader issue of defining breach. The net result is that lectures are framed by ideas and problems rather than traditional legal doctrinal topics.

Linking Transsystemic Pedagogy to the Aspirations of Critical Thinking

Critical thinking is said to encompass “higher order thinking processes that are reflected in the higher end of Bloom’s taxonomy of educational objectives,” characterized by the skills of analyzing, evaluating and creating, as opposed to remembering, understanding and applying (Krathwohl, 2002; Tsui, 2006). Often described as inculcating the ability to ‘think outside the box,’ critical thinking focuses on questioning underlying assumptions, uncovering hidden assumptions, and creating independent and innovative, rather than mechanistic, thinkers (Hinchey, 2008; James, Hughes, Clair, & Cappa, 2010; Tsui, 2006; Weinstein, 1999). The pedagogical emphasis is shifted to the process, rather than the result, to the question, rather than the answer, to the ‘how’ and ‘why,’ rather than the ‘what.’

The dialogic encounter between legal traditions taught in an integrated classroom lends itself to one of the central components of critical thinking, which involves questioning assumptions. Let us return to the notion of ‘Consideration,’ a necessary component of a contract according to the common law. When students confront the fact that Consideration finds no voice in the civil law tradition, and learn that there are many different ways in which a legal system can ‘bless’ a contract with enforceability, they are better able to adopt a more critical perspective on this issue, making it more conducive for them to question the wisdom of the doctrine’s very existence. Critical thinking involves challenging orthodoxy through “knowledgeable and skillful disobedience” (James et al., 2010, p. 287). By exposing students to multiple truths and a myriad of legal realities, the integrated transsystemic classroom provides the necessary atmosphere in which students can safely engage in such disobedience.

This pedagogical method also enhances students’ abilities to uncover hidden assumptions, enabling them to explore the actual reasons and justifications underlying doctrines and legal outcomes. Here we may return to the example of ‘Undue Influence’ referenced above. Much more can be learned about this particular common law doctrinal response to contractual fairness in the transsystemic classroom than in the monosystemic one (restricted by common law orthodoxy), precisely because of the lack of direct equivalent comparators in the civil law tradition. By being forced to ask how the civil law manages without the benefit of this tool, particularly if it aspires to contractual fairness, students must confront the larger question of why the doctrine exists in the first place. Once they understand the deeper problems it was designed to address, they can then consider alternative legal approaches to those problems in another legal tradition. It is somewhat ironic that learning from another legal tradition, here the civil law, can actually allow one to gain more insight into, and a sophisticated understanding of, the legal tradition with which one started, in this case the common law. As one of my students stated after his first year of study in the transsystemic program, “If I would get stuck on a particularly thorny problem, it was very often helpful to switch gears and adopt the lens of another tradition in order to gain a point of entry.” The valuable lesson here is that learning from the other often helps you
learn more about yourself.

The greatest impact of this integrated pedagogy, however, derives from the need to abandon traditional legal categories altogether and teach from tradition-neutral perspectives. The rejection of silos and boundaries is the key to training students to approach problems creatively and with open, questioning minds. If students are introduced to legal concepts without reference to rigid doctrinal categories, they will be less inclined to apply mechanistically what seem to be formulaic responses to legal issues. They will be more open to thinking about solutions to legal problems holistically, armed with a broader array of potential solutions. As Weinstein (1999) writes, “looking for new solutions that might stretch beyond the traditional boundaries” is what we want to inculcate in jurists who think critically and problem-solve creatively (p. 321).

This objective is, of course, easier said than done. Students have been taught from a young age to apply vertical thinking skills. Namely, they have been trained to find the appropriate category into which a problem falls and solve it using a set formula. Law school traditionally builds upon, and indeed amplifies, this traditional method of using vertical thinking skills: law students are trained to organize concepts and information into clear taxonomic structures. Learning to place what is sometimes described as “chaos with an index” into a coherent and logical organization is not a worthless aspiration (Glenn, 2010, p. 252). Law students certainly need to acquire the skills of organizing information appropriately. But they should not become prisoners of such categories. What McGill’s law program seeks to do, therefore, is to transcend those categories and encourage students to imagine otherwise. It seeks to have students engage horizontal thinking skills as well as vertical ones, to pull threads throughout the entire course’s materials (and indeed across different courses) in attempting to understand the bigger picture, and enable students to move between alternative systems of thought. To quote again from one of my students, “Constantly being reoriented towards the big picture questions rather than a linear approach gave us an instinct for flexible thinking.”

Conclusion

When one frees the teaching of law from boundaries erected by doctrinal categorization emanating from discrete legal traditions, one shifts the focus from the rules in force in a particular jurisdiction to the fundamental structures, ideas, values, techniques, and processes of law. The aspiration of teaching law without state boundaries recognizes that the goal of legal education is not to create positivist robots, but rather to engage students in an intellectually pluralistic endeavour, developing their skills of imaginative insight and enabling them to see past traditional structures of reality. In this way, we can train cosmopolitan jurists who are better able to respond to the needs of our increasingly globalized world, but we can also inculcate critical thinking skills in our students so that they may become jurists who can deal with legal issues creatively, openly, and with a more complex and nuanced understanding of the contingent nature of law and justice.

References


Biography

Rosalie Jukier is a professor in the Faculty of Law at McGill University and a member of the Paul André Crépeau Centre for Private and Comparative Law. She teaches and conducts research in the areas of comparative private law, Contracts and Remedies, Judicial Institutions and Civil Procedure, the intersection between human rights and private law, and legal pedagogy.
Proposer de faire réfléchir les étudiants pour les aider à se forger des compétences est bel et bon. Mais sait-on seulement capter « de la réflexion »? La définition suggérée ici permettrait de le faire. Elle correspond à un courant anglo-saxon contemporain de pratique réflexive. Elle est cohérente avec les fondements théoriques de la didactique professionnelle européenne. Vingt étudiants du Québec ont ainsi pointé des événements de leurs formations qui les ont fait réfléchir, sans pourtant utiliser le terme « réflexion ». L’étude est qualitative, d’orientation interprétative-compréhensive. Ses résultats suggèrent que l’on peut dépasser la limite du rhétorique « Faisons réfléchir nos étudiants » pour montrer de manière raisonnable des étincelles, dans les formations, qui ont réellement stimulé leur réflexion. Cela ouvre des portes à l’analyse de la réflexion des apprenants, et donc à l’amélioration des formations universitaires à visées réflexive et de développement de compétences.

Introduction

Repérdans des dispositifs de formation universitaire ce qui stimulait le plus la réflexion de futurs professionnels était un objectif majeur de l’étude. Mais j’aimerais revenir en arrière pour expliquer comment un professeur en éducation peut s’intéresser à un objet aussi curieux : qu’est-ce qui fait réfléchir les gens, notamment les futurs professionnels? Cela oblige à se poser une deuxième question : à quoi voit-on qu’ils réfléchissent?

Faire réfléchir, oui. Mais la réflexion n’aime pas l’évaluation.

répertoire d’expériences, s’en servent pour développer leur travail un peu plus tous les jours, souvent de façon tacite. Beaucoup d’entre eux s’améliorent avec le temps, d’autres stagnent par moment, bloqués par une sorte de plafond de verre constitué de leurs propres façons de penser et de faire (Saint-Arnaud, 1992, 2001). Selon Brockbank et McGill (2007) également, la réflexion compte désormais parmi les visées de formation des universités. Celles-ci cherchent à développer cette métacoméance à long terme chez les professionnels, pour les armer face aux évolutions sociales, humaines et technologiques de leur métier (Frost, 2010).

Le problème dans cette logique est de s’assurer que les mesures mises en place pour stimuler la réflexion des futurs professionnels donnent bien des fruits. Dire avec conviction et rhétorique qu’on va faire réfléchir pour rendre les étudiants plus compétents est plus aisé que de vérifier après coup que de la réflexion s’est bien produite.


Capter des changements de perspective authentiques

L’approche a d’abord consisté à discerner, dans l’offre conceptuelle autour du terme réflexion, quelle définition serait la plus robuste pour être opérationnalisable. Autrement dit, laquelle permettrait de cerner des occurrences de réflexion crédibles. Un courant contemporain de pratique réflexive, inspiré de la pensée réfléchie de Dewey (1933), reformulée par Schön pour les professionnels (1983), a permis de synthétiser une telle définition, autour du concept de reconceptualisation ou, plus simplement, de changement de perspective (Osterman & Kottkamp, 2004; Brockbank & McGill, 2007). Le principe est le suivant. Imaginons un étudiant en train d’apprendre un métier d’infirmière, d’enseignant, d’ingénieur… Il rencontre au cours de sa formation un événement qui l’interpelle. Ce peut être les propos d’un professeur d’université sur une technique ou une théorie dans cette profession. Ce peut être aussi une remarque, un regard ou un geste chez un professionnel lors d’un stage. Mais pourquoi pas aussi une simulation en classe, dans un laboratoire ou sur ordinateur. Toujours est-il que ce que cet étudiant voit, entend ou fait au cours de cette formation le frappe, avec plus ou moins de force. Curiosité, surprise, malaise ou blocage, parfois conjugués à la pression d’une équipe de travail, l’amènent à vouloir aller plus loin. Il explore, questionne. Peu à peu, seul ou avec d’autres, il en vient à voir l’événement qui l’a interpellé et son environnement autrement. Changement de perspective. Reconceptualisation. Ce différentiel entre un « avant » et un « après » est crucial. On pourrait dire que, peu importe ce qui s’est passé dans la boîte noire du cerveau sur les plans cognitifs et émotifs, un certain processus (d’observation, d’analyse, de décantation…) a produit un certain résultat : une manière plus riche, plus nuancée, plus fine, de voir le monde et les gens, qui influence déjà les façons de concevoir ou exercer ce nouveau métier ou promet de les influencer plus tard. Soulignons que cette façon pragmatique de considérer la réflexion comme une reconceptualisation paraît très anglo-saxonne et très deweyenne. En réalité, elle fait aussi écho à un mouvement européen aussi jeune que celui de la pratique réflexive : la didactique professionnelle (Pastré, 2011), inspirée par la conceptualisation dans l’action telle que la voit Vergnaud (1996), dans la lignée de Piaget (résumons très vite – trop vite – : nous avons besoin de faire les choses, pour construire des concepts qui nous servent dans l’action; bref, l’action ne s’apprend pas les bras croisés). Nous avons cependant toujours un problème. Cette apparente reconceptualisation pourrait relever du

Analyser la réflexion des étudiants
caprice, d’une saute d’humeur, d’une tentative au hasard, d’une sorte de changement pour le changement, bref, de quelque chose d’éloigné d’une pensée réfléchie. D’où la nécessité méthodologique de réunir d’autres traces de la réflexion : ses effets psychologiques et physiques (euphorie de comprendre, joie d’enfin réussir à agir, empowertment, sentiment de maîtrise, d’appartenance à une communauté professionnelle, etc. (Osterman & Kotkamp, ibid. ; Donnay & Charlier, 2008). Parfois même, on peut recueillir des effets pragmatiques : la personne illustre concrètement, dans l’action, ce qu’elle voit désormais différemment. Encore mieux, dans la collecte des traces : isoler aussi l’étincelle qui a tout déclenché (une situation, un mot, un geste, un travail d’équipe, etc.).

Méthodologie

En 2009, j’ai donc interviewé 20 étudiants de deux formations universitaires québécoises, fraîchement diplômés ou en fin de curriculum, qui avaient accepté de revenir sur leur formation. Les uns apprenaient l’enseignement, les autres la coopération internationale, deux « métiers de l’humain ». L’étude s’est employée à 1) faire ressortir des événements de réflexion chez les étudiants; 2) remonter à leur source de déclenchement; 3) documenter les conditions récurrentes d’arrière-plan, selon l’hypothèse qu’elles possédaient des éléments transversaux favorables à la réflexion. 

Dans les questions posées dans les entrevues semi-structurées, j’ai bani le terme reflexion, pour deux raisons. D’abord pour éviter un effet de désirabilité sociale et une sorte de piège sémantique : demandez à quelqu’un s’il réfléchit souvent, s’il répond non, il risque de passer pour quelqu’un qui ne réfléchit pas; par ailleurs, par simple courtoisie, pour plaie au chercheur, il tendra à dire oui. Autre écueil à éviter : la fameuse polysémie du terme. En effet, si je demande à quelqu’un s’il a réfléchi ou ce sur quoi il a réfléchi, comment être sûr que sa conception de la réflexion correspond à celle des autres répondants, ou à celle du chercheur? Introduire le terme réfléchir dans les questions, c’aurait donc été prendre le risque d’inviter ultérieurement dans une même analyse des croyances, conceptions et postures diverses à propos d’un terme fort débattu dans la littérature. Stratégiquement, je demandais donc plutôt aux étudiants, dans des mots ordinaires, de me montrer non pas « leur réflexion », mais les différentes signatures potentielles de celle-ci, identifiées plus haut. Par exemple : ce qui les avait frappés dans leurs études (déclencheurs des changements de perspective et changements eux-mêmes), dans quelles circonstances (pour accéder aux conditions favorables à ces reconceptualisations), comment ils l’avaient vécu (effets sur soi) et ce que cela avait changé dans leur façon de voir ou faire le métier étudié (accéder aux reconceptualisations). La recherche de régularités s’est ainsi faite sur des éléments plus neutres, plus tangibles, plus susceptibles d’être transversaux au vécu de différents individus, indépendamment de leurs conceptions de ce qu’est ou n’est pas la réflexion. J’ai décrit ailleurs en détail les défis d’une telle démarche méthodologique qualitative (Chaubet, 2012). Résumons-la. D’abord, ces fameux éléments qui interviennent dans la définition de la réflexion adoptée ont été systématiquement recherchés dans les verbatim. Seuls les éléments qui s’agrégeaient en îlots cohérents autour d’un thème – une interpellation particulière, quelque chose qui avait marqué les interviewés, collectivement ou individuellement – ont été retenus pour analyse qualitative. Quelque 177 interpellations sous forme d’îlots de sens, riches en reconceptualisations, déclencheurs, effets physiques, psychologiques ou pragmatiques ont été ainsi repérées puis analysées de manière inductive, phénoménologique. 

ILLUSTRON. Une étudiante en coopération internationale raconte qu’elle ne comprenait pas le concept d’extrait en gestion de projet (1er déclencheur). Un jour, la chargée de cours universitaire raconte à la classe l’anecdote suivante pour l’expliquer (2e déclencheur). Une ONG, dans un pays en développement, estime que les jeunes femmes d’un village perdent un temps précieux à aller chercher de l’eau à plusieurs kilomètres, ce qui les prive d’occasions d’aller à l’école. L’ONG décide de construire un puits, dont on s’attend qu’il améliorerait indirectement la scolarisation des femmes, puisqu’elles n’auront plus à faire ces longs aller-retour. On finit par se rendre compte qu’une fois le puits construit, le village a de l’eau, mais le sentiment communautaire s’effrite. En fait, la fin de la longue marche pour l’eau a considérablement réduit la durée des échanges verbaux entre les villageoises. L’étudiante raconte alors comment elle a compris ce qu’était un extrant (1er reconceptualisation sur les concepts et techniques de sa profession), mais aussi combien l’a marquée le fait que, en tant que future coopérante, elle pouvait participer à détruire des équilibres culturels sans le savoir (2e reconceptualisation sur sa profession et son rôle dans le métier). Elle avait
toujours pensé que la sincérité et la pureté de ses motifs suffiraient (3e reconceptualisation, liée à ses valeurs et à son identité professionnelle et personnelle). Elle en ressort ébranlée dans ses certitudes, un peu effrayée des risques de sa propre action future sur des populations entières, surprise par le poids de ses responsabilités à venir (effets psychologiques). Elle en retient qu'elle devra peser avec précaution chaque geste professionnel, pour éviter de créer plus de dommage que de bien (nous sommes à la limite d’un effet pragmatique, car l’action professionnelle se projette sur un lendemain; on comprend que son action en changera probablement, mais on ne peut pas encore le prouver). Une analyse spécifique des conditions sous-jacentes de chaque interpellation (par exemple ici, un cours universitaire) a dégagé une typologie des situations qui favorisent l’émergence de ce type de réflexion.

Résultats
Dans les limites de ses données, la recherche suggère ceci : 1) La réflexion est toujours là, peu importe les modalités de formation – cours traditionnel frontal, situations-problèmes à résoudre, simulations, stages. Elle joue donc bien le rôle « méta », au-dessus des circonstances, d’un mécanisme humain clé pour comprendre notre expérience et en tirer des leçons (Boud, Cressey & Docherty, 2006); 2) Elle touche à la fois les manières de se voir soi, de voir autrui (les apprenants par exemple, les pairs, etc.), de voir et faire son travail; 3) Les conditions les plus favorables à cette réflexion sont l’activité (faire plutôt que seulement écouter) et la confrontation interactive à autrui (pairs, formateurs, clientèle), autrement dit, le travail avec et pour les autres aide à réfléchir; 4) les savoirs « théoriques » quittent leur statut décoratif ou forcé quand les étudiants y voient un intérêt pour comprendre la profession et y agir mieux (un bon exemple en est le cas décrit plus haut). Inversement, quand les savoirs théoriques ignorent le besoin d’action et d’interaction des étudiants, ils tendent à être rejetés.

Discussion
Cela interroge le tracé des frontières entre les différents modes de formation – cours, stages, travaux pratiques, portefolios, etc. – utilisés habituellement pour faire émerger les compétences professionnelles. Par exemple, nous gardons toujours un peu (beaucoup) cette idée que les cours théoriques sont nécessaires d’abord, pour ensuite appliquer leurs savoirs. Or, ce que les données de cette étude suggère, c’est que les savoirs théoriques font réfléchir, en effet, mais moins souvent que l’action sur le terrain (stages) ou même que l’action simulée à l’université. Pire : quand les étudiants ne voient pas de lien avec leur future profession, ils se détournent des savoirs théoriques, parfois de fort mauvaise humeur (« Déconnecté de la réalité »). Pourtant, dès que la théorie se reconnecte à « la vraie vie », ils l’encensent (« Ça m’aide à comprendre, ça m’aide à agir! »).

Conclusion
J’aimerais relier le méthodologique/théorique à des retombées envisageables dans les formations universitaires qui veulent produire des praticiens réflexifs EN VUE d’en faire des praticiens compétents. D’abord, si nous voulons vraiment favoriser la réflexion de nos étudiants, donnons-nous-en les moyens théoriques et méthodologiques. La définition de la réflexion synthétisée à partir du concept de pensée réfléchie de Dewey, enrichie par les contributions de nombreux auteurs contemporains, me semble portante à cet égard (Chaubet, 2010a; b). Pour mémoire : un processus ET un résultat à la fois, qui conduit à un changement de perspective (reconceptualisation), qui est déclenché (ce n’est pas un caprice) et qui produit des effets psychologiques ou physiques sur soi, parfois des effets pragmatiques sur l’action professionnelle. Sur le plan théorique, elle emprunte à un courant éducatif anglo-saxon important, la pratique réflexive deweyenne (même si la référence à Dewey s’accompagne parfois d’épistémologies peu deweyennes; Chaubet, 2010a). Elle est cohérente avec un courant de psychologie du développement aux origines européennes assez différentes. Par ailleurs, elle donne des poignées méthodologiques pour saisir de la réflexion dans les formations universitaires, sans rattacher les objets réfléchis à des échelles de valeurs préconçues (systèmes de valeur des chercheurs; ou hiérarchies dans lesquelles le politique et l’éthique, par exemple, sont implicitement plus nobles que le simple technique, ce qui introduit un biais, voir Correa Molina, Collin, Chaubet & Gervais, 2010). En d’autres termes, nous avons là un outil relativement objectif pour analyser la réflexion pourtant subjective d’étudiants à propos de leur formation, pour savoir ce qui déclenche effectivement leur réflexion, à quels moments et quels endroits. Par ailleurs, cela nous
sort de la rhétorique et du flou conceptuel qui affaiblissent l'idée même d'une promotion de la réflexion. Enfin, cela nous donne des moyens de repenser les formations, c'est-à-dire de les redessiner là où elles « n’accrochent pas » sur les étudiants, où elle rencontrent leurs limites à répétition. Cela nous permettrait donc, à terme, d’en étendre les frontières là où elle fait réellement progresser la pensée et l’action des futurs professionnels, autrement dit, là où elle fait se développer leurs compétences.

Références


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Biographie

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Enquiry, Engagement, and eLearning: Three Perspectives on a Student-Centred, Online, Enquiry-Based Course

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In the 2011 Winter semester, the University of Guelph engaged in a pedagogical experiment: an online first-year seminar. This article is a conversation about the learning journey that surrounds this seminar, as experienced by three participants: Jacqueline Murray (JM), Professor of History and Director of the First-Year Seminar Program (FYS); Natalie Giesbrecht (NG), Manager, Distance Education and a Distance Learning Specialist; and Samuel Mosonyi (SM), an undergraduate student who was enrolled in the course. We reflect upon the online seminar and discuss the technology and pedagogy, student learning experience, and process of online interaction. We conclude that this seminar, an innovation in both enquiry-based learning and first-year seminars, is arguably comparable with classroom-based offerings.

Introduction

JM: I have been facilitating first-year seminars since 2004. The First-Year Seminar (FYS) Program provides small, intensive, interdisciplinary learning experiences for first-year students. Over the years, I have developed seminars on a variety of interdisciplinary themes. Consequently, when the opportunity to develop a seminar on The Politics, Science, and Culture of Hunger arose, I was most enthusiastic. This seminar would be offered online, something that had never occurred in the FYS Program, which generally prided itself on close faculty-student contact.

First-year seminars are capped at eighteen students to ensure interactivity and engagement. When I facilitate a face-to-face group, I employ a specific pedagogy: closed-loop, reiterative, enquiry-based learning (EBL) (Barrows, 1986; Murray & Summerlee, 2007; Summerlee & Murray, 2010). Enquiry-based learning is a pedagogy that is both engaging and challenging. It fosters deep learning and transferable skills and so meets the learning objectives of the FYS Program.

Enquiry-based learning is part of the pedagogical constellation that includes problem-based learning (PBL) and inquiry-based learning (IBL). PBL is less a specific pedagogy than an umbrella term that includes multiple approaches to learning that focus on a problem. Enquiry and inquiry-based learning focus on the process of research
and investigation. The inquiry approach at McMaster University looks to "new knowledge and new understanding" (Hudspith & Jenkins, 2001). Enquiry-based learning is more focused on the process of questioning, using cases to encourage open-ended enquiry rather than to arrive at solutions (Summerlee & Murray, 2010).

I was committed to using EBL in the online seminar, given my experience with the pedagogy. Admittedly, having had no previous experience with online learning, I had no clear idea what this might actually entail.

Enquiry-based learning is a more process-oriented than content-oriented pedagogy. Students analyze a number of scenarios pertaining to the seminar’s theme (Garrison & Cleveland-Innes, 2005). These examples provide the context for student learning. Students develop their analytical, research, and presentation skills, and engage in deep learning as they analyze complex multidisciplinary issues and consult the research necessary in order to understand them.

I developed a number of cases that examine the complexities of hunger in both global and North American contexts, for use in the online seminar. Through these examples, students would confront issues of food security in refugee camps, genetically modified foods that could help alleviate hunger, competing or contradictory government policies, and strategies to address domestic hunger. I developed the theme of the seminar and its scenarios in the same way as I would for a face-to-face seminar, but I had no idea how the course could be structured for online delivery or how the cases would work in an online environment.

Course Design and Experience

**NG:** At the University of Guelph, most online courses are asynchronous to provide students with scheduling flexibility. The seminar followed this delivery model, despite the innovative pedagogy. It differed from other online offerings by providing an intensive, small group learning experience, and it was the first to use EBL pedagogy as a framework. Thus, it was apparent from the beginning that a creative and well thought-out course design would be crucial for student success, and that the course development would be a learning journey unto itself (Lock, 2002). As a starting point, the design needed to encourage collaboration. To facilitate this, the students were divided into smaller learning groups of six that worked together throughout the semester.

**SM:** For the students in the seminar course, EBL was a new experience, having been used to the standard lecture, essay, and exam courses. On the course website, EBL was thoroughly defined and easy to understand. A scenario was provided with certain facts, which we then analyzed according to what we knew, and what we did not know. Then, we identified learning issues, created research questions, and distributed them amongst ourselves.

**JM:** Enquiry-based learning is a student-centred and student-driven pedagogy. The facilitator does not lecture, and does not provide factual background or theoretical grounding. Students only receive an outline about how to proceed, by means of working through a brief sample case in the first class. Then, they jump into their first full case analysis. The challenge for us was discovering how to provide the same kind of information and introductory experience for an online seminar (Hiltz, 1998).

**NG:** As Jacqueline and I began to develop the course, we realized we needed to fully understand each other’s contexts, perspectives, and goals. When I begin to work with a faculty member, we discuss the instructional design process and the best practices of online course development. We work to develop course objectives, activities, and assessments that are aligned and provide the solid foundation for a successful course. As with any course development, Jacqueline and I worked through these processes and practices.

**JM:** Enquiry-based learning does not fit conventional course design, either classroom-based or online; the seminars are not ordered by units of content or a set number of lectures and labs. The challenge, in this case, was how best to organize and present the course information. The course structure also needed to reinforce the non-hierarchical role of the facilitator. In EBL, the facilitator functions as an integrated member of each learning group rather than an authoritative figure driving the learning.

**NG:** The goal was to create a course design that would foster student-driven learning. The challenge, however, was to build it so that it stayed true to the EBL model, while acknowledging that the in-class experience cannot be mirrored online.

Media and Learning Process

**JM:** In order for Natalie to decide how to structure the
course online, she needed to understand EBL in depth. We began with a description of the process, what the students do, and what the learning objective is for each step in the process. Words seemed to complicate rather than clarify, so I endeavoured to map out the process visually, on chart paper, hoping to convey the dynamic and integrated nature of EBL.

NG: The chart opened a dialogue between Jacqueline and I and resulted in a hand-drawn diagram that evolved into a multimedia object (Figure 1). This then became a key teaching tool to communicate to the students how EBL works, taking students through each of the steps in a clear and concise manner.

SM: The media object helped to introduce students to the EBL process. The most beneficial demonstration for me, however, was a video of a face-to-face EBL case analysis. The video shows a group of students who were presented with a case and analyzed it, demonstrating how EBL works. The video helped us understand that this course was going to be quite different from any other. We would be required to question our assumptions, even our most intrinsic values.

JM: The goal of the video was to model how to approach a case and analyze it. It also demonstrated the interaction and discussion that occurs in an EBL group. The video shows the tentativeness, bewilderment, excitement, and intellectual joy that comes with analyzing an EBL case. Consequently, I was pleased that the online students appreciated videos and were able to use them as a guide for their virtual learning groups.

NG: The video was intended to be a starting point for students to become acquainted with the EBL process. Even so, I was concerned that the students might not translate what they saw in the in-class video into their online, asynchronous seminar. A key issue then was how to create an online environment that would appear familiar from the video as well as take advantage of the available technical tools without creating additional barriers for students (Brown, 1997). This sparked a discussion about appropriate educational technologies to support the learning.

Educational Technology

NG: We needed to consider that most first-year students would be unfamiliar with online learning. Both the learning environment and EBL process would be new, so it was important to develop explicit instructions and select tools that were easy to use.

The tools became the technological framework that supported the pedagogy and encouraged the high-level interaction required of EBL. We provided two key spaces in which students would interact. The first was the discussion forums in Desire2Learn (D2L), the University of Guelph’s learning management system. These spaces afforded the students the ability to conduct asynchronous discussion of the cases but only allowed for linear interaction and were not sufficiently flexible for collaborative work.

To allow for greater immediacy and spontaneity – and a certain degree of synchronous interaction – the second tool we selected was a third party wiki called Wikispaces. This was a private workspace, visible only to the specific learning group. The wiki pages mirrored the key steps of the EBL process: Analyze, Present Research, and Integrate Research into the scenario (Figure 2). These pages worked in conjunction with the discussion forums. Depending on the step in the process, students moved back and forth between the discussion forums and the wiki.

SM: Initially, we weren’t familiar with all of the technologies used for the seminar, and were nervous about this challenge. However, gradually, we became
comfortable with the technology and with accessing the learning environments.

The wiki was our main presentation tool. Initially, our presentations were text-based, but as the semester progressed we became comfortable enough to embed pictures, videos, and other media. For example, in a case that required us to analyze why a supply convoy was delayed, one presentation used satellite imaging to analyze the terrain, while another included an infographic of such quality that it seemed professional.

Our learning group also used the wiki to reach consensus. From the start, we created rules and a voting procedure so that we had an efficient and democratic way to make decisions. We also created separate wiki pages for each group member so that we had an individual space to present research. Another page was designated for the analysis and synthesis of our collective work. The wiki provided a flexible framework and gave each group creative capacity to develop it in a context-appropriate manner (Lock, 2002).

NG: Groups became so cohesive and integrated that they began to finish each other’s thoughts and enrich each other’s contributions. Through the use of individual colours, the integration and conversational flow was visible on the wikis, as students completed each other’s sentences and expanded upon each other’s ideas (Figure 3).

Discussion and Interaction

JM: An important consideration for both group dynamics and the learning environment was that each learning group worked independently. The students were vaguely aware that there were multiple groups, but these did not interact or see each other’s work. Rather, each group had its own forums in D2L and its own wiki, so each group was free to express itself without concern that strangers might have access. This meant that the students were uninhibited in their brainstorming and could try out ideas, no matter how wild they might seem at first glance. One concern about experimenting with online learning was the uncertainty of whether the students would be able...
to get to know one another. How could we provide the equivalent of those five minutes of chatting that happen while waiting for class or packing up afterwards? These are the times when so many social bonds are formed.

**NG:** We created another social environment with a forum dedicated to introductions, a fairly standard practice in online courses to create rapport and establish community (Palloff & Pratt, 1999). The introductions provided a starting point, not only for the students to develop socially but also for the instructor to develop a social presence.

**JM:** I wanted my introduction to model an open yet relevant profile of myself, to convey a tone of warmth, while also conveying to the students that, like them, I consider hunger and social justice to be important. But the mood also needed to be light enough to avoid discouraging students from taking a chance on this new course. Students were asked, “What do you hunger for?” which allowed them to contextualize their introductions in various ways and reveal their personalities. The strategy worked well. They revealed what inspired them and how they wanted to make a difference in the world.

**SM:** The introductions helped to develop familiarity among group members and revealed everyone’s diverse values and perspectives. We gradually understood and respected these differences in perspective that often led to vigorous debate (Jonassen, Peck, & Wilson, 1999). Aside from the introductions, there were a number of social spaces incorporated into D2L for casual interactions. A forum called Cool Stuff was a place for group members to post articles or videos relevant to the seminar, or notices about lectures and events on campus. The Coffee Shop was an informal space for chat about anything unrelated to the seminar. Within these spaces we offered each other encouragement and support (Garrison, 2007).

**NG:** The introductions were a starting point...
that led to higher levels of engagement. As group rapport developed, some groups began to engage in almost synchronous conversation in the asynchronous discussion forums. Time stamps for each post reveal that students were posting just minutes apart.

**JM:** In the classroom, students work together in intensely engaging ways and know each other's strengths and weaknesses. Because facades dissolve quickly, groups can develop true community. It was not clear if a similar depth of relationship could develop asynchronously, without the usual touchstones of expression, gestures, and laughter. This concern proved unfounded. Individuals shone through and genuine relationships developed. Each group had a distinct personality, unique group dynamics, and approaches to problem solving.

**SM:** The various virtual spaces – including the discussion forums, the wiki, and the informal chat rooms – helped us envision each other as fellow students. It helped us to put thoughts and personalities to names. This enhanced each member's commitment to the group, just as in a face-to-face group. As these relationships deepened, there was increasing engagement with the seminar by all of the group members.

**Reflections**

**JM:** The students in *The Politics, Science and Culture of Hunger* embraced the multidisciplinary perspectives necessary to understand such a complex issue. The ability to work together with students from various disciplines helped everyone to open their eyes to the array of approaches necessary to understand any issue.

**NG:** Jacqueline and I devoted considerable time to designing the seminar and selecting the educational technologies. We were ambitious from the beginning but were conscious not to overburden the students with complicated tools and steep learning curves. From the perspective of an instructional designer, this course provided an opportunity to be creative and push the boundaries beyond those of the typical online, content-based, modular course.

**JM:** Natalie and I worked together very closely and enthusiastically, meeting once or twice a week in the semester leading up to the course launch and continuing to meet while it was offered. This allowed us to make small adjustments but also reflects the close collaborative relationship we developed and a sense of joint ownership we felt for what we had created. We each learned from the other: I am no techno-wizard and had never taught online, so I developed a deeper understanding of learning technology and the innovative potential of online learning.

**SM:** One of the most beneficial aspects of the seminar was the process-oriented approach that focused on skill development as opposed to content. With EBL, the faculty facilitator is a member of the group, and the students develop skills by taking ownership of their learning. Because the facilitator does not act as an authority, students have considerable room to let their skills shine. As members of a learning community, we depended on each other to participate and collaborate to achieve our learning outcomes (Palloff & Pratt, 1999).

**Conclusions**

**SM:** The class was interesting and unique for me personally. As a first-year student, I had only experienced large lectures; this seminar embodied a whole new style of learning. The trek into the unknown was a rewarding experience for me and the other group members; we learned how to work effectively as a team and were all pushed outside of our safe zones. Our leadership skills were also bolstered, as each group member took on the role of leader at some point in the case analysis. The process-oriented approach allowed us to develop critical, analytical, research, and presentation skills.

**NG:** We – faculty member and instructional designer – began this course development project with different but complementary expertise, though we did not realize this at first. We worked closely to integrate our two perspectives in order to develop an innovative online course that combines the learner-centred approach of EBL with the best practices of online learning. Ultimately, it was a collegial and collaborative relationship that led us to develop a successful course. This, in turn, had a great impact on the student experience.
JM: This seminar was a learning journey for all of us: faculty, instructional designer, and students. Creating this seminar paralleled students’ experience of it: it involved teamwork and required the ability to view issues from multiple perspectives, to accommodate different perspectives, and to respect different expertise. It was an example of enquiry-based learning at its best, flourishing in an asynchronous, online environment.

References


Biographies

Jacqueline Murray is Professor of History and Director of the First-Year Seminar Program at the University of Guelph. She is an advocate of enquiry-based learning and engages in research on its learning outcomes and student experience.

Natalie Giesbrecht is Manager, Distance Education and a Distance Learning Specialist in the Centre for Open Learning and Educational Support at the University of Guelph.

Samuel Mosonyi is an undergraduate student at the University of Guelph. He is pursuing a double major in Political Science and Criminal Justice and Public Policy.
Building resilience around, and finding ways to engage with, conflict is relevant and necessary across all professional, personal, teaching, and learning spaces (Hughes, Huston, & Stein, 2010). At the University of British Columbia (UBC), mutual respect, equity, and intercultural understanding are among the top priorities, and we think that finding constructive ways of engaging with conflict, and building resilience around it, is a way to move these priorities forward. In 2009, an interactive theatre program was established to promote awareness of cultural, privilege, power, oppression, diversity, and personality boundaries in classroom settings at UBC (Harlap & Chan, 2010). In 2011, a group of managers and staff drew on this and created Conflict Theatre to extend an awareness of the complexities and challenges that arise in our university’s diverse workplace environments. In this essay, we provide some of the theoretical background underlying Conflict Theatre, describe the development and performance of this Theatre, share our collected experiences and identify how we intend to move forward.

Theoretical Background

Theatre is an affective and effective tool to raise awareness, foster individual empowerment, and promote engagement. Interactive theatre is particularly powerful as it requires participants to be active in exploring problems, creating dialogues and developing possible solutions (Gibb, 2004). Interactive theatre offers valuable experiential learning opportunities in a range of educational settings ranging...
from youth education to management development (Beirne & Knight, 2007; Coopey, 1998; Day, 2002; Gibb, 2004; Elm & Taylor, 2010; Nissley, Taylor, & Houden, 2004).

We chose to follow the work of David Diamond (2007), as outlined in his Theatre for Living annual workshops and book. Diamond’s work originally grew from Augusto Boal’s work on Theatre of the Oppressed (1985) and Paulo Freire’s Pedagogy of the Oppressed (1970). Diamond (2007) suggests that the distinction between the oppressor and the oppressed as described by Boal (1985) is an artificial construct and polarizes “living communities into good guys and bad guys” (p. 22). Instead, Diamond (2007) recognizes communities as “integrated, and perhaps dysfunctional organism[s] that [are] struggling to resolve difficult issues” (p.24). In line with this, we have increasingly talked about encouraging and building conflict resilience in the workplace, and the importance of conflict engagement rather than conflict resolution (Campbell, 2011).

A second idea within Theatre for Living that Conflict Theatre borrows strongly from is that theatre is a vehicle for living communities to tell their stories and if communities are unable to do so they get sick, become fragmented, and certainly lose “their ability to collectively tell their stories” (Diamond, 2007, p. 19). Related to this but at a more individual level, Rosenwald and Ochberg (1992) argue that personal stories and narrative are “the means by which identities may be fashioned” (as cited in Clarke, 2001, p.1). Furthermore, Rossiter (1999) points out that “we understand the world and our experiences narratively, so also do we understand and construct the self as narrative [and while this] construction is complex and ongoing, the central task of the personal narrative is the creation of coherence” (as cited in Clarke, 2001, p.5).

A third idea discussed by Diamond, that shows up strongly in our work with Conflict Theatre is the systems thinking perspective and the value of creating disturbance. A Joker is an important element of a Theatre for Living project, and his or her role is to create a very safe workshop space for participants as well as “to create disturbances by giving a voice to people who would normally not be heard, or by enabling individuals to manifest conflicting voices. These disturbances then set in motion the group dynamics that lead to change” (Diamond, 2007, p. 16). Diamond (2007) suggests that “one can never direct a living system; one can only disturb it” (p. 16). He introduces a framework where difficulties can be recognized through telling stories and building scripts; resilience and engagement within a system can be approached by allowing disturbance.

The Conflict Theatre was set in motion in the following context. The Organizational Development and Learning (ODL) unit at UBC initiated Managing at UBC, a program offered to new managers at the university, in 2007. The Managing at UBC program comprises of 32 learning modules, including one module on team building. Recognizing that conflict is inevitable while building high performing teams, ODL felt that there is a need to support university managers in engaging, and developing resilience, with conflict. In adapting the Theatre for Living framework described by Diamond (2007), we hoped to develop and perform interactive theatre with participants and alumni of the Managing at UBC program. We see this as one tool towards developing conflict resilience while bringing awareness to existing, though invisible, boundaries and building strong teams in our very diverse work environment.

In our work with Conflict Theatre, we followed two main steps: script development and performance.

Development of Conflict Theatre:
Telling Our Stories and Script Building

Telling stories is an integral part of Conflict Theatre as we understand ourselves and our environments through personal stories and narratives (Clark, 2001; Diamond, 2007). A major component of the Conflict Theatre is to create a safe space where challenging and resonant conflict stories can be exchanged, explored and woven into a collective script. In June 2011, we sent an invitation to all participants and alumni of Managing at UBC to join the Conflict Theatre program. As a result, 15 staff and managers representing six academic and service units at the university volunteered and formed the Conflict Theatre Troupe.

The Troupe met for eight weeks, for three hours each week, during the summer of 2011 and engaged in a series of team building activities to facilitate a safe exploration of our personal stories related to both personal and workplace conflict. As listed in Table 1, Troupe members also engaged in a series of theatrical exercises to weave our stories together for the development of three scripts, and rehearsed interactive theatre through
a number of improvisation exercises as described by Diamond (2007).

By the end of Week 6, the Troupe developed three 5-minute scripts. The Troupe chose one script that resonated with them the most and used our collective workplace experience to further develop the script and the characters. The script we chose consists of four characters: a new manager, a new staff member in a junior position, and two experienced staff members. The script showcases a weekly staff meeting during which there are a series of tense moments that include vacation scheduling priority, distribution of work, hiring policy, and a discussion of what makes a team. The meeting does not go as anticipated, resulting in a staff member storming out of the meeting.

While the lines of the script are set, it is created to allow each Troupe member to bring their own experience to their character. For instance, the character of the manager has been played as a seasoned manager recently

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Table 1

<table>
<thead>
<tr>
<th>Week</th>
<th>Introduction</th>
<th>Exercises</th>
<th>Closing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: What does conflict mean to you?</td>
<td>Welcome, questions, expectations, agreements, and introduction of the Theatre of the Oppressed</td>
<td>Pulsing Circle, Name Game, Cover the Space, Human Knot, Push-Pull, Complete the Image, discussion on conflict, Duelling Images</td>
<td>Debrief, questions and answers, administrative reminders, Massage Circle</td>
</tr>
<tr>
<td>2: Team and Resilience in Conflict</td>
<td>More on Theatre of the Oppressed, Relaxation and Breathing, Daoist Meditation</td>
<td>Name Game, Fear-Protector, Blind Cars, Columbian Hypnosis, Pulling-in-Partners and Pulling-in-Groups</td>
<td>Reflections and Comments</td>
</tr>
<tr>
<td>3: Power Dynamics and Struggles, Equity, and Diversity</td>
<td>Breathing and Voice Exploration</td>
<td>The Market Place, Improv Storytelling, Faint by Numbers, Power Shuffle, Siren's Call, Collective Short Performance on Shared Personal Conflicts</td>
<td>Massage Circle</td>
</tr>
<tr>
<td>4: Stress Triggers: Flight or Fight</td>
<td>Introduction to Stress Triggers and Flight and Fight</td>
<td>Improv Storytelling, Freeze Tag, Intelligent Clay, The Three Irish Duels, Columbia Hypnosis Forum</td>
<td>Conflict Flipchart Preparation on Conflict; Pulsing Circle</td>
</tr>
<tr>
<td>5: Image Creation and Play Building</td>
<td>Bradford Duelling Images</td>
<td>Magnetic Image</td>
<td>Live Orchestra; Massage Circle</td>
</tr>
<tr>
<td>6: Collective Stories</td>
<td>Forum Play; Workplace Issues</td>
<td>Clap Exchanges, Creating Collective Play in Small Groups</td>
<td>Reflection</td>
</tr>
<tr>
<td>7: Character Development; Owning the Conflict; Stress Triggers</td>
<td>Improv Games Main</td>
<td>Developing Core Play, Collective Directing, Hot Seat, Fears-Desires-Secret Thoughts, Improvised-Rituals, Rehearsal, Brief Interventions</td>
<td>Reflection; Feeling-Off-the-Skin</td>
</tr>
<tr>
<td>8: Rehearsal; Owning the Characters</td>
<td>Trust Game; Push-Pull Balance</td>
<td>Intervention Rehearsals, Staging the Italian, Faster-Louder, Deaf Audience</td>
<td>Pulsing Circle</td>
</tr>
<tr>
<td>9: Interactive Performance</td>
<td>Introduction; Performance</td>
<td>Interactive Theatre</td>
<td>Applaud the Audience</td>
</tr>
</tbody>
</table>

1 Details of each game and exercise can be found in Boal (2002) and Diamond (2007).
hired from another department as well as a fresh business degree graduate with little experience in the University setting. While the characters can be played by different actors/actresses at each performance, it is essential that the actors and actresses recognize, and are able to personalize, the struggles of their character.

Performance of Conflict Theatre

We performed Conflict Theatre twice in 2011: first in August for approximately 25 university staff and managers, and again in October for an audience of 75. The performance follows the forum theatre format as outlined by David Diamond (2007) in his work with Theatre for Living. The script is first performed once. A Joker then invites members of the audience to come on stage and replace one of the characters whose struggle they recognize, i.e., audience members are invited to be a ‘spect-actor.’ The spect-actor then has the opportunity to try out a strategy in response to some aspect of the conflict they see on stage (that is, to try an ‘intervention’); other actors/actresses on stage improvise in response to the spect-actor’s actions. At the end of each intervention, the Joker seeks the internal thoughts of each character on stage in response to the intervention to gain insight into how it worked for them. While the spect-actor gains the most direct experience through embodying the struggling character, the rest of the audience is able to visualize how other characters reacted to the attempted strategy.

Telling Stories, Systems Perspective, and Creating Disturbance

While Conflict Theatre used personal narrative as a basis for the final sketches, our performances provided additional safe spaces for spect-actors to tell, re-tell, change, and interrupt their personal narratives and social culture on stage. Different narratives and reactions were surfaced during each performance and provided opportunities for individual and community narratives to be deepened, broadened, and to recreate coherence in our thinking based on what we observed and experienced (Hermans, 1997, as cited in Clark, 2001). While individual actors and spect-actors had the opportunity to fashion and refashion their identities in conflict situations (Clark, 2001) and build resilience around the conflicts they engage in or observe on stage, this experience also allowed us to reformulate the conflict and develop a cohesive community story around our areas of conflict (Clark, 2001; Diamond, 2007).

As the boundaries became more visible after witnessing each intervention and hearing the actors’ internal thoughts, audiences were given more opportunities to act out their ideas and strategies to ‘re-hearse’ different responses to the conflict, and to see how they may land. These interventions and conflict ‘rehearsals’ had the potential to create disturbance and generate changes in our living and working system. Conflict is very much a part of every reality; Conflict Theatre has the potential to support a culture of constructive conflict engagement and resilience among managers at UBC.

Conflict Theatre Feedback and Next Steps

Annotated feedback gathered from audiences at our August and October 2011 performances suggest that Conflict Theatre was able to meet its intended purposes: to extend an awareness of the nuanced complexities, challenges, and boundaries that exist in diverse work environments at the university, and consider that there are different ways to engage with conflict. The following comments illustrate that awareness was promoted:

*Made me think about the issues raised.*

*Seeing how other people struggle [in real life].*

*Appreciated hearing the [characters’] points of view.*

Many also commented on the range of strategies tried during the performances:

*Different approaches to solve problems were presented.*

*Experiencing different techniques in team managing.*

*Highlighting the importance of understanding staff motivation.*
Overall, audience members found participating in an interactive theatre a powerful learning experience:

A live performance is more interesting than listening to a slide presentation. Glad participation [on stage] wasn't mandatory [to everyone].

Today was one of the most interesting and compelling management/leadership training initiatives I've seen presented at [the University]... The faces in the room were so engrossed.

Though we have gathered this preliminary feedback about the effectiveness of Conflict Theatre, we would like to find out in greater depth how it meets its intended purposes. We are interested in exploring the following questions: What do participants gain or learn from being part of this affective process? How memorable was the learning experience, and did the learning 'stick'? How do participants shift their personal or community stories around specific types of conflict they explore during the workshop or the performance? What are the differences in ways they analyze the complexities and challenges of these specific conflicts before and after they engage in Conflict Theatre? Had they employed different engagement strategies as a result of the interactive theatre?

Our intention is to collect data to help us understand the value of Conflict Theatre for our participants and use this data to guide us in further developing the Conflict Theatre in a useful, responsive way (Gall, Gall, & Borg, 2006). We plan to collect survey data immediately before and after our future performances and follow-up with semi-structured interviews with those audience members willing to participant. Semi-structured interviews will also be carried out with Troupe members to understand from their perspective how their participation in the eight-week long workshop shifted their personal narratives and ways of engaging with and analyzing conflict.

**Summary**

We intend to continue to offer Conflict Theatre to staff and other interested units at the university. As well, findings from our work are useful to develop evidence-based staff development teaching and learning practices. Since conflict is inevitable in our working, teaching and learning roles, we believe that engaging conflict through interactive theatre could also be useful in other organizations beyond our institution.

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**Biographies**

Amrit Mundy is an Instructional Designer with Organizational Development & Learning and associated with the Centre for Teaching, Learning, and Technology. She is presently designing online materials for the Managing @ UBC program and the Academic Leadership Development Program pilot. She has a Master's degree in Education Technology and a background in post-secondary course design, teaching and student learning.

Judy Chan is an Educational Developer at the Centre for Teaching, Learning and Technology, University of British Columbia. Judy co-developed an interactive theatre program to address intercultural understanding and power relationships in classrooms.
Appendix

Identities and roles of participants in Conflict Theatre, in chronological order of appearance in the Conflict Theatre program:

**Facilitator:** The person who developed and led the series of eight weekly workshops.

**Troupe Members:** The 15 members who participated in eight weekly workshops. Their personal narratives form the foundation of the scripts. One of the authors of this essay was a Troupe Member.

**Actors and Actresses:** Troupe members who performed and improvised at either the August or the October 2011 performances.

**Joker:** The person who ‘facilitated’ the interactive performance. The Joker of the August 2011 performance was the same person who facilitated the workshops; the Joker of the October 2011 performance was a Troupe Member and one of the authors of this essay.

**Audience:** People watching the performances in August and October 2011; they were mostly members and alumni of the Managing @ UBC program.

**Spect-actors:** Strictly speaking, all audience watching the performances became spect-actors after some warm-up exercises. For the purpose of this essay, spect-actors were members of the audience who intervened and created disturbance on stage.
Reducing the Boundaries Between the Community and the Academy With a Full-Time Service Learning Capstone

Andy Ballard
Auckland University of Technology, NZ

The purpose of this paper is to share my experiences as the instructor of a full-time, single semester, service-learning capstone course. In this innovative course students already volunteering in the Students in Free Enterprise (SIFE) organization work in teams to identify community needs and address them using their business skills and knowledge and an entrepreneurial approach. The student teams are responsible for all phases of the work, from working with the community to identify needs through planning solutions to implementation and measurement. The students’ work is assessed through presentation, report, reflection and peer evaluation.

Introduction

In this paper I will present an innovative model for service learning where students at Auckland University of Technology (AUT) in New Zealand use their work in the Students in Free Enterprise (SIFE) organization as a vehicle for applied learning in the community.

In the SIFE organization students work to apply business knowledge and an entrepreneurial mindset to improve the quality of life and standard of living of people in need in their communities (SIFE, 2012a). The Auckland University of Technology branch of the Students in Free Enterprise organization (SIFE AUT) has been highly successful over the 10 years of its existence, winning the SIFE New Zealand National Championships five times and placing runner up in each of the other years. SIFE AUT typically runs between five and 10 concurrent projects to benefit the community, with some of these lasting several years.

Worldwide, SIFE is present on around 1,600 university campuses (SIFE, 2012a). As per the organization’s guidelines, SIFE teams are only allowed to exist if they can show that they are financially sustainable and have the support of their institution, so it can reasonably be assumed that each of these 1,600 teams is active. What makes our University’s approach to SIFE unusual is that

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1 Shortly after this paper was submitted, the Students in Free Enterprise (SIFE) was rebranded worldwide as Enactus; however, the programme itself remains the same. The references are unchanged.
this multidisciplinary applied learning is formally assessed in a full semester capstone course. In other words, we do not view SIFE as an additional activity, unrelated to the students’ classroom learning, nor do we view it as a simple source of credit for community volunteering. Rather, we view SIFE as an integral part of our students’ learning – a service learning experience that is based on principles of problem-based learning, a capstone experience structured around the principles of engagement theory.

Background

Over 50 years ago, John Dewey (1956) claimed that effective learning requires the right context, which can be gained through a combination of environment and experience. Service learning provides exactly that when correctly implemented. Service learning is “an academically rigorous and integrated real-world course project where students produce tangible, professional products for use in the local community as they work with and learn from organizations designed to serve community needs,” but with the addition of “or directly with the communities themselves” (Kenworthy-U’Ren, 1999, p. 382). Service learning is hence more than volunteerism. Rather, it is a structured activity where the projects undertaken are founded on appropriate theory, have clear objectives and where there is a reflective component (Hatcher & Bringle, 1997; Kenworthy-U’Ren & Peterson, 2005).

There have been many criticisms of service-learning, some of which view it as a form of political indoctrination in which the liberal views of the academy are foisted on an unsuspecting student body by preaching the evils of capitalism and the moral superiority of the poor – a form of re-education in which students are taught the ‘right’ way to think (Bankston, 2011; Butin, 2010). The model I am using as an instructor here at AUT is in stark contrast to this. The SIFE organization already has a global mission to “improve the quality of life and standard of living of people in need in the community... [while] creating meaningful opportunities for learning and exchange among the participants” (SIFE, 2012a, para. 2). It aims to “create a more sustainable world through the positive power of business” while developing socially responsible business leaders (SIFE, 2012a, para. 1). Yes, this is still political, but at least the politics are clear. The overt and covert messages are one and the same: business is not inherently bad and by adopting a triple bottom line approach business can be used to create social good. While I certainly agree with Godfrey (1999) that business can and should be used to further social justice, I disagree with him that affecting students’ moral development is a principal aim of service learning. I am interested in ensuring students are aware of the social possibilities of business, but I do not believe I should directly try to influence their morals.

In the SIFE course at AUT I am not dictating to my students what community needs they should address, so my own values are certainly not being forced on the students. It is entirely up to the students to work with the community to define and identify the needs in that community. My role as the academic is to ensure that the projects they choose to run are sufficiently grounded in academic theory as to be worth pursuing. In other words the work is student-directed, not lecturer directed, which addresses one of Butin’s (2010) key criticisms of many service learning initiatives.

Another criticism of service learning is that it is doubtful whether the supposed beneficiaries of the project actually receive any long-lasting benefits (Cruz & Giles, 2000). At AUT we are certain that they do benefit. All SIFE AUT projects have to design and embed measurement into the project so that they are able to demonstrate any increases in standard of living or quality of life for the targeted people in need. If the planned increases cannot be demonstrated then the project is revised. The academic legitimacy gained by embedding this course in the SIFE AUT organization increases the assistance available to students engaging in service learning through the provision of additional academic support. It further allows for the creation of long-term projects that are not dependent on the whims of a particular student cohort. For example, some of the projects at SIFE AUT have worked with the same target group for six years.

Our approach also challenges the assumptions of students doing work for the community. In the SIFE course, students are working with the community, alongside the people in need from design to implementation, ensuring long term empowerment through knowledge transfer. Empowerment is a key feature of all SIFE projects, as can be seen in the Projects section below.

Another facet of this course is that the students work together in interdisciplinary teams, so that students majoring in areas such as marketing, finance, economics, human resource management, and product design work
together in project teams. This inter-disciplinary approach to integration ensures knowledge sharing between the students helps to increase the range of projects undertaken, and also mirrors the real-world interactions of workers in a range of functional areas (Harden, 2000).

The course is also designed according to the problem-first principles of problem-based learning, where the initial community need identified by the students in conjunction with the community becomes the driver for their learning through the semester (Spencer & Jordan, 1999). Further, since the SIFE AUT projects are collaborative, project-based and authentic (real), they also fit with the definition of engagement theory which is described as requiring active students working on group projects with an external focus (Kearsley & Shneiderman, 1998).

Structure

In any given semester, students who have been active members of SIFE AUT for at least one semester and who have a B grade average (where passing grades are A to C) are able to opt to complete their compulsory co-operative education capstone course within the SIFE AUT organization. To be members of SIFE AUT, the students would have passed a structured selection interview with two members of the SIFE AUT Executive Team in which their problem-solving, empathy, and motivation to join are explored.

Once accepted into the academic course, the students begin by researching needs in the community that they are interested in and feel competent they can address. To support them in this, the SIFE AUT organization maintains a list of needs previously identified but not yet addressed.

After one week of research the students present their initial project ideas to the SIFE AUT Student Executive and me. Those that are organizationally and academically viable are then pitched to the full SIFE AUT organization. Organizational viability is determined by the Executive and is based on resource availability, alignment with the SIFE International Criterion, and the SIFE AUT strategic plan. Academic viability is judged by me based on the relevance of the project to the academic backgrounds of the students. The students then rank their three preferred projects and are assigned to teams by me and the SIFE AUT Student President based on project resource requirements and student skills and preferences. Similar to Fairfield (2010), I have observed that the students are far more motivated to work on their project teams when I use this selection approach than when I previously used to simply assign them to project teams without discussion. The students spend the rest of their fifteen-week semester working in their project teams. During this time they work closely with the relevant people in need to refine the definition of the need, design a suitable project to address the need, implement the project and then measure its success.

There is no new formal content to be covered in the course. Instead, given that this is a capstone, the students are expected to make use of their learning from throughout their degree, supplementing it with additional research as necessary. This capstone functions as both ‘magnet’ (pulling discipline content together) and ‘mountaintop’ (integrating diverse discipline approaches), by consolidating degree learning and by being interdisciplinary (van Acker & Bailey, 2011).

Around half of all SIFE AUT projects are planned in multiple phases where they continue into subsequent semesters. In this case, the particular students working on the project may be entirely different in each phase. Each project is carefully documented by its student team as part of their academic requirements, so they do not depend on me as the instructor for their continuation. In addition, even if SIFE ceased to exist, the University is committed to continuing this course using an equivalent vehicle to SIFE, which we would establish on campus.

Assessment

The students are not assessed academically on the successful outcomes of their projects, although the SIFE organization itself does encourage this form of success through its SIFE World Cup annual competition (SIFE, 2012b). Instead, the students’ academic performance is measured through a team presentation, a team report and an individual reflection, all based on the process that they have followed.

The SIFE National and World Cup competitions give considerable accountability to the work of SIFE teams. They involve public reporting of projects and project outcomes, judged by a panel of senior businesspeople, social entrepreneurs and community leaders, and audits for the work of the first and second place teams in each competition. The views of the people whom the SIFE teams claim to have empowered are particularly important.
In the presentation, which takes place in week five of the semester, the teams present their project plan including timeline, budget and task allocation, and an explanation of how the project fits the SIFE international criterion. All team members receive the same mark, but this is modified by the peer evaluation that all team members complete (Appendix).

The team report is submitted at the end of the semester. It presents, analyzes and reviews the implementation of the project. Students are required to demonstrate how they have applied discipline knowledge during their project. This report is also subject to peer evaluation of team member contribution using the same evaluation form.

The final reflective assessment requires the students to demonstrate the insights they have developed into their contribution to their project team and/or the contribution of their academic discipline to solving real problems in their project. It is designed to encourage students to develop a habit of reflecting on and taking responsibility for their own learning and personal growth.

Projects

The projects that the students undertake vary enormously. In the Lifeskills project SIFE AUT students worked with educators, parents and schoolchildren to identify gaps in the school curricula. They then designed and ran a series of experiential workshops to help 13 and 14 year olds to develop skills in financial literacy, goal setting, environmental sustainability and entrepreneurship. They did this by teaching their project participants how to create and sell products made from waste material, with a theme of turning trash into cash. The schoolchildren self-reported increases in their ability to set and achieve goals, demonstrated increased financial literacy and claimed increased understanding of how to make a concrete difference in environmental issues. One team of four made a profit of over NZ$200 with just three hours of work. A teacher commented: “My students took a lot of pride in what they were doing and enjoyed the practical aspect of putting learning into a physical reality.” This project is ongoing, with extensive documentation allowing the project to be continued by a new SIFE AUT team each semester.

In the Lifewise project SIFE AUT students were determined to find a way to reduce homelessness. Lacking the skills to directly impact the homeless, they approached an existing community organization that works to empower homeless people with skills, knowledge and job opportunities. The SIFE AUT students helped them to improve their business model so that this organization could increase their capacity to assist homeless people by over 50%, leading to a reduction in the rate of rough sleeping.

Student Outcomes

The typical themes that emerge in student evaluations of this course are the enjoyment of applying knowledge to address community problems, the practical nature of the class and the amount of independent yet supported learning. The main criticism of the course is the high workload, which sometimes comes as a shock to students who are used to having a large amount of discretionary time. Working 35-40 hours per week on their SIFE AUT project for 15 weeks and also doing their academic work for the SIFE paper is certainly not easy, but it probably is a good starting point as the students begin their transition to graduate life.

The Future

Although any student undertaking any qualification can join SIFE AUT, currently only students studying the Bachelor of Business are eligible to take the SIFE course for academic credit. I am presently in the process of expanding this option to other faculties, broadening the skills in the project teams and allowing a wider range of projects to be undertaken. The first school to participate in this way (the School of Physiotherapy) is currently working with me to develop its own course so that their students can work alongside my business students in a new academic course in SIFE AUT.

Finally, there is clear need for research to determine whether all parties (the community, the academy, the students) feel more connected to one another as a result of this course.

Author’s Note

I would like to thank the three anonymous reviewers for their thoughts and comments, and Keith Macky for encouraging me to write this in the first place and for his considerable wisdom when addressing revisions.
References


Appendix
Peer Evaluation Form

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<th>Project Name:</th>
<th>Student Name:</th>
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<th>Enter names of peers:</th>
<th>Peer 1</th>
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<td>e.g. available for meetings, came to class, came to meetings, arrived on time, did not leave early</td>
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<td>e.g. exchanged contact details, kept in contact, returned calls, shared information, listened actively, participated in team discussion</td>
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<td>e.g. participated in team formation processes, brainstormed effectively, worked towards common goals, consulted with others</td>
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<td>e.g. volunteered for tasks, completed a fair share of the work, applied knowledge to problems, produced quality work, met deadlines</td>
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<td>e.g. listened respectfully, focussed on issues and interests, used neutral language, explored options for agreement, identified alternatives, checked for assumptions, stereotypes and/or perceptual differences, evaluated options objectively</td>
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Notes on completing this form.

Assuming there are four people in your team (excluding you), you have 4 x 10 = 40 points to allocate between the four people on each of the criteria above. The 4 is the number of peers, and 10 is a fixed amount. So for the first line you might allocate 10, 10, 10, 10 (total 40) if you thought the attendance was absolutely equal between the four of them. On the second line you might allocate 5, 7, 15, 13 (total 40) if you thought that Peer 3 outperformed the others in communication, and that Peer 1 was particularly weak in this area. After you have allocated points to all peers in each of the criteria, each criteria row total should add up to 40 and the grand total in the bottom right should be 200.

How the scores you receive affect your final grade for the each of the team assessments.

If your team scored 10/15 (66.7%, B-) for the presentation but you received a mean peer evaluation score of 57, your personal final mark would be 10/15 x 57/50 = 76% (B+) for the presentation. Alternatively, with a mean peer evaluation score of 35, your mark would be 10/15 x 35/50 = 46.7% (D) for the presentation.
Introduction

In today’s globalized, technology-mediated society, a course on contemporary world literature can be especially useful for exploring national, ethnic, linguistic, and socio-political issues, in addition to serving as a model of connected and active student learning. While the concept and study of world literature have a long and varied history that is typically traced to Goethe’s 1827 writings on Weltliteratur (Damrosch, 2003; Thomsen, 2008), the field has burgeoned in recent years in response to awareness of, and interest in, individual nations’ diversity, writers’ international and diasporic identities, and national literary and linguistic groups’ unequal representation. Moving beyond the framework of an individual literary corpus attached to one nation and one academic discipline, contemporary world literature raises issues for teachers and students of selecting and critically evaluating texts; of relating contemporary writing to our daily lives; and of situating ourselves in relation to writers and texts from other countries, languages, and cultures. Meanwhile, the Internet provides a platform for alternative and outsider voices to challenge and expand the boundaries created by literary canons, academic discourse, and the traditional publishing industry.

Teaching World Literature for the 21st Century: Online Resources and Interactive Approaches

Lisa Bernstein
University of Maryland University College

This paper introduces a pedagogical approach and strategies for using online resources and interactive media to teach in English about writers and writing from around the world without colonizing or excluding other languages and cultures. First, I explain the context and challenges of teaching world literature: the importance of including diverse works and authors; competing definitions and information overload; barriers to international availability and accessibility of non-dominant works and of non-English languages; and students’ limited historical and cross-cultural knowledge. I then show how faculty can incorporate open-source Internet and interactive multimedia resources into world literature courses in ways that allow alternative and outsider voices to challenge and expand national, ethnic, linguistic, socio-political, and disciplinary boundaries. Faculty can use web resources such as blogs and wikis; online self-publishing and translation sites; maps, timelines, primary documents, and other sources of historical and socio-political context; and social media platforms to create a more inclusive notion of world literature, as well as a learning process that is dynamic, collaborative, and relevant to students’ daily lives.
In addition to determining the definition and purpose of contemporary world literature courses, faculty need to identify the range of texts and writers encompassed by the terms, ‘contemporary,’ ‘world,’ and ‘literature.’ The selection and presentation of texts work both to dismantle traditional national, ethnic, linguistic, and academic disciplinary boundaries, and to create new boundaries and divisions. A further issue is the extent to which teaching ‘world literature’ within an English department challenges Anglo-centric and Euro-centric literary models, while also appropriating and/or misrepresenting literature that historically and linguistically has fallen within the province of foreign language departments.

World Literature faculty thus face the double challenge of finding ways to represent current writers from diverse world regions without co-opting or colonizing their texts, and to connect literary works to students’ personal and communal lives, across cultural and national boundaries. To meet these challenges, teachers of literature must develop pedagogical approaches and strategies that address the processes of canonization of global texts and authors through anthologizing practices and textbook selection; the relationship between English and foreign language departments in ‘housing’ foreign-language literature; and the changes wrought by new technologies, media, and the rise of self-publishing on practices of writing, reading, and dissemination of texts, and thus on our understanding of what constitutes literature for twenty-first century classrooms. By incorporating open-source, interactive online resources into the course content and format, faculty can establish a framework for instruction that engages students and connects the subject matter to their daily lives and interests. This approach adds a dynamic dimension to teaching and learning and is relevant to other academic fields in that it creates an active, collaborative learning community over time.

Challenges of Teaching World Literature Today

World literature instructors must consider several critical issues as they make choices concerning course readings, content, themes, and activities. First, the definitions of ‘contemporary,’ ‘global,’ and ‘literature’ are fraught with conflict and constantly shifting. Second, faculty encounter a variety of barriers in the availability of international literature, including inadequate publishing, translation, and dissemination of foreign-language texts; lack of scholarly research and reviews of non-English, non-European, and/or non-dominant literary works; and the normalizing and exclusionary tendencies of world literature anthologies and World Literature course reading lists. The third challenge lies in students’ limited historical and cross-cultural knowledge and exposure, which creates an obstacle to reading and understanding texts from different countries and cultural traditions. Finally, the sheer volume of online materials makes it difficult yet necessary for teachers and students to locate, evaluate, and select texts and resources. Moreover, the dismantling of the conventional notion of “the book” through self-publishing media and electronic texts exacerbates the problem of identifying which works to study within such a vast and diverse field. I will provide a brief overview of these challenges, and then focus on some practical approaches and strategies for teaching contemporary world literature via Internet resources, multimedia, and interactive assignments so as to connect the subject matter to students’ lives, and allow students to engage with and contribute to world literature in its current and emerging forms.

Competing definitions

The problematic nature of teaching contemporary world literature begins with its competing terms: world literature, global literature, international literature, as well as the “deep divide between comparative literature and world literature” (Damrosch & Spivak, 2011, p. 457). Are we referring to an accumulation of national literary traditions, or diasporic linguistic communities? Are we referring to an amalgamation of national literatures, or diasporic linguistic communities? How do we divide and categorize areas of this literary world? For instance, when speaking of ‘the Caribbean,’ do we mean one geographic area, or do we count the Anglophone Caribbean as part of the English-speaking world, the French Antilles as part of the Francophone worlds, and the Hispanophone Caribbean as part of the wider Spanish-speaking world?

Many writers’ lives cross national boundaries: Albert Camus is studied as a French author, despite having been born and raised in Algeria; likewise, Joseph Conrad is known as a great English writer, although he was born in Poland and did not speak English fluently until he was over 20 years old. Contemporary writers often have
even greater “multinational literary heritage” (Damrosch, 2009, p. 9): Maryse Conde is a Guadeloupean writer who spent her youth in France and her adult life in Guinea, Ghana, Senegal, and the United States. Invoking the term ‘world literature’ allows us to situate these cross-cultural writers and their texts within multiple geographic, social, political, and cultural contexts, rather than having to assign them to one or another national category.

However, the term ‘world’ is problematic for world literature classes situated within English Departments, as they usurp foreign language departments and foreign language literatures. Further, which regions/countries/peoples – and which groups within a country or region – do we include? In selecting a set of texts faculty construct a specific literary ‘world’ for students, with specific boundaries, inclusions, and exclusions. Within the available textbooks, only a very few voices come to represent an entire country or continent, as the same set of authors and texts gets circulated through the publishing-review-literary prize-anthology circuit.

Related to the issue of defining world literature is the concept of ‘contemporary.’ Does ‘contemporary’ refer to a synchronous time period, or also to an analogous geographical and cultural context? How do we group and compare literature from different literary traditions and periods? Is it possible for today’s students to place writers from other countries in their social, political, and cultural contexts, particularly writers whose linguistic idiom is not ‘standard’ English, and whose texts might be accessible only in translation? These questions lead to another set of challenges, namely, the limited accessibility of literature-in-translation, as well as students’ limited knowledge of foreign languages, histories, and cultures.

Inaccessibility of foreign languages, literature, and culture

Moving beyond linguistic boundaries to include literature in translation allows a more accurate view of the world and its literature. However, locating World Literature courses within English departments displaces foreign language departments and creates a world of English and its ‘Others.’ This problem is exacerbated by the fact that English is by far the dominant language of texts translated into other languages (Grossman, 2010; Kovač & Wischenbart, 2010). Edith Grossman (2010b) contends that, “the very concept of world literature as a discipline fit for academic study depends on the availability of translations”; yet, less than three percent of all books, and one percent of literary fiction and poetry, published in the United States and Britain “each year are translations, compared with almost 35 percent in Latin America and Western Europe” (Grossman, 2010a). Globally, the unequal distribution of translation is even larger: more than half of all translated books translated worldwide derive from English language originals, with only six percent of the world’s books translated into English from all other languages. The three top originating languages, English, German, and French, comprise three out of every four translations worldwide (Kovač & Wischenbart, 2010). A related concern is the rise of university programs and degrees being offered in English worldwide. In China alone, 34 universities offered English-language degree programs as of 2006. At the same time, colleges and universities across the United States are closing or consolidating foreign language departments, and, according to the 2009 MLA report, Enrollments in Languages Other Than English in United States Institutions of Higher Education, graduate student enrollments are decreasing (p. 9). The domination of English teaching and translated texts poses a serious challenge to Anglophone students’ capacities to understand and engage with cultural positions and perspectives different from their own, and to gain the deep understanding and critical thinking skills that come only through self-awareness and recognition of others, both of which depend on these very capacities.

Transforming notions of literature through online/self-publishing

A final question concerns what we mean by the term ‘literature’ in the twenty-first century, as we see a reduction in use of printed, published books through the rise of visual and multi-media texts, ebooks, and self-publishing. For today’s literature classroom to mirror what and how students are reading outside the academy, instructors need to include film; graphic novels; online multimedia; and social media such as blogs, wikis, and social networking sites in the study of literary texts. New technology-mediated reading and writing practices are transforming how we write, read, interpret, understand, and relate to ‘literature.’

In addition to opening up the definitions of ‘literature’ and ‘text,’ new reading and publishing formats have changed the timeframe of “contemporary literature.”
Traditionally, the teaching of contemporary literature has been problematic due to the long textbook publication process. Relying on commercial publications meant that classes were working on material that could easily be three or more years old. The wait for literature written in foreign languages – particularly by new authors – to be translated is even longer. Emerging voices are often published in online literary magazines and self-publishing sites long before finding a way into academic anthologies. With the advent of online publishing, the definition of ‘contemporary’ is changing, as literature can be produced in ‘real time,’ responding to current events as they unfold. In order for a course to address current changes in cultural and political life, teachers must include web resources and interactive online forums that are constantly updated.

New Directions in Global Learning

Instructors can use online resources and multimedia in ways that help address problems of limited access to and understanding of foreign languages and cultures, and include lesser-known international writers and texts. Blogs and wikis; online self-publishing and translation sites; maps, timelines, primary documents, and other sources of historical and socio-political context; and social media platforms can help students attain a more inclusive understanding of contemporary world literature. Moreover, by integrating these resources into the course content as well as classroom activities, instructors promote a learning process that is dynamic, collaborative, and relevant to students’ lives. By contributing to international blogs, collaborative Wikis, and interactive discussion fora, students actively participate in the concrete, quotidian realities and lives of contemporary literature.

Literary websites provide access to new writing in translation, so that students can see a range of authors and texts. Online translation and publishing sites such as Words Without Borders (WWB) provide a valuable resource in introducing students to a range of newly emerging authors and texts that may not yet be translated or anthologized in print publications. Another advantage of these sites is that they often offer bilingual versions of texts, so students can get the sound and look of the original version and teachers can point out divergences in the translated rendering of the text.

The following bilingual excerpt from “Isle say blood,” a poem by Mauritian writer Michel Ducasse (2012), allows students to see how a translation is always an interpretation and an alteration of the original language:

\[
\text{Isle Say Blood} \\
\text{our marooned history} \\
\text{chained by hatred} \\
\text{whitewashed memory, creole coolie} \\
\text{color anger pain dockers} \\
\text{Île va sang dire…} \\
\text{notre histoire marronne} \\
\text{de haine enchainée} \\
\text{mémoire blanchie, créole coolie} \\
\text{koulèr colère doulèr dockers}
\]

Figure 1

\[
\text{Isle say blood/île va sang dire... Bilingual Version}
\]

The words that I have bolded in the above figure demonstrate the loss of meaning in the translation from French to English. In the original version, Ducasse inserts Kreol Morisien (Mauritian Creole) into his standard French text, whereas in the English version, the tone is completely changed by the erasure of the rhyming, rhythmic play between two languages in the transmission from, “koulèr colère doulèr dockers,” to “color anger pain dockers.” The original version literally incorporates ‘the other,’ as the form embodies the message and metaphor of the poem, whitewashing memory and erasing the Creole language and identity from Francophone Mauritian society, while the English translation only describes it.

Other websites contain primary sources in the form of original documents, maps, and interactive timelines with links to historical and cultural events to give students a broader understanding of the national issues and the time period of a particular author and text. For example, websites such as Guernica: A Magazine of Art and Politics allow students to post comments in response to articles and images and thus actively engage with and contribute to the body of views and analyses of texts they read in class. In his article, “Conversation in Context: A Dialogic Approach to Teaching World Literature,” Gary Harrison (2009) notes “the need to recalibrate the concept of world literature from a canon of masterworks to a way of reading that places texts from the world into conversation with one another” (p. 210). The vast realm of open-source news, cultural and political commentary,
and literary websites allows instructors to go beyond this conversation of texts to allow students to enter into an ongoing dialogue with today’s culture and events.

A further step is to have students respond to what they read and see in a public online forum, and eventually create their own texts. The China Beat: Blogging How the East is Read provides a forum for students to make the transition from readers/spectators to creators of texts and videos, adding their voices to the evolving tapestry of online literary criticism. Another website, Repeating Islands: News and Commentary on Caribbean Culture, Literature, and the Arts, was created by two Puerto Rican literature professors for the purpose of connecting and sharing information about the multi-lingual Caribbean community. Students can both read and contribute information, comments, and questions on the site’s blog.

Web 2.0 technologies allow students to interact with one another and with the outside world; participate in reviews and discussions of literature; and even author their own documents. Self-publishing programs, blogs, and social media offer ways for individuals to write and access audiences without having to go through the publishing industry and mainstream media and distribution channels. ‘Other’ voices get heard, both those of new and lesser-known/unknown writers and those of the students themselves, as they post their creative and critical writing on websites, blogs, wikis, or even as finished self-published books. This also allows continuity and community-building from one course, one semester, and one year to the next, as students can benefit from and add to the insights and contributions of the previous year’s students.

Conclusion

Because a course on contemporary world literature raises questions about the meanings of ‘contemporary,’ ‘world,’ and ‘literature’ in our globalized, technology-saturated and -mediated society, and because the Internet has fundamentally changed the mechanisms for creating, distributing, and viewing texts, faculty are called on to include evolving resources and technologies using innovative methods and approaches to the course content and assignments. By incorporating open-source web resources such as online texts, social forums, and multimedia into such a course, instructors can help connect world literature to current affairs and social issues, and to students’ lives in contemporary society. Today, established, well-known authors, new writers starting out, and even the students themselves, have elaborate and accessible online presences, which may include Web sites, blogs, Twitter accounts, and social media pages. These interactive technologies are being used by published authors and amateurs alike to recount, interpret, and respond to global events as they unfold. Ultimately, a contemporary world literature course can increase students’ awareness and understanding of global events and of the role that literature and writers play with respect to global issues and relationships. Indeed, students can themselves become active participants in the development of world literature, adding their voices to the continuing conversation within the present and future emerging media environment.

References


**Biography**

Lisa Bernstein is Associate Professor of Literature, Writing, and Women’s Studies at the University of Maryland University College. She has presented and published articles on African, Caribbean, East Asian, and European literature; the role of intellectuals in society; and women’s artistic and literary self-representation across cultures.
Introduction

It is possible to advance quite far in one’s mathematics education without encountering the function $\sin(1/x)$. I describe it as an “encounter” because it felt that way to me when I read Hardy’s *A Course of Pure Mathematics* (1908) and reached Exercise 6 of Examples XV in Section 28: “Draw the graph of $\sin(1/x)$.” I remember distinctly how strange it was at first to realize just how wild this function’s behaviour was near the origin. Unlike so many other graphs of functions of the sort that are treated either in upper-secondary school courses or beginning-undergraduate courses, this function seemed to display an ever-concentrating vigour and vitality in an ever-narrowing neighbourhood. By stark contrast, the ‘nice’ functions I had spent most of my time learning about looked simpler and simpler the more I zoomed in my visual field on any particular point on the graph. I thought I was familiar with $\sin(x)$ and with $1/x$, but a simple combination of them held surprises for me, and I felt I was meeting with a stranger.

The drawing I created on my page and the drawing on the following page in Hardy (1908) interested me greatly. These drawings captured some of the behaviour of the function but left out a region near $x=0$ that was impossible to render accurately. Hardy made the choice to leave the region blank; I continued drawing oscillations until I had nearly filled in with ink the region near $x=0$ and between -1 and 1. The latter choice is the one that Google makes, for what it is worth, when you search for $\sin(1/x)$. The former choice is more honest, in the sense that it does not draw anything that is not accurate. In both cases, it seemed to me, the mind
needed to continue an internal visual representation of an external visual representation that could not be continued.¹

I have taught introductions to calculus to various groups of students: Grade 12 students, first-year undergraduate students in the life sciences, first-year undergraduate students in the physical sciences, in-service teachers who are taking a certificate program in mathematics. To all of these students I have introduced the graph of \( \sin(1/x) \). I believe that considering this curve and contemplating its properties can provide valuable insights to any student of mathematics. I explore some of these insights below; images of \( \sin(1/x) \) appear just before the end.

I emphasize to students the following important feature of our task: we are graphing the composition of two functions that we are already well acquainted with. The function \( 1/x \) exhibits behaviour familiar from many situations, including, for example, pressure-volume dependence in ideal gases or price-quantity demanded in classical economics. I want students to realize that out of well-known, relatively familiar ingredients we can very quickly encounter an object that is unfamiliar and strange. We consider \( \sin(x) \) and we consider \( 1/x \): Are we to pass over in silence the natural question of \( \sin(1/x) \)? I believe that some students consciously notice these silences in the curriculum and that more students can sense but can't articulate that they are being shepherded through a field of mathematical objects and steered clear of any dangers by the helpful teacher. This perhaps leaves them with little confidence that they could steer themselves.

There might be the rejoinder, “Natural question? Natural to whom?” But if this is a suggestion that to many students graphing \( \sin(1/x) \) is not a natural question, then this is even more of a reason to treat this function and to suggest to students that it is a natural question to ask. As people exploring a mathematical terrain, they have the right to look into every nook and cranny, and to try every combination of operations that they know about in order to seek something new, or in order to completely understand inside and out the tools they have at hand.

It becomes clear to the class as they discuss \( \sin(1/x) \), after having drawn \( \sin(x) \) carefully, that they need to appreciate the behaviour of \( 1/x \) a little more clearly. This is an opportunity to impress upon students how a simple idea, one that they have been familiar with for so long, still contains surprises. For many students, it is important to see what \( 1/x \) really does, as if for the first time, to make it new. They have learned a verbal formula (‘all you do is take the reciprocal’ or ‘just flip it’). I encourage them to draw a horizontal line representing the real numbers. The activity now is to take a generic sample of points, to plot them on the line, to plot where \( 1/x \) takes those points, and, finally, to connect these two points — the input and output — with an arrow. It becomes clear that the points \( x=1 \) and \( x=-1 \) are special values. Points to the right of \( x=1 \) get sent to points in the interval \((0, 1)\), but, more importantly, the students’ resulting picture will help convince them that \( x=10 \) and \( x=50 \), for example, though separated by a gap of 40, get sent to points that are only .08 apart, and I ask them to calculate such an example together as a class.

I am not trying to describe a method whereby a difficult concept is rendered easy to attain at first attempt. Graphing \( \sin(1/x) \) simply is challenging, and yet there are clear rewards for struggling through understanding its behaviour. I will list a few of these rewards later, but for now I want to name one: many other problems will seem much easier, not only by comparison, but because the effort involved in coordinating together the various ideas here will make all of the individual ideas much more clearly understood. As Thurston (1990) notes:

> Mathematics is amazingly compressible: you may struggle a long time, step by step, to work through some process or idea from several approaches. But once you really understand it and have the mental perspective to see it as a whole, there is often a tremendous mental compression. You can file it away, recall it quickly and completely when you need it, and use it as just one step in some mental process. The insight that goes with this compression is one of the real joys of mathematics. (p. 846)

It is important for students to have the opportunity in their mathematical education to have experiences like the one Thurston describes. It is, of course, tempting to skip the \( \sin(1/x) \) struggle entirely, but perhaps a great deal would be lost by sheltering students from this struggle, as if one did not quite believe in them.

Although some students are able to proceed at

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¹ For discussions of visual representations in mathematics see Arcavi (2003) and Dreyfus (1991).
this point on their own, other students will need some supportive hints, starting with the briefest of suggestions. I usually suggest starting the graph of $\sin(1/x)$ when $x$ is large. Already this is an unusual aspect of graphing for many students. Getting over this hurdle (that it is not necessary to graph a function ‘from left to right’), is in itself conceptual reward enough for tackling this problem. We can begin a graph anywhere we like, move in any direction we like, if we have knowledge that takes us there.

At some point a student will mention that, because $\sin(x)$ oscillates up and down an infinite number of times as $x$ travels from $2\pi$ to infinity, $\sin(1/x)$ will oscillate up and down an infinite number of times as $x$ travels from $1/(2\pi)$ to zero. Here is an amazing compression indeed!

I have mentioned the challenging aspect of graphing this function. It is time now to address the fact that this function is, at some level, a disturbing, unsettling, frightening function. I have yet to have a student run screaming from the room, but there is no question that the consideration of this function does provoke emotional ‘turning away’ reactions at the same time that it fascinates. Opportunities for strong aesthetic responses in mathematics education ought to be cultivated. If some mathematicians had negative reactions to encountering such functions it is understandable that students will. It is useful to sketch a little bit of this history at the anecdotal level so that students appreciate that their reactions are natural. For many students, like mathematicians before them, their initial aesthetic assessment of distaste is replaced by enjoyment and appreciation (Sinclair, 2004). Students can feel a kinship with their predecessors.

I emphasize taking it slow so that the wild oscillations in a narrow region do not overwhelm the students with their complexity and strangeness. This function is one of the first in a series of so-called pathological functions that were considered first by mathematicians in the 19th century and early 20th century (Tall, 1982; Tall, 1991). One of the results of these encounters is that mathematicians defined the notion of continuity. Continuous functions do not display the bizarre behaviour seen above. The place in the curriculum where continuity arguably makes its most important appearance is in the hypothesis of the Fundamental Theorem of Calculus. If we are to be honest with students, we need to show them examples of functions that are not continuous so that their intuition about different sorts of functions can be appropriately generalized.

When it comes time to draw the picture that helps motivate the justification of the Fundamental Theorem of Calculus, one inevitably draws a ‘general’ function, labels two points on the $x$-axis nearly side by side, and points to the picture in order to show that the shape of the region above this narrow interval is very nearly a rectangle with a width and height that are easy to determine. With no counterexample in the offing, many students might nod along as if all of this were obvious. With $\sin(1/x)$ in the background, students can realize that it is not true that we can expect such nice behaviour from all functions. Their experience with the function discussed in this paper has changed their very notion of what a ‘generic’ function can look like. They therefore realize there is something special about functions that do enjoy this behaviour. Continuity becomes a prize that is appreciated for what it is, rather than an empty definition that ‘every’ function satisfies anyway. It is important for students to have at the ready a selection of examples to test new theoretical results on (Goldenberg & Mason, 2008; Sinclair, Watson, Zazkis, & Mason, 2011).

The following images are examples of $\sin(1/x)$ (with $x > 0$). The first image is very similar to what appeared in Hardy (1908):

![Figure 1: $\sin(1/x)$](image)

The curve continues to oscillate as it approaches the $y$-axis; in these images we cut off these (infinitely many) oscillations. To see a few more of them, we move closer:
Understanding the graph of \( \sin(1/x) \) helps students understand the power of the visual representation of a function as well as appreciate its limitations at exactly the same time. They are offered a concrete picture of the boundary between the drawable and undrawable. It helps them appreciate the lasting power and interest of the single concrete example. The process of understanding the graph allows them to confront and overcome negative reactions to strange and unfamiliar behaviour by reinterpreting them in positive ways. The students take part in a process that is a miniature encapsulation of the process by which new mathematical understandings are born and communicated.

Note that all the peaks of these oscillations should equal 1, and all of the minimums of the valleys should equal -1. The excellent open-source graphing program Graph (created by Ivan Johansen) stumbles a little here (some peaks seem a little short, for example). This is no criticism of the program: all numerical attempts to graph \( \sin(1/x) \) must inevitably stumble. Also, the curve should be smooth, and not 'pixelated'. For some students, witnessing these flaws and comparing them to the perfect image in their mind is a key moment in their mathematics education.

**References**


Biography

Andrew Hare is a Lecturer in the Mathematics & Computing Science Department at Saint Mary's University. He is interested in mathematics education, mathematics and language, the popularization of mathematics, and the philosophy of mathematical practice.
Breaking Down the Boundary Between High School and University Chemistry

Natashia Cunningham, Kris Knorr, Pippa E. Lock, & Susan L. Vajoczki
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This study examined some of the factors that influence students' transition from Ontario high school chemistry to university introductory chemistry. The study was a mixed-methods, multi-phase research study carried out by an undergraduate honours thesis student who had experienced some of these transition issues. Students' transition into chemistry was reported to be more difficult than their overall transition into university, including their academic transition; they thus appeared to experience a "transition within a transition." Students identified testing, curricular experience, and the amount of independent work as the principal areas of misalignment between their high school and university chemistry experiences. In exploring the use of support resources, students reported that there were sufficient resource opportunities but typically did not avail themselves of one-on-one interactions. Analysis of the data has led to recommendations for the instructional team for Introductory Chemistry at McMaster University.

Introduction

Students proceeding from high school to university may be challenged by a variety of transition issues. This study explored the student experience during the transition from high school chemistry to university-level Introductory Chemistry, examining both curricular and non-curricular elements.

The transition into post-secondary level studies has been an important topic of research in recent years, in terms of the contributing factors that can affect the degree to which a student positively adapts to the post-secondary level environment (Wintre & Yaffe, 2000; Wintre et al., 2009). Some non-curricular factors that have been shown to influence a student's transition to the post-secondary environment include those related to the transition to a new learning environment, the transition to a new living situation (oftentimes a university residence or independent living in close proximity to the university campus), and increased independence, such as learning to budget time and money (Friedlander, Reid, Shupak, & Cribbie, 2007; Parker, Summerfeldt, Hogan, & Majeski, 2004; Wintre & Yaffe, 2000; Wintre et al., 2008; Wintre et al., 2009).

A number of factors related to high school academic performance or curricular experience have been shown to have an effect on the transition to post-secondary studies. Students report that post-secondary courses are fundamentally different from high school courses, both in
terms of pace and instructors’ expectations (Conley, 2007). Not surprisingly, a student’s high school grades are a strong predictor of academic success at the post-secondary level (Geiser & Santelices, 2007; Noble & Sawyer, 2002). Similar studies have demonstrated that the degree of academic success in high school chemistry correlates directly to the level of academic success in Introductory Chemistry at the post-secondary level (Beck & Davidson, 2001; Ogden, 1976). Research has shown that students’ pre-existing (alternative) conceptions about scientific phenomena can interfere with students’ future learning of correct scientific principles or concepts (Driver & Erickson, 1983; Palmer, 1999, 2001; Posner, Strike, Hewson, & Gertzog, 1982; Taber, 2000). Thus, chemistry concepts that may not be fully understood in high school can present significant learning barriers in university chemistry.

Through this study, we have discovered a ‘transition within a transition;’ namely, the students’ experience of the overall transition into post-secondary education is perceived quite differently than the transition into Introductory Chemistry at McMaster University. Below we share data that support this notion.

Description of Methods

The subjects used for this study were students enrolled in Introductory Chemistry (CHEM 1A03) at McMaster University in the fall semester of 2011 (13 weeks of instruction, three hours of lecture per week; laboratories every other week). There were approximately 1,440 students enrolled in the course (at the time of the second survey). Three instructors were responsible for teaching the course, offered in four sections (two instructors each taught one section, and the third instructor taught two sections).

This project was conducted using a mixed methods approach over multiple phases. Phases 1 and 2 consisted of online surveys administered to Introductory Chemistry students. Phase 3 consisted of interviews with Introductory Chemistry instructors. Data from Phase 1 were used to help guide the development of some of the questions in Phase 2. Responses from the first two phases were then used when developing the interview questions for Phase 3. In the final stage of interpreting results, drawing conclusions, and making recommendations, the data from the three phases were combined (Johnson & Christensen, 2004).

The Phase 1 survey was administered in the first week of classes (September, 2011) in order to gather students’ perceptions of their high school chemistry experience (e.g., assessment, laboratories, textbook use, etc.) before their exposure to university chemistry. Additionally, there were questions regarding non-academic aspects of their transition to university (e.g., living situation, job, stresses, pressures, etc.), and their expectations for and anticipations of Introductory Chemistry at McMaster. There were 202 responses, representing a 14% response rate (95% confidence level, 6.4% margin of error).

Phase 2 consisted of a second student survey at the end of the semester (November/December, 2011). This survey explored the students’ perceptions of the Introductory Chemistry experience, with particular focus on transition issues relating to the high school to university transition, both academic and non-academic. As well, there was a series of questions regarding learning resources offered to Introductory Chemistry students. There were 172 responses, representing a 12% response rate (95% confidence level, 7.0% margin of error).

Both surveys had a combination of quantitative and qualitative questions. Demographic survey data analysis confirmed that the sample population was representative of the Introductory Chemistry population.

In Phase 3, 30-minute interviews were conducted with two Introductory Chemistry instructors. These interview sessions were used to gather information regarding the instructors’ perceptions of students’ transition into Introductory Chemistry. Further, interview questions were used to gather instructors’ responses towards the areas where students’ responses in the survey data suggested gaps or areas of difficulty. Interview sessions were held in February, 2012.

Results and Discussion

The three most significant themes that emerged from the data were those of transition experience, areas of misalignment (between high school chemistry and Introductory Chemistry) and use of resources in the course.

Transition experience

It is notable that while students mostly perceived their overall transition to university to be smooth, they were more likely to identify difficulty with their academic transition, and, within that, difficulty with their transition from high
Breaking Down the Boundary Between High School and University Chemistry

school to university chemistry (Figure 1). Thus, it appears as though students experience a transition within a transition. The idea of an academic-specific transition is supported by students’ responses to the statement “your transition to university is affected by…” whereby the three factors most frequently identified were academic stress, a change in living conditions, and not feeling academically prepared.

Student and instructor perceptions differ with regard to how students experience the high school to University transition. Only 57% of students “agreed” or “strongly agreed” with the statement “My high school chemistry experience prepared me academically (in terms of chemistry skills and knowledge) to enter Introductory Chemistry at McMaster.” Instructors, in contrast, held these views:

"Overall students transition easily into [Introductory Chemistry] as a result of the overlap in content from Grade 12 chemistry, however, where students experience difficulties is more a result of the transition into university in general."

"Students arrive at [Introductory Chemistry] with diverse backgrounds and although the transition is a learning experience for them they learn relatively effectively and quickly and they do end up being able to transition well."

Instructors thus hold the view that students’ transition into Introductory Chemistry is less problematic than their overall transition into university, whereas students report the opposite view.

Areas of misalignment

Students and instructors identified three principal areas of misalignment between the high school and university experience in chemistry, namely, testing, curricular experience and the amount of independent work. However, these two groups approach these areas with different levels of expectation.

In the area of testing, students identified question wording, understanding how to approach questions and focusing on the correct answer as challenges. In their words,

"Wording on midterms is strange and difficult to understand."

"I always feel like I know what I’m doing… until I open up the midterms and have no idea how to approach the questions."

Figure 1

Students’ indication of how smooth/difficult they found their high school to university transitions, based on three survey questions (Indicate how you found your (1) overall- (2) academic- and (3) chemistry transition from high school to university).

Overall students transition easily into [Introductory Chemistry] as a result of the overlap in content from Grade 12 chemistry, however, where students experience difficulties is more a result of the transition into university in general.

Students arrive at [Introductory Chemistry] with diverse backgrounds and although the transition is a learning experience for them they learn relatively effectively and quickly and they do end up being able to transition well.
Conveying material in high school included being evaluated on the process we used. In university, it is only the final answer we achieve.

Instructors also identify the challenge of wording questions clearly; however, one instructor reported that, from their perspective, “in chemistry we are fussy about making questions unambiguous [but]...it turns out to be very difficult.” With regard to the idea of ‘how to approach a question,’ one instructor offered the viewpoint that, “[integrated questions] are a big mental barrier for [students] because they never expect to see questions that take on two different concepts.” This instructor went on to share that university students often face questions that integrate multiple concepts, which is not typical of the high school approach. Further, students largely face these questions for the first time in university in a testing situation. This raises the following question: Why are students not exposed to the idea of integrating concepts before being expected to perform that function in a testing situation?

From their curricular experience the two strongest themes identified by students were the course workload and fast pace. In their words,

An immense range of topics and question types is covered in first year chemistry as compared to high school chemistry. The concepts build upon one another, making a snowball effect should you not understand one fully.

[My most significant difference at University is] the freedom, workload, and pace.

With respect to expectations of independent work, students illustrated differences from their high school experience with comments such as:

University tells you to teach yourself but high school doesn’t.

In high school I actually had to go to class, here I don’t.

[University has] more responsibility and freedom.

I am alone and no one is checking up on me.

Through these comments students identify a decrease in accountability coupled with a change in structure that may not fully support this change in accountability. Students arrive from high school with expectations based on their prior experience, only to find a structure that expects them to behave differently but does not sufficiently show them how. From the perspective of one instructor, “students can succeed very, very well...at learning the material...or without constant feedback from an instructor but it is a change for them and...that transition is a difficult one.” The instructor further suggests that, “it’s just a matter of getting them accustomed to learning on their own...being more independent...and self reliant.” In this sense the student and instructor perspectives on the expectations for independence are in agreement, but neither offers a recommendation for how to bridge the gap.

Resource use

Students identified a number of resources provided in Introductory Chemistry that benefited their academic success, the most significant of which were pre-lab videos (shown in the lab and posted online) and previous years’ midterms. Students reported additional valuable resources, such as online lecture notes, an online homework system, and weekly problem sets. Students recommended that the resources be expanded to include weekly lecture reviews and small study groups.

In stark contrast, when students were asked about the resources where they would attend in person, a vast majority reported that they “rarely” or “never” attended the drop-in help centre (91%), instructors’ office hours (72%) or tutorials (59%). However, a majority of students (76%) did “strongly agree” or “agree” that enough resources for acquiring help in Introductory Chemistry were offered. This leaves an unanswered question: Why do students tend to not attend the ‘in-person’ help opportunities? Arguably these are the resources that may most closely replicate the level of personal attention available to students in high school, given the large class environment in a university course. One final student comment highlights the desire for personal interaction:

Not having the chance to really understand a concept by conversing with students or teachers easily. The lack of ‘in-class’ work really hinders my ability to understand or even know if I understand, as I often feel more prepared than I really am.
This raises another question about resources: Given a desire for interaction with peers/instructors yet low attendance at the ‘in-person’ resources, could a different offering of resources meet student needs more effectively?

**Recommendations**

Based on the evidence collected in this study, a number of recommendations for the Introductory Chemistry instructional team emerge.

With respect to resources, the authors recommend introducing weekly lecture reviews; more frequently distributing work for which students are accountable; providing help with studying for, and practicing, multiple choice questions; and encouraging attendance at the in-person resources by explicitly emphasizing the importance and value of seeking one-on-one help to address misconceptions. Instructors are also encouraged to connect with other organizations within the university to take advantage of existing resources (e.g., time management seminars).

With respect to transition issues, the recommendations to instructors are to discuss openly with students the fast pace of the course and the amount of material to be covered, but also to remove some course content. Additionally, instructors are encouraged to create opportunities for students to practice questions that integrate multiple concepts before introducing such questions in a testing situation. Many of the above points support the idea of creating more ‘scaffolding’ (structure of accountability) for students.

This study focused primarily on the context of Introductory Chemistry at McMaster University and our discussion and recommendations reflect this; however, notions conveyed in this essay can be modified and applied for other disciplines, particularly in the area of science.

Future questions to be considered would be to explore why students use some resources more than others, why they do not attend the in-person resources, and what new resources could be developed to meet student needs.

**Concluding Remarks**

Students transitioning from Ontario high school chemistry into Introductory Chemistry at McMaster University face a variety of transition issues. These issues range from factors affecting their overall transition to university to highly course-specific factors impacting their experience and academic success in Introductory Chemistry. The results and recommendations from this study will be disseminated to the instructional team for their consideration, with the goal of offering an evidence-based structure to facilitate a more successful transition into Introductory Chemistry at McMaster University.

**Undergraduate Research Project**

This research project was initiated by the first author of this paper who at the time of the research was a Level 4 undergraduate honours Life Science thesis student at McMaster University and had experienced some of the effects of the transitional boundary between high school and university. The goal of this work was to develop evidence-based recommendations to offer to the Introductory Chemistry instructional team so that they might break down some of the boundaries that exist between high school and university chemistry and facilitate the transition process for students studying chemistry at McMaster.

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school grades in predicting student success beyond the freshman year: High-school record vs. standardized tests as indicators of four-year college outcomes. *UC Berkeley: Center for Studies in Higher Education.*


**Biographies**

Natashia Cunningham graduated from McMaster University in June 2012 with an Honours B.Sc. (Life Science). She is currently undertaking a second degree in French at McMaster.

Kris Knorr is an educational developer at McMaster University’s Centre for Leadership in Learning. His research interests include transitional issues for incoming post-secondary students and factors associated with faculty development participation.

Pippa Lock is an Assistant Teaching Professor and the Associate Chair (Undergraduate Studies) in the Department of Chemistry and Chemical Biology at McMaster University. Pippa is a 2009 recipient of the President’s Award for Instruction.

Sue Vajoczki (1966-2012) was a Teaching Professor in the School of Geography & Earth Sciences and the Director of the Centre for Leadership in Learning at McMaster University. Sue had been the recipient of numerous teaching awards; most recently she was named a 3M National Teaching Fellow.
The number of English Language Learners (ELLs) in post-secondary environments (Roessingh & Douglas, 2012), and this trend is no different at Humber College in Toronto, where the present study was conducted. In one academic school at Humber, 34% of the students were ESL-streamed in 2010 (Humber College, 2011). Given this change in the student population, educational practices, such as use of language support in mathematics, should be assessed to ensure that all students’ needs are met. To explore the effects of language on mathematics in ELLs, mathematical test items were presented in four language contexts: vocabulary knowledge, negation, preposition use, and atypical sentence structure. Sixty students enrolled in mathematics courses volunteered to complete the mathematics task. Results suggest that math items falling into each of the four language contexts disadvantage ELLs, highlighting that the needs of ELLs should be considered at all levels, from classroom practices to educational policy.

1 Humber College has two writing streams, ESL and COMM, into which students are streamed by means of an English placement test. “If the writing sample displays ESL characteristics, the student will be placed in an appropriate level ESL course” (“Entrance/Placement Testing,” n.d.). Students streamed into the ESL branch of the program complete their course work within the ESL stream for the remainder of their program.
artificially depressed math scores for ELLs. This study will explore whether language in mathematical items has disproportionately negative effects on ELLs’ math performances, compared to non-ELLs.

Many aspects of English impact mathematical performances, including vocabulary choice, negation, preposition meaning, and atypical sentence structure. Consider the use of technical terms such as ‘denominator.’ If students are unfamiliar with the term, they may be unable to solve the item due to a lack of English language knowledge, rather than mathematical skill. This can be expected, given that a determinant of reading comprehension is vocabulary knowledge (Grabe, 2008). Terminology, therefore, causes problems in ELLs dealing with mathematics in English (Moschkovich, 2002). When words such as ‘lowest terms’ and ‘product’ are repurposed within mathematics, students may be confused. The general meaning of the word ‘product’ is the result of a process, though within mathematics, product refers to multiplication, and not addition. Similarly, although ‘lowest,’ and ‘terms’ are within the top 2000 word families of English (Nation, 2004), the meaning of the ‘lowest terms’ is not obvious. It is, moreover, rare, occurring only 3 times in the 425 million words of the Corpus of Current American English (Davies, 2008).

Another language-related area that is known to cause problems is negation (Just & Carpenter, 1971). Negation, both clausal (e.g., it does not equal) and non-clausal (e.g., except), may affect ELLs more than non-ELLs. More linguistically complex math items are deemed to be more challenging for ELLs compared to non-ELLs (Abedi & Hejri, 2004). More subtle language areas such as the phrasing of mathematical problems, also may pose a greater problem for ELLs. These include the use of certain prepositions as well as the use of atypical sentence structures. Although the teaching of prepositions is standard in English language classes, they are typically treated within the streams of grammar, writing, and speaking rather than reading. Consider the statement: “In 2000, 12% of children were obese, but the rate has increased to 25%.” If “to” is clearly understood to be the endpoint or goal (Huddleston & Pullum, 2002), the reader should understand that no calculations are required. The numbers presented suggest that the students interpret “to” to signify the extent of the difference, as would be expected with “by” (Huddleston & Pullum, 2002). Thus some students may add ¼ of the original rate (i.e., the size of the change is 25% × 12% = 3%, so the new rate is 12% + 3% = 15%) while others may simply add the two percentages (i.e., 12% + 25% = 37%), rather than realizing that the final percent of obese children is 25%. These errors are due to a misunderstanding of the meaning of the preposition “to” or a failure to attend to the preposition.

Finally, atypical sentence structures may selectively cause problems for ELLs. Open questions in English typically start with an interrogative phrase containing an interrogative word (e.g., who, what, where, why). The interrogative phrase in such questions is usually fronted (Huddleston & Pullum, 2002). But English also allows a less common interrogative clause structure with non-fronted interrogative phrases. For example, the question: “What volume is 36 litres \(\frac{3}{8}\) of?” can be restructured as: “Thirty six litres is \(\frac{3}{8}\) of what volume?” with a non-fronted interrogative phrase.

In order to examine the aforementioned language issues, mathematical test items were constructed within each of the four language contexts: vocabulary knowledge, negation, preposition use, and atypical sentence structure. Although language and math issues have been investigated previously, the vast majority of research has focused on elementary students (e.g., Barwell, 2005; Ockey, 2007), neglecting PSEs. It is, however, becoming an increasingly important issue given the rising proportion of ELL students in post-secondary environments. Considering that: a) ELLs constitute a growing segment in the post-secondary population; b) certain language forms are known to cause problems interpreting math test items; and c) these issues have not been widely studied in PSEs, this study seeks to answer the following question: To what extent, if any, are ELLs disadvantaged by mathematical language in math at the post-secondary level?

**Method**

**Participants**

Sixty students enrolled in mathematics courses at Humber College volunteered to participate: 28 ELLs (\(M = 21.86\)
years, $SD = 4.09$) and 32 non-ELLs ($M = 20.94$ years, $SD = 3.08$). Their status was determined by the results of Humber College’s English Placement Test, as self-reported in the demographic questionnaire. Each participant was given a $25$ gift certificate from the campus bookstore as an honorarium and signed consent forms stating that they could withdraw without consequence at any time, and assuring them of confidentiality and anonymity.

**Materials and procedure**

The study was conducted after research ethics approval was granted. A demographic questionnaire and a 25-item math task were administered. Participants were permitted to use calculators. The math task consisted of multiple-choice items focusing on four specific language issues that were expected to disproportionately affect ELLs: preposition use (5 items), vocabulary knowledge (5 items), negation (4 items), and sentence structure (3 items). Another five math items were designed to require a minimal amount of language. Three other items appearing in the task were not used in the analysis. See Table 1 for examples from each type.

The math items assessed college-level mathematics in two primary areas, algebra and arithmetic, and measured the mathematical skills all first-year students entering the business and technical programs at Humber were assumed to possess. Mathematical concepts included in the task were operations of addition, subtraction, multiplication and division of algebraic expressions and fractions; simplifying equivalent fractions; the relationship between fractions, decimals, percents, and rates; and solving fractional equations including those with an unknown in the denominator. The math items were randomly ordered throughout the task.

**Results**

The Cronbach alpha of the math items was 0.72, which is considered an acceptable level of reliability (George & Mallery, 2003). An alpha level of .05 was used for all statistical tests.

The average number of correct responses for each type of math items was calculated, and $t$-test analyses were performed (Table 2).

Differences were found between the ELLs and non-ELLs in the average number of items correctly solved in four of the five types of math items. With the exception of math items in which language played the minimal role, non-ELLs outperformed ELLs. In all cases where significant differences were found, the effect size, represented by Cohen’s $d$, was medium (Cohen, 1988).

Of the top three items that discriminated the ELLs and non-ELLs, two focused on negation, and the third addressed atypical sentence structure. Specifically, the first item shown is “Which of the following does not equal 36% of X?” an example of negation. Similarly, the second item is also an example of negation: “Which of the following does not equal 6 $\frac{1}{4}$%?” The third item, “$195$ is 53 $\frac{1}{2}$% of what?” is an example of an atypical sentence structure.

**Discussion**

This study found empirical evidence for possible language biases in mathematical problems at the post-secondary level disadvantaging ELLs. Only math items requiring minimal language showed no statistically significant difference between the two groups. For example, Solve. $(12 \frac{3}{4} + 3 \frac{1}{2})$ could be completed with very little consideration

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**Table 1**

*Examples of Math Questions as a Function of Item Type*

<table>
<thead>
<tr>
<th>Type of Math Item</th>
<th>Example Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preposition Use</td>
<td>Pierre’s house insurance bill for 2008 was $879 How much did he pay in 2009, if it increased by $190?</td>
</tr>
<tr>
<td>Vocabulary Knowledge</td>
<td>Change 3.55 to an equivalent fraction</td>
</tr>
<tr>
<td>Minimal Language</td>
<td>Solve 12 $\frac{3}{4}$ + 3 $\frac{1}{2}$</td>
</tr>
<tr>
<td>Negation</td>
<td>Which of the following does not equal 36% of X?</td>
</tr>
<tr>
<td>Atypical Sentence Structure</td>
<td>32 is 40 percent of what number?</td>
</tr>
</tbody>
</table>
to language; one may ignore the word solve and proceed to successfully find the correct solution to the math item. This suggests that the mathematical abilities of ELLs and non-ELLs are not significantly different, supporting the notion that language is the main contributor to the differences between the two language groups. The other four types of items comprising the math task contained heavier language demands, such as the consideration of prepositions (e.g., to & by), vocabulary knowledge (e.g., equivalent & lowest terms), negation (e.g., does not equal), and atypical sentence structure, all disadvantaged the ELLs more than their non-ELL peers.

The top three items that distinguished the ELLs from non-ELLs included two phrased in a negative fashion as well as one with an atypical sentence structure. Negatively phrased math items are counter-intuitive considering how students commonly respond to math items. Normally, correct responses are given, rather than incorrect responses. ELLs who do not have the language skills to account for this may skip over this important language-based detail in the math item. “Which of the following does not equal 36% of X?” requires students to arrive at the correct response, then consider the phrasing of the problem and choose the response, which is not correct. ELLs, more than non-ELLs, overlooked this negation, and consequently, performed more poorly.

The third math item contained the phrase of “what?” Specifically, $195 is 53 \frac{1}{2} \% \ of \ what$ which is an example of an atypical structure. Students must conceptualize the math item only after correctly interpreting the question using their knowledge of English sentence structure, resulting in heavy language demands. ELLs were affected more detrimentally than non-ELLs, leading to lower math scores, likely due to language challenges rather than mathematical proficiency. This is consistent with research suggesting both that a positive correlation exists between math and reading scores and that linguistically modified items, such as those with simpler vocabulary and less complex language structures, benefit ELLs (Brown, 2005; Abedi & Lord, 2001).

Despite the consistency of this study’s results compared to existing research, there are limitations that should be considered. There was a ceiling effect on the math task, which can be addressed in future studies by the addition of more math items, as well as more challenging math items in the task. Furthermore, although our sample size (N=60) was sufficient to detect differences between ELLs and non-ELLs, a larger sample size would allow a focus on more specific language issues, such as the isolation of verbal negation (e.g., does not equal to) versus non-verbal negation (e.g., except).

The most critical finding is that language aspects of mathematics items appear to selectively disadvantage ELLs, even when those ELL students have met the English language requirements for college. This may be due to the disparity between general English language proficiency needed to pass standardized language tests, such as the Test of English as a Foreign Language, and the technical language used in mathematics. Given the increasing numbers of ELLs in PSE, the practice of using specific language supports should be considered to avoid compromising the validity of mathematical tests, ensuring that the tests measure mathematical skills rather than language proficiency. This is significant, given the key findings that preposition use, vocabulary knowledge, sentence structure, and use of negation adversely affected

### Table 2

**Means (Standard Deviations) and t-tests of the Average Number of Correct Responses on the Math Task, as a Function of Language Group and Item Type**

<table>
<thead>
<tr>
<th>Math Item Type</th>
<th>ELL (n = 28)</th>
<th>Non ELL (n = 32)</th>
<th>t (58)</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preposition Use</td>
<td>.61 (.22)</td>
<td>.73 (.22)</td>
<td>2.07*</td>
<td>0.55</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>.80 (.15)</td>
<td>.87 (.12)</td>
<td>1.94*</td>
<td>0.51</td>
</tr>
<tr>
<td>Minimal Language</td>
<td>.82 (.22)</td>
<td>.81 (.19)</td>
<td>0.29</td>
<td>0.07</td>
</tr>
<tr>
<td>Negation</td>
<td>.59 (.28)</td>
<td>.81 (.28)</td>
<td>2.95*</td>
<td>0.79</td>
</tr>
<tr>
<td>Sentence Structure</td>
<td>.76 (.25)</td>
<td>.89 (.20)</td>
<td>2.10*</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Note. *p ≤ .05.
Mathematics and Language: Implications for English Language Learners

These results have widespread implications on policy and curriculum. Many colleges require students to take mathematical placement tests, after an offer of admission. Math placement test scores are used to place students in program math courses or remedial math courses. Accurately placing students early in their post-secondary career in either a remedial or non-remedial program pathway improves student success and retention (Fike & Fike, 2008). If students are misplaced into the remedial stream, they are burdened with unnecessary remedial courses and required to spend extra time to catch-up on program math courses. This is just one example in which the present results may be applied in PSE. Heightened awareness of the needs of ELLs should be considered at all levels, from classroom practices to educational policy.

Acknowledgements

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Le principe d’adhésion : une clef de l’apprentissage

Yannick Bressan
Université de Strasbourg, France

Une récente découverte en psychologie, le principe d’adhésion émergentiste, offre des perspectives inattendues et prometteuses dans le domaine de l’éducation et de la transmission des savoirs. L’auteur présente les éléments techniques et phénoménologiques qui ont permis, dans le cadre d’une expérience en neuro-esthétique, de mettre à jour ce principe psychologique qui pourra s’avérer être un outil fondamental dans le cadre de la neuro-éducation et, plus concrètement, dans la réflexion sur l’évolution nécessaire que doit vivre aujourd’hui la transmission scolaire des savoirs. Dans un second temps, nous réfléchirons à l’élaboration et à l’utilisation de la « mise en scène pédagogique » en se fondant sur les découvertes liées au principe d’adhésion émergentiste. C’est ainsi les premiers pas encourageants, stimulants et prometteurs dans une étude en psychologie expérimentale et en neuro-éducation que propose cet article.

Introduction

L’expérience de psychologie expérimentale réalisée il y a 5 ans à l’hôpital civil de Strasbourg initiée et conduite par l’auteur, Yannick Bressan à l’hôpital civil de Strasbourg et avec le concours du Théâtre National de Strasbourg a permis de déterminer les corrélats neuronaux et physiologiques de l’adhésion du sujet-spectateur à la réalité théâtrale.

Les résultats obtenus ont ouvert des perspectives dans le domaine de la neuroéducation. En effet, l’émergence de la réalité fictive (théâtrale) observée neurologiquement et physiologiquement lors de cette expérience nous permet de poser la question de l’émergence d’une réalité éducative ouverdant l’acquisition des savoirs et l’impact mémoriel.

Cette expérience pilote strasbourgeoise a conduit à un travail de recherche qui unit étroitement théâtre et neurosciences cognitives. Elle prend aujourd’hui corps au sein d’une exploration scientifique initiée et menée par les Docteurs Hamdi (hôpital de Toulouse) et Bressan (Strasbourg), unissant sciences de l’éducation, psychologie cognitive et psychologie expérimentale. Cette étude qui comprendra une série d’expériences en psychologie, mais aussi en cardiologie et en imagerie fonctionnelle sera réalisée courant 2013.

Lors de l’expérience de neuro-esthétique réalisée à Strasbourg, nous avons observé que l’intervention du metteur en scène en amont de la représentation induisait des activations neurologiques et physiologiques corrélées à l’adhésion du sujet-spectateur à la réalité fictive, mise en scène.

Peut-on, via le Principe d’adhésion émergentiste, reproduire cette attention particulière dans le cadre d’un...
cours afin de le rendre plus efficient ? Les proximités observables entre les phénomènes théâtral et éducationnel peuvent-elles permettre d’envisager un travail scientifique qui conduirait à concevoir une “mise en scène pédagogique” afin de renforcer la transmission des savoirs ?

Le croisement expérimental du théâtre et des neurosciences permet d’ouvrir un questionnement riche sur le principe d’adhésion émergentiste (PAEm) qui, au-delà du théâtral, engage notre rapport d’être humain à l’émergence d’une réalité et à l’acquisition des savoirs.

Le principe d’adhésion émergentiste : la découverte d’un outil en psychologie expérimentale

Concrètement, quels sont les process (Whitehead, 1995) cognitifs, physiologiques et neurologiques qui conduisent un spectateur à percevoir, par exemple, Hamlet à la cour d’Elseneur, alors qu’il a sous les yeux un comédien sur des planches de théâtre ?

Toute réalité, pour émerger, doit être co-construite entre le sujet-percevant et la réalité à percevoir. L’adhésion du sujet-percevant est fondamentale à l’émergence de la réalité perçue. Sans adhésion il ne peut y avoir émergence d’une réalité. Le phénomène d’adhésion, conscient ou non, d’un sujet à une représentation, une idée, un discours, est donc un méta-phénomène.

Avant de penser à une quelconque utilisation éducative des résultats obtenus, il convient d’expliquer comment le phénomène d’adhésion a été isolé. Le théâtral s’est avéré être un excellent tube à essai (Bressan, 2013). En effet, il est une forme de réalité circonscrite dans l’espace et dans le temps à laquelle un sujet (le spectateur) va conférer une forme d’existence par son adhésion.

Si l’on considère l’expérience réalisée d’un point de vue purement introspectif, on peut envisager que lorsqu’un spectateur assiste à la représentation d’un drame, il est attendu par les concepteurs du spectacle que son esprit génère des représentations qui ne reflètent pas la réalité de la scène, mais les intentions de l’auteur, du metteur en scène et des acteurs. L’adhésion à l’œuvre théâtrale peut ainsi faire intervenir la théorie de l’esprit, c’est-à-dire l’aptitude à expliquer et/ou à prédire ses propres actions et celles d’autrui.

Une autre activation neuronale que l’on peut imaginer être mise en jeu concerne l’empathie grâce à laquelle le sujet adopte le point de vue d’autrui (Batson, Early, Salvarani, 1997). Étant donné les circonstances sociales particulières dans lesquelles se trouve le spectateur lorsqu’il assiste à la représentation d’une œuvre dramatique, il est enclin à comprendre et même à partager l’expérience physique ou affective du personnage (Biet & Triaud, 2006), et non celle de l’acteur lui faisant face.

Enfin, un processus cognitif pouvant être impliqué dans l’adhésion à la réalité suggérée par la pièce de théâtre et représentée sur scène, se rapporte au traitement des métaphores qui sont un artifice rhétorique par lequel on fait glisser le sens d’un mot vers un sens différent. Aristote envisageait dans La poétique, la métaphore comme fondamentale à l’art théâtral qu’il préconisait. En fait, les décors et les actions de l’acteur, via le texte de la pièce et son interprétation sur scène, sont destinés à représenter ou à signifier une réalité autre que celle qui provient des afférences sensorielles réelles.

Les activations neuronales (métaphore, théorie(s) de l’esprit, empathie) ont précisément et de manière significative été mises en évidence lors de l’expérience de Strasbourg.

Chez près de 80% des spectateurs, les moments clés identifiés et construits par le metteur en scène en amont du spectacle ont déclenché une modification de l’activité cérébrale, et ce, précisément lorsque cet « événement théâtral » se présente au sujet-spectateur.

L’activation de la zone temporo-pariétale notamment tendrait à corroborer l’idée que l’empathie est impliquée dans la mise en action du principe d’adhésion émergentiste. Le gyrus frontal inférieur gauche conjointement activé avec la zone précédente est celui qui permet à la fois de comprendre le sens des métaphores et d’imaginer les pensées ou émotions d’autrui (la région postérieure du sillon temporal supérieur gauche en particulier pour cette dernière tâche) ; ce phénomène neurobiologique est appelé théorie(s) de l’esprit.

Enfin, ce fut une surprise pour les expérimentateurs, on enregistre une baisse d’activité dans une zone du cerveau nommée précuneus, intervenant dans la conscience de soi, et ce conjointement à une diminution de la dynamique cardiaque !

Cette dernière découverte, peut-être bien plus que les trois précédentes, pourra s’avérer fondamentale du point de vue de l’application des résultats dans le cadre de la pédagogique.
Pour clore ce point, faisons la synthèse du protocole expérimental et des résultats obtenus. Il s’avérait fondamental d’intégrer le dispositif technique au dispositif artistique dès le montage de cette expérience afin de limiter les biais psychologiques induits par une trop forte présence du dispositif technique et humain médical. Les expérimentateurs ont fait en sorte, sous l’impulsion du metteur en scène, d’intégrer ce dispositif technique et humain (médecins, techniciens, ingénieurs) dans le dispositif artistique afin de construire un véritable happening théâtral. Le travail premier de la mise en place concrète de cette étude a été de concevoir et de réaliser une mise en scène qui intégrait le lourd environnement médical, de l’incorporer dans la représentation, et ainsi de brouiller les pistes entre réel et fictif. Un dispositif théâtral a donc été créé en laboratoire (mise au noir, lumières...). Des représentations d’Onysos le Furieux, de Laurent Gaudé, furent jouées par un comédien professionnel, filmées et diffusées en direct à chacun de vingt sujets-spectateurs qui se trouvaient dans un enregistreur IRMf situé dans une pièce voisine (IRMf : Image par Résonance Magnétique fonctionnelle. Technique d’imagerie par résonance magnétique nucléaire (IRM) permettant de cartographier les activités fonctionnelles du cerveau. Le principe consiste à mesurer l’oxygénation (rapport oxyhémostigème/désoxyhémostigème), qui augmente localement dans les aires activées suite à un apport accru en sang nouveau). Durant les quatorze minutes de la représentation, les expérimentateurs enregistrèrent, selon un protocole expérimental précis, les IRMf du sujet couplées à un enregistreur cardiaque.

Le metteur en scène, lors de son travail préparatoire de la représentation dirigeait le comédien en lui demandant de souligner, de façon subtile, certains moments de la représentation. Les expérimentateurs ont précisément « daté » ces interventions du metteur en scène en les nommant « événement théâtre ».

Il est fondamental que le chercheur en psychologie expérimentale ne fasse l’économie du rapport entre le sujet et son environnement en particulier lorsqu’il entend travailler sur l’inscription perceptuelle du sujet au sein de son environnement proche (en mettant en parallèle le « vu » (comédien) et le « perçu » (personnage)).

Quels sont les enjeux cognitifs qui permettent au sujet de percevoir Onysos au sein d’un monde fictif alors qu’il voit en réalité un comédien sur un plateau de théâtre ? Le sujet-spectateur sait pertinemment que ce monde lui est re-présenté. Cependant, il va croire et adhérer ponctuellement à la fiction comme si elle était vraie et ainsi être touché, rire, pleurer, avoir peur. (Pour 79% des sujets-spectateurs, les activations cérébrales et les variations de la dynamique cardiaque corrélés aux « événements théâtre » semblent en témoigner).

Pour être rigoureux, il convient donc de ne pas sous-estimer l’importance de la « méthodologie en première personne » telle que Husserl l’envisageait (E. Husserl, 1985) et que Varela la préconisait (Varela, Thompson, & Rosch, 1993). Les expérimentateurs firent donc remplir un questionnaire par le sujet à la fin de l’expérience spectaculaire : « Le réinvestissement de la démarche phénoménologique husserlienne dans une “neurophénoménologie” amène l’auteur à se situer sur le plan de la méthodologie en première personne» (Depraz, 2002).

Lorsqu’un événement théâtral (mise en scène) déterminé a priori par les expérimentateurs et construit par le metteur en scène se présente au sujet, va-t-il, sans en avoir conscience, réagir physiologiquement (réaction repérée par l’ECG, ElectroCardioGramme. Cet appareil enregistre la stimulation électrique que le cœur reçoit pour pouvoir se contracter) et neurologiquement (repérée par les IRMf) ? Les relevés a posteriori (à la première personne) seront-ils corrélés au temps de l’ « événement théâtre » ? En d’autres termes, trouve-t-on une corrélation entre l’événement a priori, l’événement a posteriori et les données « à la première personne » ?

Les premiers résultats furent suffisamment significatifs, dès lors, nous avons déterminé, via les IRMf, les zones cérébrales activées à ce moment précis, en les comparant aux activations précédant et suivant l’événement.

Quels que soient le sexe ou la formation universitaire des vingt sujets, ceux-ci ont marqué une réaction physiologique et des activations neuronales significatives et similaires face aux mêmes événements et au même moment. Les engagements artistiques du metteur en scène ont donc des répercussions avérées sur le sujet-spectateur.

Il semble dorénavant possible d’affirmer ce qui jusqu’ici apparaissait intuitivement comme une évidence : les événements mis en scène ont déclenché des réponses physiologiques et neurologiques significatives chez les sujets-spectateurs et ce, indépendamment de leurs caractéristiques et de leurs intérêts individuels.

Outre les trois activations évoquées plus...
haut (empathie, théorie de l’esprit, métaphore), les expérimentateurs ont eu la surprise d’observer que les relevés neurologiques et physiologiques pouvaient être sérieusement rapprochés de ceux observés d’un sujet en état hypnotique.

Ces engagements sont particulièrement significatifs lorsqu’interviennent les choix artistiques du metteur en scène. Le metteur en scène, présumant de l’adhésion du spectateur, détiendrait ainsi un véritable pouvoir de manipulation sur le sujet (pouvoir relatif, il s’agit de spectacle mais qu’en est-il dans d’autres champs d’applications ? !). Certes, ce n’est probablement pas volontaire dans l’immense majorité des cas, mais c’est un fait qui semble dorénavant établi.

L’adhésion est inhérente au théâtre même, puisque ce que va en faire le metteur en scène, c’est chercher à faire adhérer le spectateur, et le spectateur se laisse tromper ; il vient pour être trompé. Le théâtre est peut-être la situation expérimentale idéale où on introduit dans la perception du fait une perception faussée, décidée, mise en scène. C’est le principe de tout discours : introduire dans la pensée de l’autre un déplacement de perception (Entretien avec M. N. Metz-Lutz, neurologue. L’intégralité de l’entretien est publiée dans Y. Bressan, 2013).

Ainsi, la question du pouvoir du metteur en scène sur le spectateur peut légitimement se poser à l’aune des résultats obtenus. Au-delà de cette question et des inquiétudes éthiques qu’il est permis d’avoir, une telle découverte peut-elle s’appliquer dans le domaine de l’éducation ?

Grâce à cette première étude sur le principe d’adhésion émergentiste appliqué à la représentation théâtrale, une piste vers un neurodynamisme stimulé par l’adhésion à un événement a été esquissée, voire, pour certains éléments, montrée comme l’activation simultanée des zones relatives à l’empathie, à la métaphore, aux théories de l’esprit et à un état hypnотique. Ces résultats peuvent, fort probablement, être un outil de recherche précieux pour (entre autres nombreuses disciplines) la psychologie cognitive et sociale. Ce travail n’a certes pas dégagé les seules « zones cérébrales » relatives à l’adhésion, mais plutôt, les modifications dynamiques neuroanatomiques engagées lorsque l’adhésion d’un sujet à une représentation permet à celle-ci d’émerger en lui donnant une forme de réalité sensible et psychique.

Il est désormais indéniable que l’adhésion du sujet joue un rôle majeur dans la construction même de ses représentations internes (images mentales). Il apparaîtrait dès lors possible d’envisager l’adhésion comme la pierre angulaire de notre système représentationnel.

La « mise en scène pédagogique »

Le phénomène d’adhésion recoupe de nombreuses disciplines. En effet, que serait un message, quelle que soit sa teneur, sans adhésion à celui-ci ? Ce message est-il renforcé via l’adhésion ? L’impact sur la mémoire est-il significatif par rapport à un message où l’adhésion n’interviendrait pas ?


Les « images mentales » ainsi convoquées dans l’esprit de l’étudiant s’impriment plus fortement dans la mémoire du sujet et donneraient une force évocatrice particulière au cours délivré, théâtralisé, comme le faisait déjà remarquer Hegel.

Le premier enseignement qui se dégage de cet impressionnant morceau d’écriture, dont l’auteur s’est employé à restituer, au plus près de ce qu’il avait éprouvé sur le moment, son expérience personnelle d’auditeur des cours de Hegel, c’est que, tel que ce dernier en gérait l’économie, ils étaient montés comme un spectacle qui, en mettant en scène la parole professorale, exploite tous les ressorts d’une action dramatique.

Des éléments sur la théâtralisation pédagogique peuvent, en effet, être relevés dans le travail d’enseignant d’Hegel sur l’importance de théâtraliser la transmission afin de rendre les cours plus efficaces, on retrouve en

L'étude que nous menons entre l'Université de Strasbourg et l'Université de Toulouse s'inspire de cette idée et s'appuie sur la découverte du principe d'adhésion émergentiste. Il n’est certes pas question de transformer les enseignants en histrions ou d'hypnotiser les étudiants ! Il est en revanche question de rechercher et de découvrir les outils qui permettront de mettre en place une véritable « mise en scène pédagogique ».

Le travail que nous entreprenons, dans le cadre d'une étude en psychologie expérimentale, se divise en trois grandes étapes. L'intention de l'enseignant doit, dans notre schéma expérimental (et plus largement dans le cadre de la transmission des savoirs) retenir l'attention de l'étudiant et celui-ci, par son adhésion à la « mise en scène pédagogique » pourrait voir sa mémorisation des éléments transmis s'améliorer. L'objet de notre étude est d'expérimenter l'intérêt et l'apport en termes d'impact mémoriel du principe d'adhésion émergentiste dans un cadre scolaire afin de construire un outil pédagogique évolutif. Cet outil, ou « mise en scène pédagogique » pourrait ainsi être mis à la disposition des enseignants.

Il est très important de préciser qu'il est plus question dans le cadre de cette étude en neuro-éducation du phénomène psychologique bien connu d'adhésion que celui de principe d'adhésion émergentiste qui renvoi plus précisément à l'émergence d'une réalité au sujet-percevant. Celui-ci, en adhérant à cette « réalité émergente », lui confère alors une consistance physique et psychique qui peut s'avérer égale (voire supérieure) à sa « réalité proche ». Les résultats de l'étude sur ce principe pourront néanmoins se révéler cruciaux tant l'adhésion, au même titre que l'engagement, l’absorption ou la croyance d'espace-temps éducationnel plus efficace.

Dans la première partie de cette étude, nous travaillerons dans le cadre d'un cours magistral universitaire (le thème du cours reste encore à déterminer).

Il s’agira de comparer l’impact attentionnel et mémoriel d’un « cours mis en scène » versus le même cours présenté sans « effet de mise en scène ». Nous présenterons, à la fin du cours, aux deux groupes d’étudiants un questionnaire afin d’évaluer précisément l’intérêt qu’ils auront porté au cours et si les moments pédagogiques mis en scène ont eu une répercussion significative sur leur mémorisation. Nous effectuons ensuite un contrôle croisé en présentant un cours mis en scène au groupe qui aura assisté tout d’abord à un cours traditionnel et vice versa.

Fort des résultats obtenus, nous passerons dans une seconde étape de cette étude à une expérimentation avec ECG. Toujours en situation pédagogique traditionnelle (amphithéâtre, classe), nous équiperons les étudiants d’enregistreurs cardiaques afin de repérer, lors d’un cours mis en scène, si, ces « moments pédagogiques » particuliers, bien que subtiles, ont une action sur l’activité cardiaque du sujet. Le cas échéant, cela pourrait laisser supposer un commencement d’indice d’activation du principe d’adhésion émergentiste (qui plus est, si nous observons une diminution de la dynamique cardiaque).

Enfin, la troisième partie de cette vaste étude se déroulera en ayant recours à l’imagerie cérébrale. Le protocole reste à inventoriser, mais comme dans le cadre de notre étude en neuro-esthétique, il s’agira de construire un dispositif propice à repérer les activations cérébrales lors d’un cours mis en scène versus le même cours non mis en scène. Cette troisième étape ne serait pas nécessaire pour le praticien pédagogique si les deux précédentes ont montré un apport significatif de la « mise en scène pédagogique » dans la transmission et l’acquisition des savoirs. Ce travail avec IRMf reste néanmoins important pour le chercheur en neuro-éducation et en neuropsychologie car il permettra de comparer les résultats avec les observations faites sur les activations cérébrales lors de la mise en action du principe d’adhésion émergentiste. Les perspectives pourraient alors s’avérer importantes pour, par exemple, la construction d’outils pédagogiques qui s’adaptent en fonction de l’adhésion émergentiste.

Il reste que la personnalité de l’enseignant a probablement des répercussions notables sur la transmission des savoirs. Cet élément « charisme » de l’enseignant sera, entre autres, à explorer pour affiner encore un peu plus notre travail sur la « mise en scène pédagogique ». Ce sera l’objet d’une expérience menée en parallèle avec les deux premiers grands points de l’étude principale. Peut-on renforcer le charisme de l’enseignant par des artifices scéniques ou des attitudes et postures physiques et/ou vocales particulières ?

Il est aisé de constater combien, en général, l’enseignant face à un amphithéâtre utilise les artifices de la mise en scène théâtrale. De fait, il est surélevé, comme sur une scène. Il « timbre » sa voix afin de se situer dans une « voix de confort », mais dans une fréquence plus « déclamatoire », il utilise artifices de déplacements et d’accessoires (cartes, illustrations, objets divers et variés), il emploie les métaphores dont nous avons évoqué l’importance du point de vue du théâtral.
Cette parenté phénoménologique relevée, il conviendra de découvrir et d’établir la grille de « mise en scène pédagogique » la plus efficace.

Pour ce faire, l’étude de Strasbourg sur le principe d’adhésion émergentiste fournit aux expérimentateurs en neuro-éducation un cadre conceptuel, neuropsychologique et expérimental.

La « mise en scène pédagogique » pourra alors se révéler être un outil précieux pour la transmission des savoirs.

De plus, notons que les perspectives d’une telle étude peuvent être déclinées dans le cadre du e-learning.

Notons néanmoins que dans le cadre de la transmission à distance (via Internet) il sera important, comme ce fut le cas pour la mise en scène théâtrale appliquée à Internet par e-toile, de repenser le dispositif représentationnel et le système endogène à la transmission du message (interactivité ? Multiple-caméras ? Etc.). Bien entendu, il ne s’agit pas de se contenter d’une simple captation-diffusion d’un cours magistral (E-toile est un groupe de recherche et de création sur le spectacle vivant et Internet qui réalisa de 1999 à 2004 de nombreuses mises en scène théâtrales et chorégraphiques en direct et interactives exclusivement en ligne ou face à un public-Internet et un public dans un théâtre simultanément. Ces interrogations et expérimentations sur l’art vivant en réseau, réalisées dès 1999, fait d’E-toile l’un des pionniers dans le domaine des nouvelles narrations).

C’est un considérable chantier de recherche et de création qui prend ses racines dans le théâtre pour aller vers l’amphithéâtre. Nul doute que cet important travail théorique et pratique en psychologie expérimentale pourra avoir des retombées dans le domaine des sciences de l’éducation.

Ce projet a pour objectif une meilleure compréhension de la cognition appliquée à l’éducation du point de vue de l’impact du message et de sa mémorisation.

L’objet de cette étude n’est bien entendu pas de concevoir un nouveau carcan pédagogique lourd et rigide, mais bien de travailler avec les enseignants, les chercheurs en sciences de l’éducation et les médecins, à l’élaboration d’une évolution nécessaire de la pratique du travail et de l’engagement de l’enseignant. Ce sont des techniques que bien des pédagogues emploient déjà au quotidien. Il s’agit à présent de leur donner une perspective théorique et expérimentale afin de composer pour l’enseignant une véritable palette précise et évolutive.

**Références**


**Biographie**

Yannick Bressan est Docteur en sciences humaines, metteur en scène et chercheur en psychologie cognitive (neuro-esthétique). Collaborateur Inserm, CHU Strasbourg. Son travail aborde la question de la représentation et du rapport du sujet à sa réalité sous le prisme de la neuro-esthétique et des sciences cognitives. Il a mis en évidence le principe d’adhésion émergentiste lors d’une expérience interdisciplinaire qu’il a initié et dirigé à l’hôpital civil de Strasbourg (CNRS, Laboratoire d’Imagerie et Neurosciences Cognitives) en collaboration avec le Théâtre national de Strasbourg.
Introduction: Pedagogical Choices

Whether with respect to substance or content, instructors in the realm of higher education make significant choices relevant to the links between life and learning. When, for example, they use contemporary examples to explore concepts and constructs, the content of what is taught challenges boundaries between ‘real life’ and the ‘classroom.’ Such substantive choices in selecting focal points for study and discussion are mirrored by pedagogical choices. Indeed, choices as to form and approach in teaching are as important as their substantive counterparts. They are important not only to dynamic and meaningful education in a university classroom, but to the roles and responsibilities taken on by students after they graduate.

The example I explore in this short paper is drawn from university legal education, and, more specifically, from a foundational course in law that examines modes of governance and interpersonal responsibility. It serves to illustrate that the project of making learning in the classroom relevant to ‘real life’ is not confined to the content of the material and discussions; it is equally, or even more significantly, within the realm of pedagogical approach and responsibility. As an example of substantive and pedagogical choices that challenge the boundaries between real life and the law classroom, the incorporation of Canada’s residential school legacy into a basic course – discussed below – is necessarily grounded in a particular context. And yet, its lessons are relevant across disciplinary boundaries. They are meant to inspire and sustain efforts to connect classroom creativity and constructive experiences to relevant and topical course content.

Ideas and Identity; Substance and Skills

As university teachers, how do we understand and respond to our students’ questioning of the relevance to ‘real life,’ and to the ways in which they live and act, of what goes on in the classroom? Do we illustrate the complex
connections between, on the one hand, what students often too easily characterize as 'theoretical' or 'textbook' and what they also too easily assume as 'practical' or 'real?' Do we support a renewed understanding of the ways in which knowledge and action are connected in any field of human endeavour?

This opening set of questions is meant to lay the groundwork for examples of teaching that attempt to link ideas and identity or, in other words, substance and skills. In any learning adventure, we expect to find students who are curious, open-minded, and perhaps somewhat dubious about their own aptitude for a new project. In a foundational first-year course in a legal education program, students expect to learn 'rules' related to real problems in society. They hope to develop skills that will be 'useful' to their later careers as lawyers. But they probably also assume that what gets talked about in their class sessions will have limited relevance to what they will actually do in their lives. Some may expect what they think will be 'professional training', and thus show little initial patience with what they think are 'academic' discussions. Others may not have any clear idea of career ambition, and they may feel at home with 'theoretical' knowledge rather than venturing into the daunting arena of 'lawyering.'

In “A Talk to Entering Students,” a professor introduces the study of law in this way: “One never knows all the law; one never feels wholly confident about any step taken in the law... the task... is to survive and flourish in it” (White, 1985, p. 58). In any introductory course, teachers and students balance the objectives of knowledge and capacity-building. They work with content or substance, while at the same time figuring out who they are with respect to those ideas, and how to sharpen the skills that encourage flourishing.

Canada’s Residential School Legacy: An Example of ‘Real Life’ Pedagogy

But all that is someday and far away. Today he has returned home and he is a stranger in his own land. He doesn't have any parents or grandparents and he doesn't understand his language. For nine years he wished he was out of that hellhole. He finally got his wish. But today, for some strange reason, he wishes he were back. He is confused by these feelings, but he doesn't dwell on it. He has to relearn his language and the ways of his People. His survival depends on it – literally. (Alexie, 2002, p. 16)

The choice of introducing students to the legacy of Canada's residential schools is aimed at developing both critical understanding of ideas and capacity for identity-based roles and responsibilities. As mentioned in the Introduction, the context is that of a foundational first-year law course devoted to the governance of human interaction or interpersonal accountability. While any current issue of concern, with aspects of harmful behaviour and complex injury, might trigger student interest, residential schools carry a special resonance.

As part of the history of Canada, the residential school system in place for roughly 100 years across the country affected not only the thousands of Aboriginal children enrolled in them, but also their families and communities. Immediately, students are reminded that harm can reach beyond the individual, and that entire societies can create policies and practices the impact of which requires complex listening and cooperative problem-solving on the part of all participants.

Stories in the words of survivors themselves impress upon the students the effects of separation, isolation, disconnection, and fear. The severe actions taken to punish transgressions, the mechanisms created to enforce authority, the failure to respect education and health standards, the patterns of physical and sexual abuse, and the loss of family ties and cultural confidence: all are captured in these accounts.

Considerable scholarship exists related to teaching aboriginal or indigenous perspectives, knowledge, and realities – much of it focused on teaching in primary and secondary schools (Czyzewski, 2011; Harrison & Greenfield, 2011; Strong-Wilson, 2006). Bringing the residential school story to first year law students, however, is a unique project. My aim is not simply to inform students (who may well have a fairly sophisticated appreciation of many aspects of the residential school experience), nor primarily to evoke and deepen empathetic response. Rather, I mean to show students how narratives convey needs, needs provoke responses, and responses require imagination and action (Van Praagh, 1992). Students should feel like a burden has been placed on their
shoulders as they open their minds to the study of law, that their reaction to human stories requires a particular kind of engagement.

How do we move beyond the stories, while holding on to their powerful resonance? In much the same way, these students, once lawyers, will need to listen, investigate, and translate the experiences and narratives to which they are asked to respond. In the words of Rita Joe (2009): ‘[G]ently I offer my hand and ask, / Let me find my talk, / So I can teach you about me…’ (p. 129). The legal education upon which these students are embarking is all about listening to the ‘talk’ of others and learning what speakers have to say. However, it is also about thinking innovatively and rewriting roles.

The law students start with the range of human needs triggered by the residential school experience: from memory to therapy, from accountability to compensation, from community-building to formal acknowledgement. They are then asked to assess, based on those needs, the contours and characteristics of a range of regimes or systematic response mechanisms found in society. Those responses include education and formal apology, public inquiry and criminal justice, counseling and civil liability. The law students discover that their collective engagement in this range of processes allows them to better appreciate the strengths and weaknesses of each type of response, and the ways in which their co-existence may be the best way to move forward. Throughout the class exercise, students are asked to imagine themselves as group representatives, scrutinizing each response from the perspective of the communities dealing with past and ongoing harm.

This introductory session, grounded in the stories and projects associated with residential schools, prepares students for a focused course-long inquiry into civil liability, aware from the start that this is only one way in which individuals and groups search for reparation for past harm. As the course proceeds, the students are brought back to the starting example in order to reimagine rules through innovative analysis. For example, when they study the ways in which injury is defined and recognized by civil liability law, they realize that physical harm is ‘easy’, while emotional loss is ‘difficult’ and cultural loss perhaps ‘impossible’. Here they develop their capacity to advocate for change, to push boundaries, to imagine different directions for law. They also learn to accept the limits of particular forms of law, and to look beyond state institutions for practices and policies that strengthen communities and that provide possibilities for inter-community collaboration. These are lessons that gain in significance as the course moves from issue to issue, and as the students are invited to incorporate critical commentary into their in-class exercises and their more formal exams and written assignments.

As they come to appreciate how law can fail to ‘hear’ certain stories, the students are invited to place their knowledge and skills in perspective. They learn to search for new forms of investigation and participation: in other words, they prepare for the roles of negotiator, advisor, and leader that they may indeed take on in the future. They have learned much more than a ‘real life’ instance in Canadian history and contemporary reality that demands the substantive attention of lawyers in many capacities; instead they have learned through ‘real life’ pedagogy that the roles and responsibilities refined as law students in the classroom are precisely those exercised after graduation, no matter the career paths taken.

Focusing on pedagogy attuned to capacity building and reinforcement should not be confused with defining the study of law as instrumentalist, fixated on the society-changing functions and potential of legal rules and procedures. Education in law, as in other areas, is fundamentally about ideas and the enrichment of the students’ minds and lives, but the approach taken to that study need not be disengaged from what it means to ‘do’ law in all its forms and sites and sizes. Feelings, responsible listening, sensitive analysis, and creative action are intertwined, and pedagogical approaches that underscore that mix turn meaningful experience in the classroom into real life, and vice versa, rather than imagining them as separate entities (Kahn, 1999; Macdonald, 2002; Minow, 1988, 1998).

**Conclusion: Reflection and Action**

My example of incorporating awareness of Canada’s residential school legacy into the first-year law curriculum illustrates the potential for enriching that substantive choice with equally significant pedagogical choices that challenge the imagined line between real life and the classroom. So too, we might imagine focusing on responses in law and society to bullying in the schoolyard or on the internet; or, in another context, we might discuss and question the parameters of free speech on campus. These all are rich cross-disciplinary sites for
investigating the features of high quality, responsive, flexible, and innovative teaching and learning. While they embody current issues of concern, they also invite imaginative forms of investigation and collaboration. In the legal education context, they prepare students for the overlapping roles of representation, negotiation, advocacy, policy drafting and leadership.

As I suggested in the Introduction, the lessons from this example stretch across the boundaries that often separate academic disciplines and programs of education. That is, instructors across multiple fields of inquiry are implicitly invited to search for relevant ways to intertwine substance and form so as to integrate real life and classroom learning. Learning about something is often tightly linked to actually doing it, and effective exercises that bring real life to the classroom illustrate that fruitful and even crucial linkage. While this discussion does not aim to impose parameters on similar exercises in other kinds of courses, it does illustrate general guidelines for combining content and pedagogical method in ways that foster strong knowledge and understanding together with developing abilities and responsibilities.

Grappling with the flexibility and limits of established principles in light of contemporary challenges is key not only to dynamic and meaningful education in the classroom, but to the actions undertaken by students after they complete their formal learning. When professors lead classroom exercises that examine the objectives and modalities of societal responses to human needs, they teach students how to assess, and participate in, a spectrum of governing mechanisms. When they invite students to imagine the application of old rules to new contexts, they illustrate the obligation to respond creatively to problems. When they work within the contours of meaningful policy design, they show students how to combine responsible listening with imaginative construction. Classroom and ‘real life’ merge through issues and pedagogical approaches that combine deep reflection with active participation.

References


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the Social Sciences and Humanities Research Council of Canada for a team project on pedagogy and governance in legal education.

Biography

Shauna Van Praagh B.Sc., LL.B. (Toronto), LL.M., J.S.D. (Columbia) has been a professor of Law at McGill University since 1994, and is a member of McGill Institute of Comparative Law and Centre for Human Rights and Legal Pluralism. Her research and teaching interests lie in the areas of children and law, legal education, the law of obligations, legal traditions and social diversity.
Publishing an Article: The Goal for a Graduate Course

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This essay discusses the effectiveness of a graduate course for physics students, with a course goal to write a publishable article on a modern research topic (graphene). I analyze the tools used to this end, which included Web 2.0 methods, in-class discussions and presentations, as well as extensive peer-review. In addition to producing a published article, this course led students to not only advance their mastery of a modern research topic but also to significantly improve their writing, discussion and presentation skills.

Introduction

In most graduate schools, be it at the masters or doctorate levels, students are generally required to pass several graduate courses or seminars. The effectiveness of these courses is often questioned by both the students and their research advisors as a waste of time, since they can take precious resources away from engaging in research. While this is debateable, it is nonetheless important to examine what the main objective of a graduate course is. From a quick study of existing graduate course objectives, two themes emerge: 1) learning about current or recent research; and 2) improving skills in academic writing, presentations, and discussions. The question is: How can these two goals be achieved most effectively? The solution that I present below discusses the requirement to include a publication as the outcome of a graduate course.

Course Description

The following analysis is based on a single-semester physics graduate course that I taught in 2011 (Phys 634 at McGill) with an enrolment of 10 students. Most of the students were first-year masters students. The topic was chosen because of tremendous current interest in the research community as illustrated by approximately 6,000 articles published on graphene-related research in 2011 alone (Source: Web of Science). Graphene is a one-atom thick carbon sheet with exceptional optical, electronic, and mechanical properties. Research on graphene exploded in 2004 thanks to its discovery that year by Andre Geim and Konstantin Novoselov, who were subsequently awarded the Nobel Prize in Physics in 2010. If, as a professor, I find the amount of literature daunting, I can certainly understand the effect on a first-year graduate student. Nevertheless, I made the decision to offer a graduate course on this ‘hot’ topic with the goal of publishing a review article of the field, while restricting the focus on the experimental properties. The agreed upon title eventually became Experimental Review of Graphene (Cooper et al., 2012).

My argument is that such a goal of writing a review article for a graduate course addresses factors that lead to excellent learning outcomes in terms of: 1) learning about current or recent research; and 2) writing
and presentation skills. In addition, it addresses the ‘waste of time’ argument in a powerful way, since it is easy for a graduate student to justify spending time on a course if it leads to a publication.

Modern Science

Research

Learning about current research is often done effectively starting at the undergraduate level, when students participate in research directly. This is justified, since involving undergraduate students in research is generally believed to lead to significant educational benefits (Gates, et al., 1999; Kardash, 2000; Seymour, Hunter, Laursen, & Deantoni, 2004; Zydney, Bennett, Shahid, & Bauer, 2002). Research at the undergraduate level can take several forms, including an original contribution in a laboratory environment or an extensive literature review with a synthesis of the main results, which can be seen as a significant research form on its own (Cooper, 1988). At the masters’ level, the literature review is typically required for the thesis and often complemented by an original contribution. For a more conventional course setting, where a single instructor is in a classroom with many students, it is very difficult to conceive a course where original research like that performed in a laboratory environment can be achieved for a large student enrolment. By contrast, a research level literature review can easily be implemented in a single-instructor environment.

Literature review

Post-graduate students do not necessarily understand the concepts involved in writing a literature review, as they often underestimate the need for critique of the existing literature (Bitchener & Banda, 2007). Thus, the starting point for our course Phys 634 was to have the students find all the existing reviews on the subject (in this case, graphene). As a by-product, this enabled an interesting discussion on various search tools and the use of up- and down-stream citations. While the students in class found more than 50 reviews, most of them were on a specific aspect of graphene (such as electronic properties of graphene), and it was realized quickly that there were none that were a comprehensive review of the experimental properties of graphene, which was the overextending topic of the course. In this context, a review is a scientific article that synthesizes existing published articles, which explains the large difference in number of articles (more than 6,000) compared to the number of reviews (less than 100) on the same topic.

In-Class Discussions and Presentations

The next step was to define a table of contents (TOC). The most valuable educational aspect was the active participation and in-class discussions induced by examining the possible topics to be included in the TOC. The key is to fairly quickly come-up with a TOC so that the substantive work can start, but at the same time it is important to value the input of each student, since they will spend a considerable amount of time with the topics included in the TOC. Once the TOC was defined, the content constituted the scientific material to be covered in the course. Each student was then made responsible for one section of the TOC. The first step for each student consisted of elaborating the content of the corresponding section and then defending it in-class by means of a presentation. It is similar to a research defence, where the presenter has to introduce the different sub-topics in the literature review and defend their inclusion.

Peer Review

At this stage, the peer review process began. This happened first, through the critical discussions during the presentation, and later, through the peer review of each section by two randomly chosen students in class. While peer review has shown to be an effective method to improve writing skills (Berg, Admiraal, & Pilot, 2006; Boud, Cohen, & Sampson, 1999; Falchikov, 1995; Stefani, 1994; Topping, Smith, Swanson, & Elliot, 2000), in our context, peer review was also used as a method by which to learn and understand the material. In a way, the reviewer plays the role of the student learning new material, while providing critical feedback, whereas the student receiving the review gets the critical feedback, which in turn, not only leads to improved writing but also to a better understanding of the subject matter (Lin, Liu, & Yuan, 2001; Plutsky & Wilson, 2004; Topping et al., 2000; Xiao & Lucking, 2008).

Web 2.0

To increase the effectiveness of the peer review process,
Web 2.0 was used extensively. Web 2.0 is the interactive form of the Internet. Because of its interactive nature, in particular between students and also between instructors and learners, Web 2.0 has gained considerable traction in online education (Beldarrain, 2006). Web 2.0 includes many different tools, including course web sites, blogs, broadcasts, and various forms of web-sharing tools such as wiki. Wikis are studied extensively for their effectiveness in teaching subject matters that involve collaborative efforts such as the one found in mutual peer-review and collective knowledge construction (Bold 2006; Xiao & Lucking, 2008).

While most studies have focused on wiki designs, there are now many different tools available, which allow anyone to review and modify the content on a collection of documents on the web, both synchronously and asynchronously while enabling collaborative content-building for all participants. We used Google-based web sharing software, including its web page creation tool as well as document sharing software (‘Google Docs’ now replaced by ‘Google Drive’). With these tools, each participant can add to, comment on, and edit each document. Comments and changes were made directly on the shared document, where all changes could be traced by date and authorship, which also allowed for an effective evaluation tool for the instructor.

The peer review process worked along two lines: the commenting tool, which was very effective in terms of the initial peer review; and the editing tool, which was important for the later stages of composing the review article that involved the creation of a unified document. For example, each student used comments to provide feedback on the content and the writing style of a given section. In addition, one student was responsible for editing the tables of the entire document to make sure that they all followed the same formatting, while another student was responsible for the formatting of the figures, and yet another for organizing the references. Many of these tasks were made simpler by using a Latex based word editor, which is comprised of one text file containing all the written text, one reference file containing all the citations and another folder containing all the figures. The complete PDF output file (including all figures and citations) can be obtained using either a web- or home computer-based compiler such as Latexlab or Miktex. Hence, Web 2.0 provides an interactive framework for peer and instructor assessment, and allows for collaborative content building, involving a large number of collaborators, where the feedback is immediate and multidimensional.

A large portion of the peer-review process was happening electronically outside of the classroom, while following a shared timetable with imposed deadlines. At the end, all sections of the document were peer- and instructor-reviewed between five and ten times while some sections required large amounts of rewrites, which were the responsibility of one of the in-class peer reviewers and not the student originally responsible for the corresponding section.

Publishing

The last phase involved getting the document into a publishable form. This was clearly an exciting moment for most of the students, since very few of them had published an article before. Moreover, the process contains many educational benefits. The first step was to decide which journal to publish in. Here, the quality, audience, and ethics of the various journals and publishers could be considered. An important deciding factor for the students in class was to use journals, which are either open access or belong to non-profit organizations. The document was further geared towards beginning researchers in the field, which also restricts the number of possible journals. The decision was made to first attempt a submission to a top-tier journal, which could also lead to some high quality editorial feedback, before eventually submitting to a second-tier journal in the event that the reviews turned out to be too critical.

Another interesting educational moment related to the publishing process is the discussion on copyright and plagiarism as well as defining each individual’s contribution. It was helpful that most publishers have clear guidelines that the students could familiarize themselves with. Moreover, the students obtained feedback from other researchers in the field (including referees and editors). These reviews had to be addressed in the resubmitted version.

While the first draft of the document was finished by the end of term, the entire journal review process took longer. However, all students (except one) agreed to continue meeting regularly after the end of term to finalize the document for publication, including making the necessary changes during the review process. This illustrates another potential difficulty with this exercise:
How do we deal with unequal contributions? While during the term, variable contributions can be sanctioned by corresponding grades, the post-term contributions were purely voluntary and required a strong commitment from the students, which next to all had.

**Conclusion**

The produced document was subsequently accepted for publication in a second-tier peer reviewed open access scientific journal (Cooper et al., 2012) and co-authored by all students and also posted on an electronic archive server (ArXiv). The evaluation of the students was based on the quality of the writing and the presentation, the diligence in the review process, and the overall participation. The learning outcomes of the students was spectacular in terms of their confidence on the topic as assessed by the instructor based on the large number of discussions which occurred in class and online on various topics pertaining to the document. The students’ self-confidence got a further boost from the acceptance letter of the journal. The course evaluations from the students were excellent.

**Acknowledgements**

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**Biography**

Michael Hilke is Associate Professor of Physics at McGill University. He is the head of the Quantum Nano Electronics Laboratory, and involves many undergraduate and graduate students in his research on advanced materials and quantum engineering.
Thinking Outside Discipline Boundaries to Integrate Indian Education for All Across the Curriculum

Jioanna Carjuzaa & Holly Hunts
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The Montana Indian Education for All (IEFA) Act is an unprecedented reform effort 40 years in the making. In this paper we summarize the IEFA professional development opportunities provided to faculty at a land grant university in the western United States while highlighting a faculty member’s personal efforts to integrate IEFA in a culturally responsive manner. We explain how, instead of limiting the transmission of ideas, expanding discipline boundaries has opened a flood-gate to new information and other ‘ways of knowing’ for the faculty member and her students.

Montana’s Indian Education For All Act

I questioned why these ‘trainings’ were mandatory for me. Sure, I agreed that ‘those’ history faculty ought to do a better job teaching American Indian history and ‘those’ sociology faculty really ought to teach more about social justice. I understood why faculty would want to avoid lectures about American Indians. What a disaster it would be if faculty said something wrong. By design, I never said anything wrong in class about American Indians, because I never said anything at all (personal communication, 2012).

Montana, located in the high plains and Rocky Mountains of the western United States borders three Canadian provinces. It is home to 12 tribes on seven reservations, each of which is a sovereign nation and each proudly supports a Tribal College. In addition, the Little Shell Band of Chippewa, who are landless, call northern and central Montana home. In our context, we use the terms American Indians, Native Americans, and Indians interchangeably to describe the Indigenous population which constitutes 6.4% of the total state population and 11.8% of the K-12 student population, a percentage more than 10 times the national average of American Indian students attending public elementary and secondary schools throughout the U.S. (OPI, 2010).

The audacious reform effort described here is known as the Indian Education for All (IEFA) Act. Now a funded reality, IEFA incorporates the teaching of American Indian cultures and histories in the statutory definition of a quality education. Consequently, P-16 educators have legal obligations, ethical commitments, and instructional responsibilities to educate all Montanans about the state’s first inhabitants. Since no other state in the United States has a comparable constitutional mandate, IEFA
serves as a model for all educators dedicated to embracing ideals of social justice and educational equity.

In this essay, we summarize the IEFA professional development opportunities Dr. Jioanna Carjuzaa, the lead author, has provided to faculty at Montana State University (MSU) and highlight the journey of Dr. Holly Hunts, a professor in the College of Education Health and Human Development. Holly teaches courses in Family Consumer Sciences (FCS) and, through participation in several IEFA workshops, has chosen to extend the long-standing professional boundaries of her discipline to include American Indian perspectives. Her journey to integrate IEFA in a culturally responsive manner dispels the myth that content knowledge is diminished by making room for other perspectives. Instead of limiting the transmission of ideas, expanding the boundaries has opened a floodgate to new information and other ways of knowing for Holly and her students. As the director of IEFA, I (Jioanna) collected data from informal communications, surveys, and workshop feedback. The data suggest that integrating IEFA across the curriculum in a culturally responsive manner is a challenging task for many faculty members who feel inadequately prepared to do so. From my experience leading educators on this journey, it is clear they need handholding while exploring how to create meaningful lessons since faculty are likely to have had minimal exposure to culturally responsive pedagogy as an approach and lack a clear understanding of the requirements of IEFA. Holly, like other faculty, needed specific instruction on the benefits and goals of culturally responsive pedagogy, an overview of the chronology of this landmark legislation and practice in applying the Seven Essential Understandings (OPI, 2001) that serve as a framework for what Indigenous knowledge is to be integrated as well as appropriate, authentic materials and resources to use.

IEFA Professional Development Workshops

Over the past seven years I (Jioanna) have facilitated 14 IEFA workshops. After administering an initial survey to faculty in the teacher preparation program to find out where we stood collectively as a department and what knowledge individuals had about IEFA, I scheduled the first workshop to bring teacher educators from across the state together to share best practices. With a generous grant from OPI, we were able to invite participants from the Tribal Colleges, the institutions in the Montana University System, and the private colleges for a two-day institute and to purchase a variety of IEFA resources to distribute. After the statewide workshop, each institution was encouraged to organize a professional development workshop for their faculty. For MSU’s initial workshop, we explored the IEFA mandate and how it affects higher education.

I have been granted numerous awards that allowed me to offer subsequent workshops. They included providing instruction in social justice and culturally responsive pedagogy, asking interested educators to develop lesson plans they could integrate into their curricula, and sharing their findings in a poster session. Other workshops have included a ‘gallery walk’, presentations by leading Indian educators such as Dr. Henrietta Mann and Tribal College Presidents, a multimedia presentation on Indian stereotypes by an Oscar winner, and, most recently, a workshop dispelling the myths and misconceptions surrounding the first Thanksgiving where a Wampanoag spiritual leader shared his perspective.

To address the concerns and fears Holly expressed in the opening quote and those that other colleagues have shared with me about designing a culturally responsive IEFA lesson plan, I have carefully choreographed the phases of the professional development workshops to scaffold their learning. Feedback from participants in attendance at the workshops indicates that they enjoy meeting American Indian educators and other tribal members, appreciate the access to numerous resources and materials, and benefit from exposure to content-specific Indigenous knowledge as well as strategies for integrating IEFA.

Challenges to Implementation

Even though all Montana educators have a constitutional obligation to integrate IEFA, some faculty in higher education feel a natural fit to their discipline, while others struggle to find logical connections. The resistance I have observed usually results from both a misunderstanding of the goals of IEFA and fear. Some educators voice their concern about what they perceive as an unfair bias when the focus is put on American Indians. Some instructors question why we focus on American Indians if diversity is
Indian Education for All Across the Curriculum

the goal. Bobbi Ann Starnes (2006), a former reservation classroom teacher offered this explanation:

Whether or not there are large numbers of Native Americans or reservations in every region of the country, Indian Education for All underscores a national challenge to our education system to improve our teaching about Native American history and culture more evident than during the month of November. (p. 186)

Blame shame guilt

According to Cleary and Peacock (1998), as is the case with many minority groups in the United States, American Indians are often inaccurately portrayed and their contributions are inadequately represented. Until IEFA was funded, quality curriculum and resources about and by American Indians were scarce. When talking about the forced assimilation, the cultural genocide, and the deplorable abuses in the boarding schools, many educators react as Holly did: “I am ashamed of being white and feel guilty because I am an American.” She described the dread she felt when she was obliged to attend a faculty meeting prior to my workshop series on IEFA. She had this to say about that early experience:

Unfortunately, with my childhood ideas about American Indians long set aside, eight years ago I found myself at a university faculty meeting about American Indians. I knew that there would be a speaker who would relate one horrific story after another about inhumane atrocities perpetrated by the U.S. government and inflicted on American Indians. I knew the stories were coming because I had been to several, nearly identical, meetings over the years.

You cannot teach what you don’t know

Faculty members are often disturbed and shocked to discover that in their K-12 educations and college courses several ‘inconvenient truths’ were never broached. Among faculty there is a shared all-too-common journey (Carjuzaa, 2009; Juneau, 2006). For too many generations, Indian and non-Indian students alike have graduated from their respective schools having learned virtually nothing about American Indians. Consequently, faculty members are not inclined to include Indian content in their courses. Holly shared,

As I think about it, this must have been the same strategy taken by generations of professors in my field. As an undergraduate and graduate student, I cannot recall a single time a professor mentioned American Indians. As a professional, in my field, I had never read a research paper or seen a conference presentation about American Indians. I certainly had never met an American Indian in my field. American Indians did not seem central to my discipline.

First attempt at integration

After attending several IEFA professional development workshops, Holly decided to ask her FCS Methods students to create a unit plan; then they put together a presentation for in-service FCS teachers statewide. One group created lesson plans on Star Quilts and explained how the loss of the buffalo and the internment of Indians on reservations led to quilting. Another group of students taught about the health benefits of native foods found in Montana and the holistic qualities of medicine wheels. Still another group taught about storytelling as a means of transferring knowledge and created tribal specific bookmarks with basic vocabulary in several Indigenous languages (i.e., numbers, colors, shapes, animals, simple nouns).

At an IEFA Best Practices conference, Holly was invited to present her students’ work. She was worried since both Indian and non-Indian educators were in attendance. It turns out there were several unintentional errors in her students’ lessons. Like so many faculty members who are experts in their respective disciplines, dabbling in an area where they are neophytes can be daunting. Holly shared,

I fixed the errors and am still here to tell my story … most people applauded that I made an effort. I gained some
confidence that I could teach something about American Indians, although it was evident that future work should include more thorough research. I became determined to find and tell the truth about American Indians.

Holly’s attempt illustrates how important it is to learn from our mistakes and move forward. Her perseverance, inquisitiveness, and humility were admirable.

Working through cognitive disequilibrium

When an educator has always presented material from a Western paradigm exclusively as if it were the universal truth, including multiple perspectives in one’s teaching is challenging. Holly found this to be the case when she wanted to present a more authentic First Thanksgiving.

In the beginning, Holly confessed that she did not ever consider questioning the Thanksgiving story – she just looked for historically accurate foods and recipes. Since she had known the Thanksgiving story for as long as she could remember and everyone she knew confirmed the same story, she had never considered that the Wampanoag perspective could be different. Holly shared this description of the holiday:

In 1621, the Pilgrims travelled from England on the Mayflower seeking religious freedom. They were the first white people the Wampanoag people had ever met. One fall day, in celebration of their large harvest, the Pilgrims invited the Wampanoag Indians to a feast known as the first Thanksgiving. The pilgrims gave thanks to God and to the Indians for their successful year of harvest.

Changing curriculum to be inclusive of multiple perspectives

Holly was sure that the story was right. She was not sure quite how she knew it was true, but she definitely knew it was true. To her surprise, research proved that the story was almost entirely incorrect. Once Holly relearned the First Thanksgiving, she was able to address some of the myths that she had perpetuated with her students. They watched clips from We Shall Remain and 500 Nations, and read numerous accounts from the Indians’ point of view. Holly shared this realization regarding what she uncovered about the First Thanksgiving,

My students and I organized an ‘authentic’ Thanksgiving dinner for 4-H youth and their families. I knew that it was silly to think that turkey, stuffing, mashed potatoes, gravy, rolls and pumpkin pies were really a 400 year old tradition. I thought that the authentic Thanksgiving menu was going to be the big revelation for my students and the 4-Hers. What I did not count on, was learning that the Thanksgiving menu was the very least of major misinformation about Thanksgiving.

Taking a cultural plunge

Holly decided to step outside of her comfort zone and take a cultural plunge (Carjuzaa, 2007). She applied for a three day guided tour of the Crow Reservation to learn about the Battle of the Little Bighorn. She hoped that she would learn the ‘truth’ by actually being on-site. It was a trip designed to lead to multiple perspective understandings. Before leaving home, she was required to read Killing Custer, written by a respected member of the Blackfeet tribe. With the book read, she toured the Little Bighorn Battle National Monument with the help of a Sioux guide. The guide’s version of the battle’s events was markedly different from that of the book. Leaving the monument, they traveled to an elaborate re-enactment of the battle as choreographed by a Crow family, which was significantly different from the versions of the battle she had read and seen. Later that same day she watched a film, and found that the film had its own variation of events. The next day she listened to speakers from a variety of tribes, including the author of the book they had read, and Holly reaffirmed, there are always multiple truths.

In need of an action plan

Eight years ago, Holly confessed to being defensive and feeling guilty, ashamed and embarrassed by her ignorance of American Indians, and she thought silence seemed like the only rational, neutral action. However, as she
discovered, silence is not neutral. Silence means that one is knowingly letting myths and misconceptions perpetuate. It supports ‘conferred dominance.’ Holly shared, “It took me a long time to realize that silence in the classroom, was at the core of ignorance and that ignorance was at the core of racism. When I was silent, I was not being part of the solution, I was promoting ignorance.” After participating in several IEFA professional development workshops, Holly is more confident and has an action plan that is straightforward and doable:

All I need to do is to encourage students to seek multiple truths including truths from American Indian perspectives. I do not need to know all of the truths. My role is just to keep asking questions like: How do you 'know' something is true? Could it be that what you 'know' is just one dimension of a truth that is multidimensional?

Conclusion

Indian Education for All exemplifies the shared tenets of multicultural education theorists and the practice of culturally responsive pedagogy; it also addresses the historical and contemporary oppression of Indigenous peoples by transforming educational policy, curriculum, and pedagogy. By sharing our professional development offerings and highlighting Holly’s journey, we demonstrate how IEFA reaches beyond Montana's borders with a hopeful example, inspiring educators worldwide to become more culturally inclusive in their classrooms and cross discipline boundaries to enrich their teaching.

Educators need to acquire background knowledge, build confidence, make connections with tribal members, review and incorporate Indian content, and learn instructional strategies that complement the implementation of culturally relevant pedagogy in order to teach their students about the unique histories and cultures of Montana Indians. Faculty committed to this process, like Holly, need support in order to be successful. According to Banks and Banks (1997), our challenge is to create an education that will help foster a just and inclusive pluralistic national society that all students and groups will perceive as legitimate” (p.14).

References


Biographies

Jioanna Carjuzaa is an Associate Professor in the
Department of Education at Montana State University-Bozeman where she teaches multiple sections of Multicultural Foundations of Education, in addition to offering graduate courses in Social Justice in Education, American Indian Studies for Teachers, Indigenous Research Methodologies, and Culturally Responsive Pedagogy in Practice. She serves as co-advisor to the American Indian Council and as the facilitator for Indian Education for All professional development opportunities for MSU faculty, staff, and students.

Holly Hunts is an Associate Professor in the Department of Health and Human Development at Montana State University-Bozeman. Her current responsibilities at MSU include serving as the program leader for Family and Consumer Sciences Teacher Education and teaching a wide variety of courses. Her research is focused on innovative teaching techniques in FCS, Indian Education for All, and service learning. Her specialties and interests include: family/consumer economics, 4-H Foods Project, autism as a consumer issue, and national standards and exams for FCS teachers.
Introduction

The organizers of the 2012 Society for Teaching and Learning in Higher Education (STLHE) Conference launched a new session format called Cracker Barrel Discussions: 15-minute sessions repeated three times for different groups. We led one of these, our goal being interactivity; we also wished to share information about our course, Science 113: First Year Seminar in Science. We achieved these two goals by using a modified World Café discussion model (Cassidy, 2012), capped with a one-page handout overview of the course (Appendix).

In this paper, we describe the modified World Café model we used in our Cracker Barrel Discussion. In doing so, we also introduce aspects of Science 113, focusing on how we introduce writing to first-year students in the sciences, and examples of the ideas that Café participants came up with. We show that, in spite of challenges of space and time, rich discussion can take place in a conference session, and the cumulative contributions from participants we captured are a great set of key points as one outcome.

We place our modified World Café model in the context of the uses of traditional World Café and consider its utility in other settings such as the classroom.

Science 113: A Focus on Writing in the Sciences

This overview provides the context for how and why we used a modified World Café format in our session.

A group facilitation technique called World Café usually involves dividing a large number of people into smaller groups at tables, exploring a variety of topics around a key focus, and collecting ideas from the discussions to debrief later as a large group. We used a modified version of World Café during the new Cracker Barrel session format at the 2012 STLHE conference. Inviting conference participants to explore science through writing, we met our goal of interactivity and collected ideas from 33 people in spite of the challenges of time (a 15-minute session repeated three times for different groups) and space (11 participants around one table each time). The success of involving conference participants actively in this new conference format shows its value as a conference technique and also led us to consider its utility in the classroom or other settings.
Designed following best practices in course design, the *First Year Seminar in Science* (SCIE 113) at the University of British Columbia provides students with the opportunity to explore the nature of science and the role science plays in society (http://science.ubc.ca/students/new/first/113).

With writing being an integral component of the course, a key focus is for students to construct and articulate a coherent scientific argument. Students are given multiple opportunities through carefully designed in-class activities to achieve this learning goal throughout the term.

Our ethics-approved research shows that students in this course demonstrate significant improvements in their overall understanding of science and scientific inquiry. They come in with a solid understanding about the role of change, observations, and inferences in science and made significant gains in their understanding of social and cultural influences, laws versus theories, and methodology by the end of the course consistent with our learning objectives (Fox, Birol, Han, Cassidy, & Samuels, 2012; Birol, Han, Welsh, & Fox, 2013).

Writing in the sciences is a topic that we feel has the capacity to re-draw boundaries, which was the theme of the 2012 STLHE Conference. Hence, we invited participants in our discussion to talk about the value, challenges, and opportunities of introducing writing in the sciences. By the end of each 15-minute session, we hoped participants would take parts of our experience, add those of others, and then be able to ‘adapt their own recipe for success’ at their institution. We used this recipe metaphor to provide an overview of the course in the handout, which tied in to the modified World Café technique used in the session.

**World Café for Active Group Discussion**

World Café, a group facilitation technique developed by Brown and Isaacs (2005), makes effective use of the collective knowledge, questions, and views of a group. The technique is highly active and moves along quickly, with participants exploring a variety of sub-topics or questions in detail before moving on to a different sub-topic group. Traditional World Café, also known as Knowledge Café (Gurteen, n.d.), works well in sessions lasting several hours to multiple days (Change Management, n.d.).

Whatever the topic, facilitators pose unique questions or discussion sub-topics with one question assigned per group. Our main topic was Introducing Writing in the Sciences, and we posed the following sub-topics and questions:

- What terms would you use to describe science?
- In what ways do students receive feedback on their writing?
- How do you introduce writing in your course?
- How can writing help students connect to other disciplines?
- What topics work well for introducing writing in sciences?
- What is the value of introducing writing in the sciences?
- What are the challenges of introducing writing in the sciences?
- How do you help your students to construct and articulate a coherent scientific argument?

Usually taking place in a large room with tables, participants in traditional World Café discuss the unique sub-topic or question posed on a large piece of flipchart paper at their table. Note-taking by a scribe ensures the key points are recorded. After a period of time, usually 10-20 minutes, the scribe stays while the other participants disperse to other tables and sub-topics. Next, the scribe uses the flipchart notes to present a brief overview of the discussion that took place, followed by discussion of both new and existing ideas, for example, seeking clarification or building upon what has been noted, or adding something entirely new.

This process continues as time and sub-topics allow, with one scribe staying on each time. It is not necessary for every participant to have made it to each of the tables and associated sub-topics. Full group wrap-up can involve brief overviews from each table, open discussion, and/or a wrap-up by the facilitator to tie together the sub-topics or questions. Often the contributed material is summarized and shared with all participants. Traditional World Café takes a fair bit of space and time.
Modified World Café Model for Conferences

Knowing that we had only three 15-minute blocks for our Cracker Barrel Discussion and that each set of up to 11 participants was seated at one table, we used a modified World Café format designed specifically for the Cracker Barrel format (Cassidy, 2012).

We printed our questions and sub-topics on pieces of ‘mini-flipchart’ paper, which we distributed around the table. Each 15-minute block enjoyed a ‘full house’ of 11 people around the table. We encouraged participants to pick one mini-flipchart, chat to those sitting near them, record their key points, then choose another question or sub-topic and do the same with the same or different people. As each of the two subsequent groups arrived, we asked them to look at some of the last group’s contribution and then continue that discussion (following the same technique as with traditional World Café, save that no one except the session leaders stayed to summarize between the three sets of participants.)

We went back and forth between this group work and a whole table discussion, by doing such things as elaborating on one point from one mini-flipchart, asking if something noted by others was a shared experience (through a show of hands), asking if someone had a question or topic they wanted to talk about, and so on. In this way, then, we built in the kinds of whole group discussions that, in traditional World Café, are done after all the group and flip-chart switching work is over.

An Example of the World Café Contributions

Here, we provide a few examples from each of the sub-topic summaries:

What terms would you use to describe science?
• Wonder; uncertainty; exciting; progression; curiosity; imagination

In what ways do students receive feedback on their writing?
• Formal feedback from professor; peer feedback; office meetings; rubrics; audio feedback; one-page cover sheet on follow-up assignment that articulates how student incorporated peer feedback on new assignment

How do you introduce writing in your course?
• Show professional journals; project proposals; opinion paper; micro-writing, pre- and post-reflective writing; ask them to outline a ‘hot topic’ in their area.

How can writing help students connect to other disciplines?
• Helps to communicate their ideas, to form and organize ideas in coherent manner; interesting questions to write about are often cross-disciplinary; writing requires and encourages reflection, helping students in the creation of interdisciplinary linking; allow students to explore topics from multiple points of view

What topics work well for introducing writing in sciences?
• Current news; controversial topics; reflections on their observations and skills; critiques of articles

What is the value of introducing writing in the sciences?
• Students who continue in science must be able to write – for grants and submitting papers; writing is a way to learn concepts and processes; forces students to articulate what they think they know; most employers want better writing

What are the challenges of introducing writing in the sciences?
• Understanding the difference between an essay and the scientific writing genre; vocabulary of scientific literature; students don’t think writing is part of science; class size (grading)

How do you help your students to construct and articulate a coherent scientific argument?
• Read scientific literature; write papers that examine both sides of an argument, showing
evidence to support their arguments; analyze others’ writing; modeling and explaining that writing is thinking; after teaching students to ‘break problems down,’ writing assignments help in getting them to put the pieces back together.

Our experience working with 33 participants at our session indicates that academics are both excited about science as well as the importance of articulating aspects of it in writing in the sciences. We feel that those who attended our session left with ideas they will continue to reflect on and use in their own teaching practice; all this in 15 minutes per participant. For us, the results of the conference activity were very useful in informing practice.

Using Modified World Café in Other Conference and Classroom Formats

We found that World Café can work well in short sessions with multiple groups rotating through a session, such as the Cracker Barrel format. This modified World Café model could also work well in a 1-hour roundtable conference format because of the abbreviated time. If leading a half-day or full-day conference workshop, traditional World Café, with its multiple tables and more lengthy discussions, is likely the best option for facilitating an interactive exchange of ideas between participants.

Modified World Café could also be used as a highly interactive activity in a 50-90 minute class, regardless of the class size or physical structure of the room. It is important to encourage people to talk with each other, not just take each mini-flipchart and silently write. The model could also be used to start a session of any duration, before moving into other activities built around what participants noted on the flipcharts, perhaps as a form of pre-test or warm-up to a new topic. Delaney, Daley, & Lajoie (2006) found World Café to be an excellent format to facilitate empowerment and stimulate scholarly dialogue, particularly in nursing courses. Likewise Anderson (2011) notes its utility as a group technique that works well for introducing new and challenging ideas and encouraging reflection.

Given the limited published literature on the use of World Café in any setting, we feel this is a topic worthy of more scholarly consideration.

Conclusion

We found this modified World Café technique to be an effective way to lead a dynamic and interactive session in the new Cracker Barrel session format at the 2012 STLHE conference. With only 15 minutes per group and three groups per session, the session was highly participatory, with many contributions and lively discussions that have the capacity to inform practice. Our metaphor of ‘recipes for success’ worked very well to not only describe our course, but to involve conference participants in an exploration of writing in the sciences. The sample of contributions to each of the sub-topic mini-flipcharts shows the level of critical thinking and sharing that went on during the session. It is easy to see how any one of the sub-topics or questions could later be the sole focus of another conference session or workshop. Moreover, there is great potential to use modified World Café in a classroom setting of any duration.

Acknowledgements

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**Biographies**

Alice Cassidy is the Course Coordinator for Science 113 in the Faculty of Science at the University of British Columbia. She is an educational developer and science educator.

Joanne Fox is the Director of First Year Seminars in the Faculty of Science at the University of British Columbia. She co-designed Science 113 and is a Senior Instructor in the Department of Microbiology and Immunology.
Appendix
Overview of Aspects of Science 113

Our recipe for success:

*Invite students…*

- Designed for first-year science students to explore the nature of science, the important roles science plays in society, and how to construct and articulate a coherent scientific argument that is evidence-based
- Students study science in society, scientific process, and how to communicate scientific concepts
- Class size limited to 26 students (with first-year standing in Science), 3 x 50 min sessions/week, offering new students a more meaningful and connected academic experience, to successfully transition from high school to university
- Science and Society Speaker Series 7 times in term – to help expand students’ horizons so they think widely about their future and what they can do with a science degree

*Blend in-class and other writing…*

- 3 in-class essays based on Writing Prompts, to practise argumentation skills, then submit to online Calibrated Peer Review (CPR) where students give and receive feedback from peers
- Term Project including Abstract and references, has 4 stages for feedback before final is submitted
- Grading rubrics and written comments on the in-class and Term Project writing
- Other writing includes short paragraphs based on readings, note-taking “Evidence Worksheet” exercises during Speaker Series, 1-minute written reflections and other assignments chosen by faculty

*Create a team and support it…*

- Provide faculty an opportunity to work with a small group of highly motivated first-year students, to expand own view about science, teach based on a well-designed and evolving syllabus with clear learning objectives
- Hire graduate student Teaching Assistants (TAs) who help facilitate discussions and track some grading components
- Instructional team supported by meeting every 2 weeks, quick response to email queries, Course Coordinator, SOTL researchers, binder of lesson plans and background readings, blog discussion and web materials

*Assess the course, fine-tuning as needed…*

- Design course based on science education research principles
- Follow a course evaluation plan including how we collect evidence from student work; student, faculty and TA surveys, interviews and other instruments, all ethics-approved
- Hold regular meetings of the research team; tweak course as needed during term, conduct in-depth course development between academic terms
- Present at conferences to share ideas with colleagues; work on publishing in SoTL and science education journals
Evidence in Support of Removing Boundaries to Undergraduate Research Experience

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Undergraduate research is one of several high impact educational practices used by educational institutions to increase student engagement and success (Kuh, 2008). Many studies on the impact of undergraduate research have surveyed students or faculty on their personal experience and its influence on students’ subsequent degrees and employment (Brownell & Swaner, 2010). These studies have documented the ability of high impact educational practices to have the greatest influence on those students who self-identify as belonging to a minority or disadvantaged group. Few studies, however, have documented the impact on students with lower grades. The privilege of being admitted to an undergraduate research experience (e.g., an independent studies course) is typically reserved for upper-year students who have proven themselves academically. This paper presents correlational data from our campus showing that academically weaker students have a greater increase in academic performance between prior grade point average (GPA) and final grade in an independent studies course than academically stronger students. In addition, student annual GPA data shows that the impact of undergraduate research serves to raise students’ GPAs in the year of an independent studies course. Although the findings are based on data from one small campus, they do raise the question that if undergraduate research has the greatest impact on academically weaker students and accelerates academic maturity, is limiting registration into these courses on the basis of superior GPA and years of study placing inappropriate boundaries on student learning?

Introduction

Undergraduate research is one of several high impact practices used by educational institutions to increase student engagement and success (Kuh, 2008). Lopatto (2007) writes that it enhances students’ independence, intrinsic motivation to learn, and active participation in subsequent courses. Access to undergraduate research, however, has been limited to those with superior grade point average (GPA) (Harde & Haave, 2012). Many studies on the impact of undergraduate research have surveyed students or faculty on their personal experience and its influence on students’ subsequent degrees and employment in addition to increasing retention of students in their degree program and contributing to students’ emerging sense of self-identity (Brongo Pacifici
& Thomson, 2011; Brownell & Swanel, 2010; Marcus, Hughes, & McElroy, 2010; Nagda, Gregerman, Jonides, Von Hippel & Lerner, 1998; Seymour, Hunter, Laursen, & Deantoni, 2004). Brownell and Swanel (2010) have shown that, as a high impact practice, undergraduate research seems to have the greatest influence on those students who self-identify as belonging to a minority or disadvantaged group. Current research suggests that the reason undergraduate research has a high impact on student outcomes is that it engages students at a higher epistemic level causing students to consider the science act (i.e., what, how, and why they are investigating a particular question) beyond following a set of instructions as is common in more traditional courses with an accompanying lab (Brongo Pacifici & Thomson, 2011; Sadler & McKinney, 2010). Other studies have demonstrated that undergraduate research courses produced significantly higher GPAs, and that engaging in more than one undergraduate research course has greater impact on increasing graduating GPA even though students themselves do not realize prior to engaging in an undergraduate research experience the degree to which their GPA will be positively affected (Brongo Pacifici & Thomson, 2011; Fechheimer, Webber, & Kleiber, 2011; Jonides, 1995; Kinkel & Henke, 2006). No studies, however, have documented the impact on students in general with lower grades or whether the impact is observable prior to graduation.

Our Study

For our study, we asked the following two questions:

1. Do students with lower GPAs gain greater benefits from undergraduate research?
2. Are any differences long lasting?

Although undergraduate research experiences (UREs) can take on a number of forms for students (e.g., summer student research assistants, independent studies courses), for the purposes of this study we defined a URE as an independent studies course because this allowed us to use the grade earned to examine the effects of a URE.

Do students with lower GPAs gain greater benefits from undergraduate research?

To answer this question, we gathered data for 201 students enrolled in undergraduate research experiences between 2006 and 2011 at the Augustana Campus, a Liberal Arts and Sciences Faculty, of the University of Alberta. Students were enrolled in a variety of programs from the Fine Arts, Sciences, Social Sciences and Humanities. For the purposes of this study, we assumed that an undergraduate research experience was encountered in any independent studies course (e.g., directed reading, directed studies, etc.). We analyzed the relationship between students’ cumulative GPA prior to the URE and their final mark in that course.

In our sample, on a 4-point scale, students’ GPAs prior to an independent studies course were skewed toward higher values (> 3.2, N = 123 students) although a substantial number of students (N = 78) with lower GPA (< 3.2) took part in those courses (Figure 1a). In our analyses, we used that mean value of GPA as a threshold between the higher GPA student group (GPA > 3.2) and the lower GPA student group (< 3.2) when making comparisons between groups. Mean values are expressed ± one standard deviation (SD) and P values under the threshold of 0.05 in statistical analyses are considered significant.

Independent studies course grades were generally higher than prior GPAs (Figure 1b) and students across the full range of GPA achieved high URE grades (Figure 2). Even though the higher GPA student group achieved significantly higher mean course grades (higher GPA group = 3.89 ± 0.22, lower GPA group = 3.48 ± 0.8, Mann-Whitney U-test, P < 0.001), the relative benefits of undergraduate research, measured by the difference between a student’s prior GPA and their independent studies course grade (URE – GPA), were greater for students with lower GPAs (Figure 2). For this group, mean URE was 0.80 ± 0.83 points higher than their prior GPA, in comparison to 0.27 ± 0.27 for the higher GPA student group. Those differences are strongly significant (Mann-Whitney U-test, P < 0.001) as P values below the threshold of 0.05 are considered significant. In fact, 65.5% of students from the lower GPA group achieved > 3.7 (i.e. in the A - A+ range) in their URE course grade. What this suggests is that academically weaker students (as defined by their prior GPA) perform better in a URE than would be expected based in relation to their prior GPA.

Are the differences long lasting?

We addressed this question by investigating the temporal trends in individual GPAs for students who
enrolled in an independent studies course exclusively during their third year (N = 18) and those from a cohort of comparable size (N = 20) who did not enroll in an independent studies course during their entire degree program. Our sample size here is smaller than in our previous analyses because many students take UREs in their fourth year, which we excluded in order to focus on the lasting effects of UREs beyond the year in which they were taken. We used one-way repeated measures analysis of variance to compare GPAs between years of study.

In both groups, students’ GPAs increased from year two to four (Figure 3). Overall, there were significant differences in GPA among the year levels for both groups (P = 0.005 for URE students and P = 0.006 for students with no independent studies course), and our results indicate that the effects of the URE on GPA lasted beyond the year during which the directed studies took place since there were no significant differences in GPA for students with URE between years three and four. In contrast, the GPA of the control group was significantly higher in year four than it was in year three (P = 0.027).

The solid line represents the actual linear regression among the data points, r² = 0.18, p < 0.001, n = 201 (duplicate data points do not show on the graph). The dashed line represents what the linear regression would have been if the URE final grade had equaled the prior GPA.
Conclusions

Being admitted to independent studies courses is often reserved for students with outstanding grades with the assumption that prior academic success is a sufficient predictor of success in undergraduate research. However, our data reveals that the majority of students with lower than average GPA earned relatively high grades in those research courses, hence receiving accrued benefits from the experience (Figure 2). Admission to UREs based only on prior GPA thus appears to be counter-productive by denying access to high impact educational experiences from students who would most benefit from it.

In addition, students’ GPAs in the year the independent studies course is completed are higher relative to students who do not enroll in independent studies (Figure 3), but the GPAs of students without independent studies rise to the same level in the subsequent year. Essentially, undergraduate research seems to raise student GPA a year earlier. These results agree with previous studies in that undergraduate research has a positive impact on student GPA, but the effect seems to be initiated during the year in which students are enrolled in independent studies (Fechheimer et al., 2011; Kinkel & Henke, 2006).

Thus, similar to Kinkel and Henke’s (2006) conclusions, it appears that the impact of UREs on students GPA is not solely due to a high grade in the URE but rather to a general improvement in academic performance across many disciplines. Others have shown that the more UREs a student encounters, the greater the increase in graduating GPA (Fechheimer et al., 2011). A key difference in our study is that we compared GPA for individual years, not the graduating GPA. It may be that the effect Fechheimer et al. (2011) noted in students’ graduating GPA is due to their GPA rising in an earlier year than students who do not enroll in an independent studies course. Increased GPA during the year that a student is enrolled in undergraduate research has also been observed at other institutions (Marcus et al., 2010). Together, our results suggest two things:

1. Enrolment in undergraduate research should not be limited to students with superior GPA when the goal is to promote success through engagement.
2. Undergraduate research should be made available in earlier years and not only in students’ senior years.

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Figure 3

*Current year’s GPA for students with and without an undergraduate research experience in year three of their undergraduate studies*

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2 Significant differences were found between years 2 and 4 (*) and years 3 and 4 (+) for students who never engaged in an URE and between years 2 and 4 (¤) for students who completed an URE.
When considering the implications of our study, the context in which the data were gathered must be considered. Augustana is a rural campus of approximately 1000 students that houses a Liberal Arts and Sciences Faculty of the University of Alberta. Thus, the student data analyzed for this study is a relatively small set that includes students from various disciplines in both the Arts and Sciences. In addition, ours is a correlative study that assesses a possible relationship between students’ final grade in an undergraduate research experience (defined as an independent studies course in this paper), students’ GPA before completion of the undergraduate research experience and students’ GPA in the subsequent year. It is important to note that other mitigating factors can and will influence student GPA and final grades in individual courses (e.g., differences in textbooks, instructors, student cohort ability, classrooms, learning technologies, etc.). However, for the purposes of this study, we only considered differences in students’ grades between those students who completed an undergraduate research experience and those that did not. Our data suggests that UREs may positively impact students’ academic performance.

A recent study suggests that the benefits of undergraduate research last far beyond students’ undergraduate education extending into their career for those who pursue science after completion of their bachelor’s degree (Harsh, Maltese, & Tai, 2011). It is interesting, however, that during the undergraduate research experience studies have reported that faculty and students have slight differences in their perception of the benefits being accrued. Although both faculty and students rated improving thinking skills and working like a scientist high, students rated intellectual and personal development higher than socialization into science, whereas faculty reversed this relative rating, suggesting that faculty and students have slightly different perceptions of the role of undergraduate research in students’ academic and personal development (Hunter, Laursen, & Seymour, 2007). Regardless, there is strong support in the literature for the high impact that undergraduate research has on student learning outcomes, preparedness for subsequent careers and raising course grades (Brownell & Swaner, 2010; Junge, Quinones, Kakietek, Teodorescu, & Marsteller, 2010). Thus, it appears to be counter-productive to deny access to high impact educational experiences to students who would most benefit from them.

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**Acknowledgements**

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**Biographies**

Neil Haave is Associate Professor at the Augustana Campus of the University of Alberta where he has been teaching biochemistry, cell biology, and history and philosophy of biology since 1990. As Associate Dean (Teaching) he is interested in raising the profile of, and increasing student participation in, undergraduate research.

Doris Audet is Associate Professor at the Augustana Campus of the University of Alberta where she teaches courses related to vertebrate zoology, animal behaviour and conservation biology. Her overarching goal as an undergraduate educator is to promote the integration of teaching and research in order to engage students in the scientific process in as many ways as possible.
The Transformative Potential of Creative Assignments in Higher Education

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This paper encourages shifts in praxis to promote the thoughtful inclusion of creativity into higher education assignments in order to broaden and deepen student experience, and offer greater integration between required assignments and the complexity of students' lives. Obstacles to integrating creativity into academia are also briefly explored. An example of what is meant by a creative assignment, from a second-year undergraduate Community Studies course, is offered, illustrating the transformative learning potential that can be stimulated through this application. Faculty observations and quotes from student surveys serve as additional evidence of students' enthusiasm, growth, and personal empowerment achieved through this type of assignment.

Introduction

...creativity is more than just fashionable – there is a growing body of evidence to suggest that it is already one of the key drivers of commercial success and social betterment. By implication, universities should be teaching those aspects of creativity that are amenable to being learned. (McWilliam, 2007, p. 2)

As the above quote asserts, there are incentives to integrating creativity into higher education in order to meet the needs of the modern workforce as well as to facilitate students’ growth into the richness of becoming more fully human. Likewise, there are also constraints on incorporating creativity into academia, ranging from the personal to the systemic. These include resistance on all levels: from administration, faculty, student, and government policy (Jackson, 2008).

At the most basic level, the complexity of the concept of creativity itself can be perceived as an obstacle (Jackson, 2008). Though creativity and creative thinking are well explored within the literature, definitions remain wide ranging, and thus, confusing to the practitioner. In educational contexts, creativity can involve self-expression and the arts, imagination, producing something original, working across disciplines, demonstrating openness to experiences, or complex problem solving (McWilliam & Dawson, 2008).

Despite accumulating data about the value of creativity in all realms of life, creativity is rarely an overt learning objective in higher education, with the obvious exception of the fine and performing arts (Donnelly, 2004). This is seen in contrast to critical thinking, which
has been embraced from preschool on up to the highest levels of teaching and learning (Brookfield, 1991; Case, 2005). Creativity and critical thinking are often perceived as residing at opposite ends of a spectrum—the first based in the imagination and the non-rational, the second grounded in rational and logical processes. Yet literature repeatedly acknowledges that creativity and critical thinking are intertwined (Clegg, 2008; Paul & Elder, 2008). For educators, focusing on one at the expense of the other reinforces a false dichotomy—one simply does not have one without the other in day-to-day functioning.

Though teaching to multiple intelligences (Gardner, 1983) is sometimes integrated into higher education classrooms, when it comes to enhancing student understanding of course materials through assignments, more often than not faculty revert to papers, essays, and exams. Assignments are one place where creativity can be incorporated into teaching and learning, reaching beyond linguistic intelligence to incorporate inter- and intra-personal knowing, as well as engaging with kinaesthetic, musical, and other realms of expression. With clear pedagogical intentions, creative assignments can support students’ growth and transformation within any discipline (Donnelly, 2004). These are not, however, just ‘tricks of the trade’ to be dropped into standard course delivery. They need to be integrated with curricular goals that make it clear why students are being asked to think and act through the incorporation of creativity and creative assignments.

Context and Positionality

At the center of transformative learning theory is the notion that we uncritically assimilate our values, beliefs, and assumptions from our family, community, and culture. In other words, we adopt the dominant ideology as the normal and natural way to think and act. When we are able to recognize that these beliefs are oppressive and not in our best interests, we can enter into a transformative learning process. (Taylor, Cranton, & Associates, 2012, p. 7)

Not surprisingly, there are a multitude of challenges when teaching from a transformative perspective within the hegemony of a traditional university system, with as many concomitant benefits for faculty and students. A significant issue is the fact that students arrive with expectations about what learning is supposed to look and feel like. Most are accustomed to running along well-worn educational tracks established over many years (e.g., what a learning environment looks like including classroom setup, teaching style, assignments, exams, etc.). When faced with their first creative assignment, one can almost see mental wheels spinning: ‘This is not what academia is about. I’m supposed to be taking detailed notes from lectures, writing 30 page papers with references, and studying for tricky exams!’ In Mezirow’s (1990) conception of transformative learning, this represents a disorienting dilemma, often the initiating phase of an experience leading to the re-examination of previously held beliefs.

Much of the freedom I have ‘to disorient’ rests within the pedagogical premises and supporting structures of the department within which I teach. These include the co-creation of student-centred, collaborative learning environments that value learning processes as well as outcomes. Working with small student groups, I can offer opportunities to discover relationships, generate ideas, problem-solve, imagine, think outside the box, and engage in synthesis, all of which fall within the broad realm of creativity. I also model creativity in my teaching by incorporating music, theatre games, video, contemplation, storytelling, and graphic representations.

Students and I have observed benefits from incorporating creativity into assignments and the transformative potential of doing so. The assignments can open doors to deeper collaboration and more profound learning community experiences, while also helping to reconceptualize how learning can look and feel. As expressed by Taylor et al. (2012), using the arts as a form of creativity can “take us out of our heads and into our bodies, hearts, and souls in ways that allow us to connect more deeply with self and others” (p. 471). Students also indicate that creative assignments help to increase motivation and interest in the class, as revealed in these brief excerpts from a year-end survey regarding creative assignments offered to both first- and second-year undergraduates:

They made me really think outside-the-box and really express myself and not hold back.
It [creative assignment] shows you what you’re really capable of.

You should do more of these! It made heading to class worth it.

Kept me interested. Was a lot better than writing papers. And the assignments had more meaning.

While the majority of student responses were positive, as faculty I observed clear differences between individual students’ depth of understanding. Subsequent sharing and collaborative processing of an assignment often took students deeper than they were able to go on their own.

Over the course of the academic year, students wrote and performed two voice poems, produced rap songs, collaboratively crafted photo essays, artistically explored their worldviews, and designed YaYa boxes as a creative form of self-assessment. What follows is an example of a student assignment looked at in some detail, with image and words excerpted from a year-end survey. Also included are faculty pedagogical intentions and observations as recorded in a teaching journal, along with additional students’ thoughts and comments.

A Worldview Assignment

I recently offered the Worldview Assignment in a second-year undergraduate Approaches to Research course. I introduced it early, prior to exploring the epistemology, ontology, and methodologies of the various research paradigms. My intentions were for students to come to understand their own worldviews and share them with one another. They were asked to reflect on the people, places, events, and other beings that influenced them to become who they were, exploring premises or beliefs that define the way they view themselves. From this perspective they could begin to grasp how worldviews are intimately connected to the ways in which we interpret, engage with, and act in daily life. My belief is that gaining insight into a diverse other’s worldviews makes it easier to perceive the significance of different research approaches.

As this was one of the first creative assignments students encountered in academia, my introduction was met with blank stares and the inevitable question, ‘But how many pages?’ Consequently, time was spent elucidating the pedagogical premises for integrating creativity into academic assignments. Since they were asked to create a visual or musical representation, I emphasized that this work was not about artistic ability, but about accessing parts of themselves that can be constrained by words. I spoke to how this kind of activity can take us to places where our surface mind does not normally venture (Lawrence, 2005). Moving beyond language to visual or musical representations can allow us to challenge perceived limitations and stereotypes (Greene, 1995; Olson, 2005). I explained that this course would offer a balance of creative and more traditional work, and I confirmed that there was indeed no paper due.

For many, this challenged their definition of an academic assignment and constituted a disorienting dilemma, initiating a transformative learning experience “followed by a series of learning strategies involving critical reflection, exploration of different roles and options, and negotiation and re-negotiation of relationships” (Taylor, 1997, p. 51).

This assignment came in all sizes and formats, ranging from collages to digital representations. For example, Figure 1 was done on an 8 ½ x 11 sheet of paper with the use of pencil, ink, and watercolours. When presenting her worldview to her classmates, Connie (pseudonym) stood up and abruptly announced that she was autistic and that she normally would not share this information openly with peers, but that if we were to understand her worldview, this was crucial. She explained how at a young age her world seemed bright and sunny,
as represented on the left side of the drawing. However, upon entering junior high school she was bullied every day, and her view of the world became bleak. Wherever she looked she now saw evil and darkness, as represented on the right side of her drawing.

This was a key moment in the evolution of this group. Though only the third week of class, my observations showed evidence that Connie was beginning to be excluded due to some atypical behaviours. It was in the sharing of this assignment that light bulbs clicked on, as students recognized their exclusive tendencies. In creatively representing and communicating her worldview, Connie elicited areas of commonality among student experiences (such as being bullied) and heartfelt discussions ensued. This was not only an opening for Connie’s transformation, but equally for others. In response to a year-end survey exploring students’ experiences with the series of creative assignments, Connie was clear about the benefits of the worldview assignment:

**For once I had to talk about my history instead of hiding it and being judged for my outlook...Let’s face it, an essay wasn’t going to bring out the raw emotion we saw in the worldview project.**

I participated in this first assignment in order to demonstrate that I saw myself as part of the learning community, as well as to model the depth and breadth I expected in creative assignments and the learning potential therein. As demonstrated elsewhere, educational environments where students experience a balance between safety and risk taking build trust and genuine relationships; appropriately challenging endeavours can be supportive of both transformative learning and the creative process (Cranton, 2006; Mezirow, 2000; Kleiman, 2008). My own observations, student self-evaluations, and survey responses affirmed that this assignment had helped to bring about a profound shift in perspectives: Personal insights were gained, dominant norms about inclusivity were critically questioned and examined, and previously oppressive behaviours were challenged and revised.

**A Few Words About Assessment**

The aspect of creativity that poses the greatest challenge to teachers is how to assess it (Jackson, 2008). It should come as no surprise that, when experiencing the multiplicity of demands in academic life, faculty tend to fall back on the familiar. And yet, if our goal is to educate whole persons, accessing creativity in academic assignments is vitally important. As we ask students to step outside of their comfort zones, faculty also need to confront the hegemony of academic environments that control what is perceived as possible.

Furthermore, unless we locate ourselves within the fine arts, we are not trained to discern quality artistic representation, nor should we attempt to. It would also not be appropriate to attempt to evaluate whether or not transformative learning has transpired. What we are looking for is the student’s level of engagement with the material. As Allam (2008) suggests, “It is necessary to separate process from product” (p. 284). Thus, it can be helpful for a creative assignment to also include a presentation or critically reflective paper in order to facilitate the elucidation of the student’s understanding and experience with the creative process and content.

I have observed a marked difference in student confidence about these assignments as the semester progresses. Rather than trying to discretely hide their creative work, as is common towards the beginning of the course, students express pride and can articulate their profound learning:

**Even though at first they seemed like easy assignments, they made you have to DIG DEEP!!**

**It surprised me that these assignments involved so much critical thinking!**

**These assignments help to keep our minds open.**

**I learned that I am capable of thinking deeply and being a more creative person than I originally thought.**

The primary intention of this paper is to stimulate other educators to explore the potential of introducing creative assignments into their practice. There is ample evidence of students’ enthusiasm, growth, and personal empowerment throughout the paper. As noted earlier, some students’
initial responses to these assignments were incredulous. While at first seen by some as simplistic, student surveys and my own observations have corroborated their value and encouraged me to continue developing and implementing them. Whether this transformative learning potential is due primarily to the creative aspect of these assignments, or the result of a combination of ingredients including creativity calls for further research.

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Biography

Nicky Duenkel is an Assistant Professor in the Community Studies Department at Cape Breton University. Her current teaching and research interests focus on the co-creation of transformative learning environments; the potential for action research methodologies to foster profound personal, social, and ecological change; and exploring the relationship between contemplative pedagogy and transformative learning.
The Academic, Social, and Migratory Experiences of International Graduate Students Enrolled at the Université de Montréal: A Study of Persistence

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Université de Montréal

From its earliest times, higher education transcended geographic boundaries so nowadays international students are a significant element of the social and cultural landscape of higher education, but international graduate students form a diverse group with different motivations for study and have become a sizeable segment of the student body in the Canadian higher educational system. However, this specific student population has not been completely understood and their diverse experiences have not been explained. This research paper deals with the issue of persistence among international graduate students enrolled at the Université de Montréal. Because the number of international graduate students has increased, strategic, social, and economic goals must be discussed. Hence, the purpose of this research is to develop a strong understanding of the factors influencing persistence and student success.

Purpose

According to Altbach and Teichler (2001), the global mobility of people and globalization contribute to the fact that students have more opportunities to study abroad. The number of international students has significantly increased in most universities. For example, between 1999 and 2007, the number of international students has significantly increased by 53% and six countries in the world host about 62% of international students, representing 2.8 million individuals who study outside their home countries (UNESCO, 2009).

Over the last fifteen years, Canadian universities have used various strategies to attract highly skilled talent from all around the world. Most institutions recruit international graduate students through a variety of approaches: they promote themselves at education exhibitions, they advertise in local media or they employ local agents to provide the institution with information on programs and financial facilitation for example. They understand that the presence of international graduate students contributes to the internationalization of campuses, stimulates research and innovation (McHale, 2006), and also offers significant economic benefits (Conférence Régionale des Élus de Montréal, 2006; Kunin & Associates, 2012). International students contribute more than $8 billion per year to the
Canadian economy, and they enrich Canadian society with their ideas and different perspectives (CIC, 2013).

Indeed, Canada is one of the major host countries to international students. Last year, and for the first time in its history, Canada welcomed more than 100,000 students, an increase of 60% since 2004 (CIC, 2013). However, we do not know much about international graduate students in Canada. Although we think they play a key role in the economic performance of their host country, and despite their ubiquity, international graduate students on Canadian campuses have been understudied, there is a limited body of research on international graduate students’ persistence.

I have chosen to study the academic, social, and migratory experiences of international graduate students enrolled at the Université de Montréal. In this institution, the total enrollment of international students increased from 2,536 to 4,287 between 2003 and 2012, an increase of 69% representing 23.8% of the graduate enrollment at the university (Bureau de la Recherche Institutionnelle, 2013). Hence, the purpose of this research is to develop a strong understanding of factors impacting on international graduate students’ persistence.

Theoretical Framework

A large number of theories on attrition and retention in postsecondary education have explained persistence in higher education as the result of complex interactions over time, and, according to the research, the most important one is Tinto’s longitudinal model of attrition (Tinto, 1993). Tinto’s model considers the impact of academic integration and social integration in a new environment. The first one, academic integration, refers to the university as a place of learning, and stresses a student’s interaction with the institution and more broadly with the academic staff. The second one, social integration, refers to school activities and emphasizes the organization of the university as daily interaction with peers (including other students). A successful (or unsuccessful) integration might push a student to review his or her initial goals and to decide whether or not to complete their studies. Is that model applicable to the international graduate students?

I noted that Tinto’s model in particular is not sufficient to understand persistence among international graduate students. Thus, I wanted to analyze the academic, social and migratory experiences of these students and the meaning they give to such experiences (Dubet, 1994; Rochex, 1995). Finally, I wanted to explore the concept of temps de l’étrangeté 1 (Coulon, 1997). In other words, the innovative approach was to choose two complementary sociological points of view, the sociology of academic and social experience and the ethnomethodology and to combine them with Tinto’s model of attrition.

The specific purpose of the research is to build a more detailed model for understanding life and study conditions among international graduate students enrolled at the Université de Montréal. Based on the fact that their life and study conditions are different but not necessarily more difficult than their Quebecois counterparts, I first identified the relative importance of different factors of persistence among these students.

Such a framework provides the basis of methodological tools that will first contribute greatly to helping international graduate students clarify their social and academic experiences and as a consequence will help them understand factors impacting their persistence.

Questions of Research

International graduate students encounter many of the common problems that Canadian graduate students confront. The research questions are as follows: What are the factors of persistence among international graduate students, and how do the academic, social and migratory experiences of international graduate students impact their persistence? In addition, it was relevant to determine whether there are other factors and to identify other resources used by these students to overcome difficulties (strategies, integration, social networks, etc.).

Data Sources and Method

This study was conducted at the Université de Montréal,

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1 The Temps de l’étrangeté, literally translated as ‘time of strangeness,’ refers to the first steps of an individual in his or her new environment. This period is described as a very sensitive and crucial moment as the individual loses their former landmarks (family, country, social status) and has to find new ones. In the case of international graduate students, the temps de l’étrangeté is obviously a crucial period in their host university and country.
one of the largest universities in the city of Montréal. The university enrolls approximately 46,000 students annually, including approximately 4,200 international students from more than 100 countries. Regarding my methodology, this exploratory research used a mixed method.

The first step consisted of a descriptive and regressive data analysis (n=2566), in order to paint a portrait of the international graduate students in Montréal and major trends of persistence. I received institutional data from the Bureau de la Recherche Institutionnelle of the Université de Montréal. The database contains a wide range of variables (age, gender, origin country, mother tongue, faculty, program, GPA, amount of scholarships and salary on campus, persistence at the last semester, etc.)

I also wanted to discuss students’ ability to make sense of their academic and social experiences. In the second step of the research, ethnographic semi-structured interviews were conducted with a limited number of volunteers (n=9). In the semi-structured interviews, a standard set of 25 questions were used, covering all aspects of international graduate students’ experiences. The interview format generated a large volume of valuable data, providing substantial insights into academic and social integration, both in the host and the home countries. Semi-structured interviews were like conversations. I asked them a stem question on a topic and followed with impromptu questions based on their answers. This interactive method enables wholly new issues to emerge (i.e., specific factors). During the interview, students were asked about a range of issues including their reasons for undertaking doctoral studies at the Université de Montréal, how they became interested in their discipline, what made them choose to come to Canada to study, etc. In other words, the questions focused on aspects of the social and academic experiences in both host and home countries and institutions.

The study was generated by problems I observed in my day-to-day life as an international graduate student at the Université de Montréal. As a migrant researcher myself, it was easy to access and discuss with international graduate students. The participants and I mutually construct our ‘shared heritage’ as international graduate students during the research process. Reference to our ‘common status’ became a powerful tool as proximity in the interview was achieved through the similar migratory, academic and social experiences.

Findings

The most common challenges encountered by international graduate students are related to cultural and social shock, to financial limitations and to linguistic and academic competencies (academic composition, note taking, presentation skills, academic integrity, etc.). Results of the regression analysis indicate that persistence among international postgraduate students enrolled at the Université de Montréal is influenced mostly by economic and academic factors, such as scholarships, relevant work experience on the campus (teaching assistantships and research assistantships) and French language skills.

For most international students, forming friendships, especially with fellow students, and immersion in the host country’s culture are their main goals. However, our findings draw a picture of two different groups of students: those who step over most barriers with ease and, by contrast, those who are isolated and disadvantaged by their lack of contact with Canadian students and do not identify with the host country at all. The second group of students found themselves confronted by the peer culture of the University, which necessitated a major cross-cultural adaptation and resources to do so. Students from developing countries experienced greater difficulties in social and academic adjustment, and they felt rejected by fellow students while working in groups during classes. Regarding their social and academic integration, they still have to deal and struggle with cultural boundaries, a lack of intercultural friendships and a general discomfort, even though Canada is described as a welcoming society. Findings also suggest the positive influence of good quality interactions with their thesis supervisors. Finally, and in a different matter, international students mention a strong relationship between their well-being and food. As a vehicle for maintaining their cultural identity in Canada, they struggle to accept a totally different food. Obviously, food is an important determinant of international students’ well being and general comfort in the host country.

To sum up, a large range of factors impact international graduate students’ persistence: quality of their social and academic integration, intercultural friendships, interaction with their supervisors, food habits, etc. and we understand that the most important ones are academic factors and financial supports as they have a greater impact on international students well-being, persistence, and success.
Discussion

Institutions see international graduate students as adding cash value. Indeed, it could be quite relevant to discuss how international education contributes to the economy, prosperity and well being of host societies and academic institutions. But it could be more interesting to discuss how institutions contribute to the international students success by supporting them. My doctoral research shows that studying abroad can be a stressful experience, and the role of financial supports and academic integration is still under-researched.

The article concludes with implications for practice and for further research. This knowledge could assist campus leaders in understanding the influence of crucial and considerable financial supports such as the scholarships and relevant work that international students need the most. Further research may focus on how institutions and host countries can create living and learning spaces across cultural boundaries. In other words, understanding the complexity of the persistence process will support international students, such as providing a climate for positive learning and living, a room set out, for international students, to meet Canadian students for example.

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Biography

Sarah Mainich is a doctoral student in the educational foundations program at the Université de Montréal. She is an international student from France. Her research interests include international students, sociology of education and persistence/success in higher education.
UDL – From Disabilities Office to Mainstream Class: How the Tools of a Minority Address the Aspirations of the Student Body at Large

Frederic Fovet & Heather Mole
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Confronted by the increasingly changing and varied nature of disabilities in higher education (Bowe, 2000; McGuire & Scott, 2002), disability service providers across North America are progressively moving away from targeted remedial assistance focusing on the disabilities of students to a less frontline role involving the sensitization of faculty around strategies that seek to widen access and develop awareness (Sopko, 2008). Universal Design is hence often the model of choice (Rose, Harbour, Johnston, Daley, & Abarbanell, 2006). It incorporates extensive use of technology and seeks the implementation of winning conditions in the classroom space that reduce or eliminate the need for later remedial work with students (Burgstahler, 2006). The hypothesis of this paper is that Universal Design, though conceived as a tool for a specific clientele, may quickly transpire to be the model best suited to serve the needs of the student body at large by meeting the wider educational aspirations of the 21st century. Not only do its strategies and goals allow wider access to students with disabilities, but they allow the integration of the ‘millennium learners,’ encourage higher student retention, guarantee higher rates of graduation and establish greater equity and respect for diversity.

Introduction

This paper offers a methodological snapshot of an institution’s process of Universal Design for Learning (UDL) implementation. It considers the outcomes observed beyond the parameters of disability services and analyzes qualitative observations made by disabilities service providers but also faculty, administrators and students. The implementation of UDL represented a radical move away from a medical model of disability in the management of disabilities issues in higher education, but it soon became apparent, through the implementation process described, that the scale of outcomes went far beyond issues of disabilities. It is hypothesized in this analysis that UDL and teaching and assessment practices associated with it have an impact on learners at large.
Context

The Disability Service unit of the institution considered has been in existence for approximately two decades and its mandate has been forged through a historical desire to facilitate access to students with traditional disabilities: sensory, physical, and mobility disabilities. In this respect, it has been relatively successful in creating awareness and in creating access, for students with very specific needs, where none previously existed or had yet been conceived. The unit has more recently committed to the implementation of the social model of disability (Barnes, Mercer, & Shakespeare, 1999) and Universal Design for Learning (Gordon, Gravel, & Schifter, 2009), but it has never firmly secured the resources or found the determination to examine the concrete impact of this commitment. Since September 2011, however, the unit has launched a structured and momentous push for tangible UDL implementation and the first phase of this task has focused on impressing the importance of this paradigm shift, not just on faculty but also on crucial campus partners: Teaching and Learning Services (TLS), the Social Equity and Diversity Education (SEDE) Office, the Sustainability Office and, of course, senior administration. Students have also been involved through consultation, quality assessment exercises and formal training on the impact and application of this theoretical framework. The study reviews outcomes reported after 12 months of implementation process.

What is Universal Design?

Universal Design is a framework, which is increasingly appealing as it allows for legal imperatives surrounding access to be addressed seamlessly and in a manner that is sustainable and inclusive (Howard, 2004). Design and conception are the focus, rather than the individual or any specific impairment (Rose & Gravel, 2010). Universal design is originally and historically an architectural framework, which includes seven principles (NC State University, 1997): equitable use, flexible use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and size and space for approach and use. It has since then been adapted for the learning environment. If, indeed, buildings can be designed in such a way that access is widened to the greatest possible number of users, so can the classroom experience (Gradel & Edson, 2010).

Universal Design for Learning more specifically is a teaching approach, which considers how curriculum, instruction, and assessment can meet the learning needs of the greatest number while maintaining academic rigour (Rose & Gravel, 2010). Universal Design for Learning promotes three core principles; multiple means of representation; multiple means of expression and action; and multiple means of engagement at each level of the course, be it instruction, resource or evaluation (Rose et al., 2006). The social model of disability argues that it is the environment that can disable the student when badly designed, rather than any characteristics that are inherent to the individual (Barnes, Mercer, & Shakespeare, 1999; Howard, 2004). Therefore, by implementing UDL, the classroom has the potential to offer flexibility and options so that students are enabled in their learning experience and barriers are removed. The experience of students with attention deficit/hyperactivity disorder (ADHD), who may find higher education alternatively oppressive or congenial, depending on the instructional style in the classroom, is an eloquent illustration of the potent lessons the social model has to offer us with regards to post-secondary teaching practices (Allsopp, Miskoff, & Bolt, 2005).

Methodology

This paper presents the analysis of qualitative data collected in the one-year initial implementation phase of a UD promotion and implementation project seeking to alter the model used by a higher education disability service provider. Qualitative data was collected from faculty, administrators, and employees at large through the delivery of UD implementation workshops of various formats (Collins, 1998). By their very nature, these interactive workshops presented a perfect forum to collect qualitative data in a semi-directive frame (Barbour et al. 2000). Data was collected both orally through verbal interaction, but also through Quality Assurance surveys used systematically after each of these workshops (Bogdewic, 1999). The implementation of UD on this campus is still a ‘work-in-progress,’ and the process has not been completed. There seemed, however, to be enough tangible findings registered already to draw some conclusions on the impact of this initiative for faculty and learners at large on the campus.
Findings

Dialogue with faculty

Faculty members were invited to attend workshops on UDL and they were given the opportunity to request workshops. No faculty members are currently obliged to attend the workshops. The invitation goes to any faculty member who has a student registered with the institution’s disability service provider in their class where that student has requested that an email confirming their registration be sent. Some faculty members attend a more general workshop for any staff, faculty, or graduate students that pertains to disability, access and universal design. The feedback collected from faculty members and course instructors indicates that the content of the UDL implementation drive echoes instructors’ concerns and preoccupations about learning outcomes generally. In fact many commented that UDL incorporates many pedagogical notions already familiar to the instructors such as Gardner’s multiple intelligences (Almeida et al., 2010), differentiated teaching (Subban, 2006), and inclusive provisions (Voltz, Brazil, & Ford, 2001). Instructors often appreciated and mirrored back to the facilitators of the workshops the idea that UDL promotion effectively marked the end of the culture of the disabilities ‘specialist;’ in this sense it was seen as re-empowering for course instructors as it offered them tools to manage disabilities issues on their own turf. One of the other registered outcomes was that the instructors reported having gained awareness through the UD content, of the existence and needs of ‘diverse learners.’ This seemed to blend issues such as legal preoccupations and imperatives with respect to disabilities, the disabilities minority discourse as well as more general campus agendas. Many participants evoked a similarity of purpose between objectives they had heard expressed by teaching support (Teaching and Learning Services in this particular institution) and the new objectives that were presented to them within the UDL framework. Faculty were concerned about the workload that this might entail; however, the workshops encouraged gradual, sustainable changes rather than complete overhauls of course design. Suggestions for big impact changes were made such as providing notes, background information or lecture slides to the whole class.

Dialogue with other campus stakeholders

Campus stakeholders included student services groups (e.g., counseling services, mental health services, international student services, first year office, scholarships and students aid and career service) as well as student affairs (e.g., enrolment and registration, withdrawals etc), student advising, SEDE, teaching and learning services, libraries, graduate studies and residences. This group also included students registered with the disability service provider who were part of the advisory group for the office. One of the recorded outcomes from campus at large was that the three principles of UDL in fact applied to any interface with students in service provision, regardless of their being affected by a disability. These participants reported the satisfaction of being offered a ‘common language’ to share understanding about access and diversity generally. Expressed links were made by participants between the core notions being presented to them as part of UDL promotion and wider issues of equity and diversity being raised by the diversity partners (SEDE office in this particular institution). These remarks echo the findings of literature that emphasizes the impact of UDL in matters of equity and diversity in service provision generally (Uzes & Connelly, 2003). It was stressed by participants that the use of this common language would also have the advantage of offering a continuum of services from a user perspective and allow more seamless transition from institution to institution if applied universally. Similarly, it was felt that the implementation of this framework would help close the gap between academic and non-academic services as UD is applicable to the campus at large, not just in the class environment. In this sense, UD implementation is seen as complementary to other change processes such as sustainability audits or diversity drives. There is the perception that there is a clear synchronicity between various concepts and objectives in the mainstream campus agenda. Students were excited by the potential of UD to change their experience on campus, whether in the classroom or in their interactions with service providers. They were keen to be involved in promotional events for UD where possible so that their voice could be heard, and they have collaborated in and producing a promotional video for UD.

Dialogue with senior administration

Evaluated outcomes became relevant not just from an
educational perspective but also from an administrative and management angle. These parallel outcomes were recorded through dialogue with senior administration. Three distinct threads of discussion and comment appeared throughout the data analysis: resource management, sustainability, and inclusion.

Resource management
Participants were very sensitive to the issue of efficient resource management as one of the justifications for UDL implementation. Of course, this related mostly to best practices in the management of disability issues. However, the discussion soon encompassed much wider questions such as the varied needs of diverse learners, their retention, and ways of securing higher graduating rates – with cost being the lens driving scrutiny. Little distinction was made, with respect to these threads of discussion, between students with disabilities and non-traditional students at large. The exploration of the three principles of UDL quickly reveals that the solutions sought and the outcomes targeted benefit not just students with disabilities but students at large. Literature supports the assumption that such pedagogical best practices support learners of widely differing profiles, such as mature students, students with families, and second language learners (i.e., the increasingly large number of students in Higher Education who do not fall within a conventional and generic – some will say obsolete – stereotype [Sopko, 2008]).

Sustainability
It was well identified and analyzed by participants that the traditional ‘accommodations’ approach to disability is an ad hoc process of retrofitting, repeated each semester, for each course, for each individual student making a request, and as such is a highly costly and consumable process. The procedure in itself is a non-renewable use of resources. In this specific institution, this process of service provision has been identified as not conforming to the sustainability objectives of the campus (Vision, 2020), and examined in its audit of renewable development. There has been a tangible synchronicity, therefore, between UD promotion and the push for sustainability benchmarking in culture, practices and service provision, according to the participants’ feedback. Universal Design, by focusing on modification to the environment, constitutes a sustainable approach to the management of the diverse needs of learners (Harrison, 2006). Participants in this category once again explicitly stressed that various campus initiatives could gain from each other’s successes offering the benefit of economies of scales.

Inclusion
This convergence of discourse was also expressly mentioned by the participants with regards to inclusion. Participants expressed concern over the lack of awareness of inclusion principles existing in higher education. It was felt generally that post-secondary institutions were ill prepared to meet the expectation of students with regards to inclusive practices. The imperative, which is central to UD, to provide services in class and within a mainstream environment – as well as the resistance observed from course instructors – were not seen by participants as specific to the issue of disability. They represented, according to the feedback collected, challenges that were fundamental to the integration of millennium learners in post-secondary education.

Outcomes
Participants reported a contextual relevance of the UDL material in a wider shift in paradigm; they described this shift in objectives and mission as a move from a research-centered culture to one that is also student-centered. The potential of Universal Design implementation certainly comes at a propitious time when the drive for diversity in education is increasingly present on the agenda in higher education (Tegmark-Chita, Gravel, Serpa, Domings, & Rose, 2012). In this specific university, for example, Universal Design was unambiguously highlighted as an area of particular focus in the Principal’s Taskforce Report on Diversity, Excellence and Community Engagement (2011). The wider objective of increasing diversity on campus is exceptionally well served by the model, and it has the advantage of turning the disability service framework, traditionally a minority and often ignored agenda, into a mainstream concern and a discourse serving the needs of students at large. Most campus administrations in North America are only too aware of the shift in paradigm, which is transforming the higher education landscape. Even the most renowned research universities can no longer hope to attract and retain sufficient numbers of students without addressing their needs and expectations proactively (Pomerantz, 2006). This is an auspicious time to integrate UD into a wider diversity drive, which is
crucial to guarantee applications, retention and graduation rates in line with campus objectives and governmental expectations. The neoliberal agenda, which has long promoted research activities which themselves attracted wider funding as the prior focus of higher education institutions, has now come full circle and is tangibly and demonstratively placing diverse student needs on the table as the key element to long term survival and sustainable growth (Tinto, 2005; Swail, Redd, & Perna, 2003). It appears crucial for disability service providers to take advantage of this auspicious development (Strange & Banning, 2001) and for campuses to, reciprocally, use disability service provision statutory imperatives as a wedge to trigger quick implementation of larger objectives relating to inclusion and diversity of learners at large.

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Biographies

Frederic Fovet is the Director of the Office for Students with Disabilities at McGill University. His research and practice focus on Social Emotional Behaviour Difficulties, inclusive education and Disabilities service provision.

Heather Mole is an Access Service Advisor in the Office for Students with Disabilities at McGill University. Her research focuses on the implementation of universal design in higher education and the social model of disability.
“Teaching Experience Preferred?”
Preparing Graduate Students for Teaching Opportunities Beyond North America

Suzanne Le-May Sheffield
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Over the last 15 years, graduate students applying for academic positions in post-secondary education have increasingly been asked to include a statement of teaching interests, a teaching philosophy, or a teaching dossier with their applications. Even if a potential employer does not request any of these documents, many interviewees are expected to be able to reflect and articulate intelligently about their teaching philosophy in a job interview and/or to demonstrate their teaching. In Canada and the United States, research has shown that hiring committees are looking for candidates that not only have teaching experience, but who can also talk about and demonstrate their teaching (Meizlish & Kaplan, 2008; Schonwetter, Taylor, & Ellis, 2006). However, what types of teaching documentation are required of applicants when they are applying for entry-level academic positions outside of North America? Especially as developing countries are increasingly seeking Canadian faculty for their experience in student-centered pedagogical approaches (Tamburri, 2011). In addition, North American graduates are searching global markets for further career opportunities. An investigation was launched to examine permanent, tenure-track academic positions on six job sites during a four-month period to compare requests for teaching-related materials and teaching experience in job ads beyond North America. This study found that the international job market is comparable to the North American one with respect to teaching expectations and documentation. These findings underscore the importance of graduate student teaching development for those graduates seeking academic employment outside of North America.

Introduction

In a 2011 article published in University Affairs, Rosanna Tamburri argued that, “Canadian professors are highly sought-after for their expertise in curriculum development. They are helping to transform post-secondary education in developing countries...” (p. 24). In their 2003 study of 30 British academics, Richardson and...
McKenna highlight the value of international experience both to the individual's career advancement and to the institutions that hire them, abroad and at home. Overseas faculty positions are advertised in key English language job sites. This globalization of the academic job market raises a new question for North American educational developers who support the teaching development of graduate students: How can we best advise graduate students to prepare their applications for positions beyond North America with respect to their teaching?

Over the last 15 years, increasing emphasis has been placed on the teaching development of graduate students in educational development work as expectations for junior faculty's teaching experience and abilities has increased. Research in the Canadian and American context has demonstrated that hiring committees are looking for candidates who have teaching experience and who can talk about and demonstrate their teaching abilities and approaches during a job interview (Meizlish & Kaplan, 2008; Schonwetter, Taylor & Ellis, 2006). This research, in the context of the globalization of academe, raises the question of whether positions outside of North America hold the same teaching expectations for new hires.

This pilot study has found that the international academic job market does indeed appear to parallel the North American one in its expectations for teaching experience and documentation for entry-level positions. These findings underscore the importance of educational developers' work with graduate students to support and encourage their professional development of teaching to provide preparation for their job search for international positions as well as within Canada and the US.

Approach

Two hundred ninety-five job ads were scanned for permanent, entry-level, traditional tenure-track academic positions from six job sites between December 2010 and March 2011. The job sites accessed included: Inside Higher Ed (US), HigherEdJobs (US), The Times Higher Education (United Kingdom), Australian Jobs (Australia), UniJobs.com (Australia), and CareerEDU (Europe). Sites were visited on a regular basis during the 4-month period for jobs advertised outside of North America. During data collection the following information about each position was recorded:

- name of institution, position title, faculty, country, date of posting, and date of closing;
- responsibilities of the position;
- expected qualifications and experience required;
- documents requested from the applicant;
- whether or not there were any language requirements;
- specific teaching experience required; and
- whether or not a teaching philosophy statement, dossier or other documentation was required.

The data was then organized into four geographical areas: United Kingdom, Australia/New Zealand, international (non-Western countries), and Europe. ‘International’ included the following countries: Saudi Arabia, Egypt, China, United Arab Emirates, Kuwait, Lebanon, Qatar, Malaysia, Trinidad and Tobago, Bahamas, Fiji, Singapore, and Afghanistan. Within each of these regions, record was made of the number of positions requiring teaching as part of the position advertised; whether or not the position required teaching experience prior to taking the advertised position; if the job ad made reference to a request for a record of 'excellence,' 'dedication,' or 'high quality' with respect to teaching; and finally, whether or not, at this application stage, the institution required any kind of documentation of teaching experience or teaching qualifications.

Results

The quantitative results are most clearly summarized by the graphs below that demonstrate the results for each area of inquiry, by region, in numbers and by percentage (Figures 1-4).

The results of this pilot study clearly demonstrate several key findings. The first key finding is that in the majority of tenure-track positions across all geographic regions the chosen candidate will be expected to teach (Figure 1). In addition, a significant number of positions (over 50%, excluding the United Kingdom) expect candidates to arrive having already obtained some teaching experience (Figure 2). The low rate for the United Kingdom may be explained by the fact that research is the focus of the doctoral degree and junior faculty are expected to engage in teaching development programs after they are hired. Furthermore, 20-50% of employers, varying by
Preparing Graduate Students for Teaching Opportunities Beyond North America

Figure 1
Teaching Required in Position

Figure 2
Teaching Experience Required Prior to Position

Figure 3
Record of Dedication to Teaching Excellence

Figure 4
Documentation, Evidence, Certificate, or Qualifications Required
geographical region, expect that their chosen candidate will be able to demonstrate ‘excellence’ in teaching, even at this entry level (Figure 3). Despite these requirements, however, the numerical data in Figure 4 demonstrates that, at least at the job application stage, hiring committees do not frequently request documentation of teaching experience, quality, or credentials, equal to the rate at which they say they expect these qualifications of the candidate. When documentation was required, requests ranged from teaching philosophy statements, to dossiers, descriptions of courses taught, and student evaluation data. A handful of jobs did say they required “certification” for teaching.

Job ads that outlined explicit teaching expectations varied by geographic region. For the majority of the Australian/New Zealand positions, the typical duties of a professor were listed. In contrast, positions advertised in the other geographic regions were not as specific, referring only generally to the expectation for teaching. In addition to listing duties, institutions advertising positions in Australia/New Zealand also frequently emphasized the extent to which the candidate would be expected to develop courses, curriculum, and programs, as well as specifying certain preferred approaches to teaching. They also itemized desirable teacher-characteristics they expected (i.e., collaborative, committed, enthusiastic). Further, 19 of the 60 Australian/New Zealand jobs ads included these additional teaching duties and characteristics. This inclusion of desirable teacher-traits in job ads was less noticeable in ads from the other geographic areas: 23 of the 128 jobs in the United Kingdom, seven of the 89 international positions, and four of the 18 European positions. However, where such characteristics are listed, the call for a student-centred approach, and the ability of the candidate to be innovative and inspirational, were often the focus. Perhaps surprisingly, reference to requirements to teach on-line courses, or to have experience and a willingness to teach blended courses was markedly absent. Possibly expectations for this specific kind of teaching is subsumed under the general context of teaching more generally.

International academic positions advertised on English language job sites reflected the global character of the position. Specifically with reference to the ‘international’ and ‘Europe’ geographical category, an additional language requirement was frequently requested with reference to teaching. In this study, 51 of the 89 international jobs included, required the candidate to be able to teach in a specific language (usually English) and, in some cases, also the language of that country. Similarly, 10 of the 18 job ads from Europe also requested language qualifications. Paired with this requirement, international job ads also made reference (in 18 of the 89 positions) to the need for the candidate to possess some experience, expertise, or willingness to respect a diverse student population and to practice inclusive teaching approaches. These figures were particularly striking when compared with those in the United Kingdom and Australia/New Zealand where language requirements and references to inclusive teaching practice were almost non-existent. These requirements in the international and European contexts suggest that the internationalization of faculty can potentially mean, as Welch (1997) argues, the “broadening of perspectives on teaching, learning and scholarship, the incorporation of specific cultural...skills not generally available in the host context, the building of tolerance and understanding among staff and students, and the revitalization of language instruction programs” (p. 324).

Discussion

The results of this research emphasize the need for educational developers to support the teaching development of graduate students prior to their first academic position, not only for the North American context but also for the international one. Moreover, the results also indicate the need for universities to provide teaching opportunities for their graduate students to gain experience before entering their first position. Such opportunities not only give graduate students an edge in the global job market but also provide them with invaluable experience that they can take with them into their first position. While development prior to the first academic position does not entirely prepare junior academics for their first appointment as they adjust to a new context and the fullness of academic life (Simmons, 2011), such development does go some way to providing a smoother transition from the role of graduate student to that of academic.

Educational developers might also, more specifically, consider how graduate students might best prepare to demonstrate ‘excellence’ in teaching in their job application. Although requirements at the job application stage for documentation of teaching excellence was low, expectations for the quality of teaching excellence were
relatively high. Moreover, as Meizlish and Kaplan (2008) suggest, requests for documentation and demonstration of teaching can often increase at the interview stage. Where documentation and demonstrations were requested in the international context they mirrored the documentation required in the North American context. Thus the kinds of approaches taken by educational developers for the North American context including encouraging and providing opportunities for graduate students to develop teaching philosophies and dossiers; learning how to design a course; and providing opportunities for feedback on their teaching, both informally and formally, via student evaluation of instruction would also be relevant for the international context. The possibility that there will be an increasing demand for graduate students to provide evidence of teaching excellence through formal student evaluations of teaching, points to the importance of universities providing teaching opportunities via teaching assistantships and course directorships as part of the professional and teaching development of their graduate students. A number of employers in this study were also seeking candidates with experience in curriculum/program design and graduate student supervision – certainly two aspects of academic life that do not play a significant role in Canadian educational development programs for graduate students. This result might give educational developers and institutions pause to think about how graduate students could gain insight into both the curriculum development process and approaches to graduate supervision.

Transcending to the context of another country’s academic system would certainly add to the level of adjustment a new academic would need to make. Educational developers might consider how they could inform graduate students about the education systems in other countries. Graduate students in any particular institutions are often themselves a microcosm of the global community. Educational developers might, for instance, consider drawing on the experience of graduate students with international experiences to share their understanding of university education abroad. Whatever route is taken, graduate students need to understand the established teaching and learning cultures in different countries and to learn whether or not established approaches and philosophies are in the process of change elsewhere. In the specific case of North American candidates applying for international positions, it might be important for educational developers to encourage graduate students to understand the value of their past cultural experiences, and to appreciate the importance of expressing their attention to diversity and inclusivity in the context of the global job search. Educational developers could also play a role in encouraging graduate students to highlight their language proficiencies other than English and yet to understand the potential benefits of being an English-speaker in an international teaching and learning context.

Limitations of the Study and Future Research

The geographical results of this pilot study may be limited, if not by the overall number of job ads consulted then by the number of jobs included in the study in specific geographical regions, particularly Europe with only 18 jobs ads included. Another limitation is the restriction of the study to the job application process, not including the interview process. Nevertheless, as a whole, these results generally reflect the findings of previous studies of North American academic job ad requirements (Schonwetter, Taylor, & Ellis, 2006).

Meizlish and Kaplan (2008), whose research included not only examining job ads but also surveying search committee members about the importance of teaching to their final hiring decision, found that further expectations to demonstrate and/or document teaching occurred at the interview stage of the hiring process. Additional research into expectations of hiring committees during the interview process for academic positions outside of North America needs to be undertaken to determine if the same increased expectations occur at this stage. In addition, research that determines whether requirements for teaching expectations, experience, and documentation change between disciplines, in particular at the interview stage of jobs outside North America, may also be appropriate. Further research, a few years from now, to determine whether or not there is an increased number of job ads expressing expectations for particular approaches to teaching and teacher characteristics will be of particular importance to educational developers designing and facilitating graduate students’ educational development. One final opportunity for future research would be to consider the relationship between the expectations outlined for candidates in job ads and job interviews and the changing expectations for faculty in considering the awarding of tenure and promotion. The possibility that there is a relationship between increasing
teaching expectations upon entry into the academy and those for tenure may be a strong one.

Conclusion

The results of this article underscore the need for the professional development of teaching in the graduate student years in preparation for academic positions in the global, as well as in the North American, context. Candidates for positions around the world must be able to articulate, demonstrate, and provide a record of teaching and, in a significant number of cases, must be able to present a record of excellence in teaching. The development of such teaching abilities could widen the career paths and opportunities for North American graduates. Despite the fact that Tamburri’s (2011) article focuses on the desire for other countries to hire Canadian graduates for their pedagogical knowledge and abilities, my research also underscores the high teaching expectations for those graduates among international hiring committees. Educational developers in Canada are well-placed to ensure that our graduate students leave our institutions with the requisite skills and professional development mindset in teaching and learning to qualify as applicants for positions overseas.

Author’s Note

With thanks to Godfred Chongatera and Janice Fuller for assistance with data collection and to Michelle Soucy for graph creation. As well, thanks to Dr. Lynn Taylor for clarifying the United Kingdom’s practice of emphasizing research in the graduate years and placing teaching development in the early phase of an academic career.

References


Biography

Suzanne Le-May Sheffield is the Director, Centre for Learning and Teaching, at Dalhousie University, and has a particular interest in the teaching development of graduate students.
Introduction

At Thompson Rivers University (TRU), student ratings of teaching are obligatory for new faculty and are mandated components of promotion and tenure packages. In 2007, the Faculty of Science determined that our existing survey was not meeting our needs for a number of reasons: faculty expressed a wide range of concerns about specific items, it was not consistent with recommended practices in the current literature, and it had never been properly assessed for validity and reliability. The need for a new student ratings of teaching form can be met through one of several ways including modifying an existing form or the purchase of a commercial product. Following a review of several surveys from other institutions and commercial products, we concluded that the best solution to meet the needs within the TRU Faculty of Science was to develop our own survey. The survey resulting from this work is included in the Appendix.

While it is recognized that student ratings of instruction are controversial and best used in combination with other forms of evidence (e.g., peer-observation and dossiers), they remain widely used in evaluating teaching and provide the best option for gathering quantifiable and comparable data (Abrami, 2001). In our Faculty of Science, student ratings of teaching remain controversial among some members yet play important roles in formative and summative evaluations. Our intent was to develop a ratings survey that supported the mission of our University and met with faculty approval.

Developing and Validating an Instrument for Student Ratings of Teaching

Gary Hunt, Lyn Baldwin, Ernest Tsui, & Les Matthews
Thompson Rivers University

In May 2007, the Thompson Rivers University Faculty of Science established an ad hoc subcommittee to develop a new student ratings of teaching survey. The final survey, approved by the Faculty in February 2011, includes statements categorized in the dimensions of teaching shown in previous studies to be correlated with student achievement. The survey is learner-centred, discipline and pedagogically neutral, and includes only items that can be reasonably evaluated by students. The survey consists of 40 items including eight statements of student background information, 32 statements to rate on a six-point Likert scale, and four open-ended questions. We demonstrated that a faculty group with no formal training in survey design and informed by the literature, can, in collaboration with faculty, develop a survey established as having a high degree of inter-rater reliability.
Methodology

Two primary goals underlined our approach to developing a new student ratings survey. First, we wanted our process to be collaborative, gathering input and approval through focus groups and presentations to our Science Faculty Council. Second, we wanted to employ the recommended practices as outlined in Berk (2006) and Gravestock and Gregor-Greenleaf (2008). Below, we outline the steps we completed from 2007 to 2011.

1. Considering TRU’s mission statement, we identified teaching dimensions to be included in the survey.

2. We developed a schematic of our approach based on best practices, summarized the teaching dimensions planned for the survey, and presented this approach to Faculty Council for approval.

3. We compiled a list of potential statements for each teaching dimension drawn from published examples (Adams et al., 2008; Gravestock & Gregor-Greenleaf, 2008). Once compiled, each statement was rewritten, if necessary, to be student-centered and evaluated against the criteria outlined by Berk (2006). The criteria range from grammatical guidelines to rules regarding the relevance or applicability of each statement to potential student respondents.

4. We received ethics approval from the TRU Human Ethics Review Board.

5. We held focus groups with faculty and students. Both students and faculty in each focus group were asked individually to: 1) rank the importance of all statements in each dimension; and 2) respond to a series of questions regarding the applicability and neutrality of all statements.

6. We modified the statements based on focus group feedback.

7. We conducted the field test with classes of students. We used email solicitation and presentations within our Faculty Council to solicit faculty who would volunteer their classes to complete the draft survey online.

8. We completed statistical analyses of field test data. We completed the quantitative analysis suggested by Berk (2006) including the following: 1) determine the mean and standard deviation of each item in the survey; 2) assess inter-item correlations between statements in each dimension; and 3) assess item-scale correlations. The TRU Faculty of Science includes a diverse group of faculty teaching a wide variety of lecture, lab, clinical, and field courses. Thus, we also included a “Not Applicable” (NA) response for each statement in the draft survey. As part of our analysis, we identified statements that elicited a large number of NA responses.

9. Based on the results of the field test (see Results), we made the final selection of statements.

10. We prepared a report (Baldwin, Matthews, Tsui, & Hunt, 2011) and requested approval from Science Faculty Council.

11. We incorporated the final changes suggested by Faculty Council and released the survey for use.

Results

Selection of teaching dimensions and modification of statements

We referred to TRU’s mission statement to guide our process:

Thompson Rivers University is a comprehensive, learner-centred, environmentally responsible institution that serves its regional, national, and international learners and their communities through high quality and flexible education, training, research and scholarship. (Thompson Rivers University, 2007)

Thus, we selected six teaching dimensions that had been previously shown to be highly correlated with student achievement including 1) preparation and organization; 2) clarity and understandableness; 3) perceived outcome or impact; 4) stimulation of interest in content; 5) encouragement and openness; and 6) availability and

Although learner-centred teaching has many components (Barr & Tagg, 1995), we felt that a critical aspect of learner-centred teaching was linking the influence of teaching activities to student learning. Given that learner-centred teaching requires that teachers evaluate the role that teaching activities play in student learning, the committee decided that it would focus the evaluation on those dimensions of teaching that previous research has found to be most strongly linked to student learning. By actively tailoring the evaluation to aspects (or dimensions) of teaching that have been found to support student learning, we believed that we would be constructing a student evaluation of teaching form that would best support the goals of TRU’s Faculty of Science.

We also recognized that students cannot be asked to respond to questions for which they are not qualified to answer. Students are most qualified to report on their experience within the class and are not qualified to report on the experience of other students. Thus, we included only statements that directly reflect a student’s experience within a course. To emphasize this distinction, all statements in the evaluation form were written from the student’s perspective. For example, compare the two statements below:

Instructor centred: The instructor was well organized for class.

Student centred: I think the instructor was well prepared for class.

Likewise, students do not have the expertise to comment on scope and currency of the curriculum or an instructor’s depth of knowledge, which are best evaluated by faculty peers (Berk, 2006). Because the Faculty of Science includes diverse departments and faculty using a wide variety of teaching strategies, it was important that individual statements be pedagogically neutral. That is, as much as possible, each statement would be equally applicable to all students within all classes. Thus, to guide our selection of statements in each teaching dimension we followed the principles of selecting measurable factors that relate to student achievement and are independent of both discipline and pedagogy. In addition, we used only factors that students are qualified to report upon and that faculty can control and improve upon through targeted development activities.

Focus groups and field test

In total, 17 faculty members and 26 students participated in the focus groups. At the time we completed the focus groups, the Faculty of Science consisted of approximately 70 faculty members and 500 students. In the field test, 14 faculty members participated in volunteering 16 courses, including four lab sections, one online course and 10 lecture courses. The courses also ranged across the curriculum from 100-400 level courses. By program, the proportion of participating students ranged from approximately 21 to 66% (Table 1). The departments of Computing, and Math and Statistics were not in the Faculty of Science at the time of this study.

<table>
<thead>
<tr>
<th>Program of Students</th>
<th>Number of Students</th>
<th>Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Health Technology</td>
<td>44</td>
<td>126</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>186</td>
<td>281</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>50</td>
<td>246</td>
</tr>
<tr>
<td>Natural Resource Science</td>
<td>44</td>
<td>97</td>
</tr>
<tr>
<td>Respiratory Therapy</td>
<td>30</td>
<td>145</td>
</tr>
<tr>
<td>Unreported</td>
<td>12</td>
<td>N/A</td>
</tr>
<tr>
<td>Total</td>
<td>366</td>
<td>895</td>
</tr>
</tbody>
</table>

Table 1

Number of students participating in the field test and total enrolment by program
Quantitative analysis of field test results

Overall, the global mean score provided for all faculty on all items was 3.36 (out of a possible 4.0). Mean scores for individual items ranged from 2.95 to 3.64. The standard deviation of each item indicates whether or not each item solicited a range of responses from students. The standard deviations of items evaluated in the field test ranged from 0.5 to 0.87, which Berk (2006) suggests is an adequate range of variation.

Items within each dimension are meant to evaluate the same teaching dimension. Correlations between mean scores for each statement evaluate how well the statements correlate with one another. Berk (2006) recommends that all correlations should be positive and should be as high as possible. Inter-item correlations resulting from our field test ranged from 0.30 to 0.73. Overall, teachers who score high in one category typically score high in the other dimensions, and item-scale correlations evaluate how well the score for each item correlates with the global score for all items (minus the specific item being evaluated). The item-scale correlations ranged from 0.52 to 0.79. We also evaluated the number of NA responses each item solicited in the field test. Based on these three items, inter-item correlations, item-scale correlations and the number of NA responses, we identified two statements that should be deleted from the survey. We also moved two statements into a more appropriate dimension (Table 2).

While the range of mean scores is higher than the 2.0 mean that Berk (2006) recommends, we believed that the relatively high scores may have resulted from the self-selection process whereby faculty who typically have high student evaluation scores were the most likely to volunteer their classes for the field test. To evaluate the long-term trends in scores, the Faculty of Science is currently attempting to collect baseline data. At this time, the collective agreement language provides no mechanism for the collation of faculty scores.

Discussion

Feedback from student ratings of teaching surveys is one source of information that contributes to evaluating teaching effectiveness. Given the complexity of teaching, it is vital that student feedback be complemented by evaluations from peer and expert observers, as well as self-evaluations (Adams et al., 2008; Murray, 2005). This is necessary to ensure that the whole picture of an instructor’s teaching is evaluated.

We decided not to use “overall” or “global” statements such as, “Overall, I would rate this instructor’s teaching performance as….” These are quite common items in student questionnaires, but since they do not reflect the multidimensionality of teaching, the information they provide may not be very meaningful at best, and can be misleading at worst (Murray, 2005). Global items are recommended by some experts (Abrami, 2001; Arreola, 2007) because they are correlated moderately with student learning and they provide a single-value summary of teaching (Berk, 2006). Because global items provide no value for formative feedback and are less reliable than subscale and total scale scores, we chose not to include them in this survey. Sub-scale means are

Table 2

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Full text of Question</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation and Organization</td>
<td>I was satisfied with the time it took for the instructor to return graded material.</td>
<td>Moved to Dimension 6 based on low inter-item correlation coefficients</td>
</tr>
<tr>
<td>Clarity and Understanding</td>
<td>The work I completed in this course (e.g., assignments, homework or class activities) increased my learning.</td>
<td>Deleted due to high NA responses</td>
</tr>
<tr>
<td>Perceived Outcome or Impact</td>
<td>My problem solving skills improved as a result of this course</td>
<td>Deleted due to high NA responses</td>
</tr>
</tbody>
</table>
Developing and Validating an Instrument for Student Ratings of Teaching

often averaged across student evaluation tools to provide a global mean for individual faculty. However, global means estimated across all statements obscure the relative importance of each dimension (i.e., Preparation and Organization explains 30-35% of student achievement, while Availability and Helpfulness explains less than 10% of student achievement [Feldman, 1989, 2007]). While global means may be weighted by the amount each dimension explains of overall student achievement, any single value produced by a student evaluation masks the details of variation among the dimensions. The committee was concerned that reviews of faculty member's teaching (especially summative reviews for promotion and tenure) would rely too heavily upon a global mean, if produced.

Research shows that the information gained from student ratings surveys has a limited impact on teaching improvement if not accompanied by appropriate professional development activities (Cohen, 1981; Feldman, 1989, 2007; Marsh, 2007; Murray, 2005; Kulik, 2001; Wachtel, 1998). The Centre for Teaching and Learning at TRU offers professional development opportunities to assist faculty in addressing individual concerns about item ratings. In considering the design of our new ratings form, it was precisely this formative value that we wanted to emphasize. In other words, we would like the instrument to be used as a tool to help instructors improve their teaching skills, in addition to its current use in summative or personnel decision processes. Furthermore, we needed to ensure the teaching practices addressed in the form align with the educational goals and objectives of TRU Science (e.g., learner-centredness and student learning). Our decision to make the new ratings form based primarily on learners’ experiences addresses this. We believe our collaborative approach led to the successful adoption of the survey by our Faculty and that our process can serve as a model for other faculties.

References


**Biography**

Gary Hunt is Coordinator, Teaching and Learning Support at Thompson Rivers University. His interests in higher education include student ratings of teaching, learning outcomes and assessment, and learning-centred instruction.
Appendix

Thompson Rivers University Faculty of Science Student Ratings of Teaching Survey

Student Feedback on Course Learning Experience

Course Number & Section: __________________ Instructor Name: __________________
Date: ________________ (day/month/year)

Introduction
You are a critical source of information about the effectiveness of the instruction that you have received. Your thoughtful responses are appreciated and will be used to identify aspects of your instruction that are meeting your learning needs and those that need to be improved.

Please complete the survey alone, not in consultation with your classmates.

Student feedback will remain confidential and responses will be returned to the instructor only after all grades have been submitted to the registrar.

This information will be used by individual faculty to improve their teaching. In addition, information from this survey will be made available to department Chairs and Deans for the purpose of assessing instructors.

This questionnaire contains three sections. In the first section, we would like you to tell us a little about yourself.

The second section contains statements about your learning experience with your instructor. Please read each statement carefully and rate the extent to which you agree with the statement as a reflection of your experience in the class. Consider each statement separately and assess it based on your actual experience.

Finally, the third section asks you to comment more generally about your experience within the course. Please answer these questions in the most constructive and objective way possible.

1. Background Information

1. Of all classes and other sessions scheduled for this course (e.g., labs, tutorials, etc.), I attended approximately:

   90% or more  70-89%  50-69%  20-49%  less than 20%

2. My anticipated grade in this course is:

   A  B  C  D  F

The next three statements concern your involvement with the course. You will rate the instructor’s teaching in the remaining statements. Please respond using the following scale.

1=Strongly Agree—this statement definitely reflects my experience in all cases
2=Moderately Agree—this statement reflects my experience most of the time
3=Slightly Agree—this statement reflects my experience in some cases but not the majority
4=Slightly Disagree—this statement differs somewhat from my experience
5=Moderately Disagree—this statement in general does not reflect my experience
6=Strongly Disagree—this statement definitely does not reflect my experience in any way

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>Moderately Agree</td>
<td>Slightly Agree</td>
<td>Slightly Disagree</td>
<td>Moderately Disagree</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

3. I asked the instructor for additional guidance or feedback when I needed it.
4. I came to class prepared (e.g., reviewed posted notes, read from the course text or completed other activities as directed by the instructor) even if it was not going to be graded.
5. I think that the instructor’s main role is to explain all the course content, not to make students think about it.

II. Ratings of Teaching in this course

6. I think the instructor was well prepared for class.
7. I think the class sessions were well organized.
8. I clearly understood the relevance of the assignments to the course objectives.
9. I think the evaluation (all graded material) clearly reflected the course content.
10. I think the course content was well organized.
11. I clearly understood what I was expected to learn in this course.
12. The time I spent in class helped my understanding of difficult course content.
13. Examples and illustrations provided in this course aided my understanding.
14. I think the instructor communicated the course material clearly.
15. I think the instructor delivered the course material at a pace I could follow.
16. I clearly understood how my work would be evaluated in this course.
17. I learned skills in this course that I will be able to use in other courses.
18. I learned ways of reasoning that I could apply to other subjects.
19. I think the instructor made the course content relevant to my overall education
20. The instructor helped me understand the relevance of the material to the real world.
21. I felt the instructor presented the course material in a way that challenged me to think.
22. I think the instructor was enthusiastic about the course content.
23. I felt comfortable participating in class activities.
24. My experience in the class increased my interest in the course content.
25. I was engaged in learning the course content during class time
26. My interactions with the instructor encouraged me to learn.
27. I think the instructor was approachable.
28. The class atmosphere supported my learning.
29. I was treated with respect in this class.
30. I felt encouraged to ask questions in class.
31. I think that the instructor was receptive to suggestions from students.
32. I was satisfied with the time it took for the instructor to return graded material.
33. The instructor provided me with all the information I needed to seek help.
34. I felt welcome to seek help from the instructor.
35. I think the instructor made a genuine effort to be available outside of class.
36. I think the instructor cared about my learning.
37. The feedback I received on work that I completed was helpful to my learning.

III. Additional Background Information

1. My program of study is: ____________________________

2. My year in this program of study is: __________________

3. My reasons for taking the course are (check all that are applicable):
   - [ ] Interest
   - [ ] Program requirement
   - [ ] Program elective
   - [ ] Reputation of the instructor
   - [ ] Reputation of the course
   - [ ] Course fit in my timetable

IV. Knowing what you know now about the course, if it were possible to turn back time and you could experience this course again….

1. What changes would you make in your own approach in order to improve your learning?

2. What aspects of the course would you advise your instructor to retain?

3. What suggestions would you provide to your instructor for revisions that would produce a better learning experience for you?

4. Do you have any other comments about your learning experience in this class?
Overview

On July 22, 2012, we 14 students were invited to present the Closing Plenary at the 2012 Society for Teaching and Learning in Higher Education (STLHE) Conference. Comprised mainly of undergraduate students, including the inaugural cohort of 3M National Student Fellows, our group also included one CEGEP student and one graduate student. This article is a compilation of thoughts, perspectives, and experiences presented during the plenary. It is assumed that student ideas about the characteristics of effective higher education can provide essential guidance for (re)designing the future of post-secondary education (PSE). Author views and experiences vary; thus, statements herein may represent individual and/or collective perspectives.

Blind Curves or Open Roads? Student Leaders Speak on the Future of Canadian Post-Secondary Education

Selena Demenoff, University of Northern British Columbia; Pascal Genest-Richard, McGill University; Jolène Labbé, University of Guelph; Rébecca Bourgault, Champlain College St-Lambert; Johanna Lewis, University of Toronto; Alannah Robinson, University of Waterloo; John Pritz, McGill University; Cameron Bell, University of Northern British Columbia; Laura Beach, Concordia University; Alexandre Beaupré-Lavallée, Université de Montréal; Jessica Barudin, McGill University; Ray Charles Howard, Ryerson University; Mimi Liu, University of Toronto; Sarah Nichols, Carleton University

In working to build a better, more just future, post-secondary institutions play a crucial role in shaping the students of today and tomorrow. Many institutions already employ a number of innovative programs aimed at broadening students’ horizons. We can now look forward to seeing these initiatives grow. As students, we outline our views on some of the challenges and possible avenues for change in post-secondary education. Efforts to strengthen student leadership, optimize experiential learning, and develop a more holistic educational approach are important. Current challenges to post-secondary education lie within aspects of accessibility, funding, relationship disconnect, and segregated educational approaches. Strengths and challenges encountered within post-secondary education can frame learning boundaries to be deconstructive or constructive. Both boundary modalities can play important roles in designing the future of post-secondary education in Canada.
Progressive Education Today

What does progressive education look like at our institutions today? It seems traditional ways of evolving (that is, by somewhat rejecting the past ways of doing things and replacing them with opposing ones) are not limited to fine arts: they also apply to education, which can be considered an art in itself. As Plenary presenters, we unify adherence to this methodology when outlining what progressive education consists of. We emphasize the importance of: a) going beyond textbooks; b) allowing interdisciplinary approaches in order to bring precision to problems; c) associating scholarship with extracurricular involvements; d) encouraging freedom of social justice groups; and e) supporting research initiatives directly aimed at community applicability. We also value undergraduate research and process-based learning as opposed to traditional knowledge-based education, especially in non-professional programs. Some institutions already offer seminar courses for first-year students, engaging them from the beginning of their academic journey and promoting self-guided learning. There are even cases of students creating the syllabus themselves: an innovative approach that has the potential to completely re-shape our vision of education.

Progressive Education Tomorrow

As post-secondary education is a cumulative experience, preparing for it is analogous to preparing for a journey. A quality education provides students with opportunities to apply their knowledge in the world beyond the classroom, giving them a sense of direction and community involvement. It is important to ensure that students are equipped to discuss and form opinions about relevant issues in their field, as what becomes common practice in universities and colleges often emerges as a template for social practice. Quality PSE teaches us to appreciate where we, as students, stand in relation to broader historical, political, cultural and economic trajectories. Post-secondary education provokes critical self-reflection about our beliefs, prejudices, motivations, choices and goals.

Post-secondary institutions (PSIs) have a role in catalyzing innovation and taking action on real-world problems. These institutions should encourage students to make meaningful contributions to their communities and provide them with resources and opportunities to prototype, implement, and evaluate their ideas. Post-secondary education should challenge students to embrace risk, and to learn from failure through facilitating the navigation of crises and ethical dilemmas.

Progressive education is best accomplished by supporting experiential learning (i.e., knowledge acquired through experience), which exemplifies higher education’s philosophical and pedagogical needs and goals. Specifically, experiential learning demonstrates students’ roles within the institution, within the community, and within themselves. Experiential learning enhances the way people relate. When we learn experientially, we engage our whole selves in the process as opposed to solely, for example, the ‘analytical’ part of ourselves. This approach allows students to engage trans-generationally, as well, with academic and non-academic citizens of the world. The dimensions of experiential learning amplify the voice of the youth, while underscoring and enforcing the value of practical initiatives.

Designing the Future of Education: Building a Bridge Between Today and Tomorrow

Any analysis of the post-secondary experience, purpose, and structure, must extend beyond the classroom. It is often perceived that the role of education within society is not debated enough, or at least not discussed enough in this time of economic and political questioning. Education is one of the most powerful tools we have to create social change, and it is thought that social change need never stop.

Financial barriers to PSE are unnecessary. Tuition could potentially be eliminated altogether through a progressive taxation system that adequately funds public sector education and through shifting governmental funding priorities towards long-term public good. Tuition is an issue that is as important as it is controversial, and should be recognized as such. In the province of Québec, a proposed tuition hike has recently been rejected. This increase in tuition fees was seen by some as a step towards an increased privatization of education, which may lead to greater inequality. ‘Free’ education comes with many challenges, however, which we can understand when analyzing some European and South American models that have embraced it (Morin, 2012). In these cases, barriers morph from financial to academic and a parallel private sector can emerge, leading to an unproductive two-speed system that fosters financial elitism. Many
PSIs struggle to balance their budgets, partially due to insufficient government funding, and are increasingly filling this funding gap through corporate or private research investments and donations. Much government-sponsored research is now tied to corporate or private research funding through 'matching funds' projects. David Bernans has argued that this funding paradigm gives corporations power to determine what gets taught in universities and what knowledge is sought. The Whirlpool Inc. Chairman, for example, has said, “We could not work with a university that has a long, drawn-out process for working with corporations. Rather, universities must listen to the needs of corporate customers and then quickly marshal the resources to solve the learning requirement” (Whitwam quoted in Meister, 1998, p. 188).

A dependency on corporate funding for the sustainability of institutions can also lead to disproportionate funding for ‘profitable’ departments – such as engineering and computer science – versus those traditionally viewed as less profitable areas of knowledge, including many of the social sciences and arts. This, in turn, de-emphasizes areas of knowledge transfer that are essential to the betterment of our society. Through attributing levels of hierarchy to different forms of education, education itself is weakened as a means for social betterment.

We must also examine and address the roots of how culture, colonialism, heritage, racism, classism, gender expectations, and other social forces all play into who can and cannot attend and succeed at PSIs. Let us remember that education is an important sphere of any society, and educated societies are often judged by their ability to facilitate equality, justice, and peace within learning. This funding gap can open the door for military funding and its influence on academia. It has been asserted that, “a university researching for the military, or for a military contractor, must reckon on the possibility that this research will help kill someone” (Dyer-Witheford, 2007, para. 6-9).

Transformational visions for the future of PSE require us to make connections to social issues. While fighting for accessible education, we must also fight for environmental justice, comprehensive healthcare, quality public childcare, sufficient cycling infrastructure, and for other crucial issues that are of local, provincial, national, and global relevance. We must recognize that we occupy many identities beyond that of student or of professor, and that universities are interconnected with society. At a systemic level, there needs to exist balance between research and teaching, especially in a paradigm where most of the endowment can be directed at research.

Post-secondary education should help prepare students to build meaningful lives as engaged and responsible citizens. The ideal learning environment is one where students are taught to view problems from multiple perspectives, rather than have disdain for thought processes different from their own. Post-secondary education should cultivate an ability to collaborate between different logics, paradigms, and world-views. If collaborations in learning saw no boundaries across disciplines, they would be empowered to fulfill their potential and find more effective and sustainable solutions to issues. This approach would challenge the elitist nature of academia that, some may argue, traditionally has thrived on segregation, competition, and one-way understanding.

The closer we come to individualized learning plans, the more students can get out of their education. Through this process, students will find themselves both educated and empowered. Within academia, we are also faced with the challenge of balancing passion and freedom. Teachers should be free to challenge their own expertise, especially if the aim is to stimulate creativity. Students should be given freedom with respect to the work they do and be allowed to step outside formal frameworks. Creativity, freedom of thought, and social service should be rewarded. After all, ideas that are as far removed from the existing ones end up being those we remember and leave a legacy for others.

Students can complete school with more than just grades, a degree, and stress management skills earned the hard way. A crucial component of holistic development is creating an environment conducive to good mental health. Many students experience anxiety, panic attacks, depression, suicidal thoughts, and other mental health issues. Struggles to deal with these issues are not a result of weakness, laziness, inadequate preparation, or poor time-management. Institutions need to ensure that students’ experiences navigating mental health resources are not frustrating and alienating, but comfortable and enabling.

**Encouraging Student Leadership**

Students should not be told that they are ‘leaders of tomorrow’; they should be told that they are the ‘leaders of today’ and be encouraged to solve current real-world problems. Students should have access to resources
that enable them to dream, test, evolve, and challenge ideas. Students thirst for opportunities to experience the complexities of the real world, while becoming engaged in ‘learning with consequences’ that yields tangible outcomes.

Post-secondary institutions can foster cultures of collaboration and academic inclusion by recognizing that everyone has the potential to be an effective, impactful leader. By encouraging students to support and take pride in each other's growth, and by instilling a sense of individual and collective responsibility, student leadership can be optimized. Educators can ignite students’ interests in the classroom, helping to combine personal passions with critical thought, leading to action and involvement on campus and in the community. Students value opportunities to reflect on their experiences, to gain a sense of self in relation to their environment, and to prepare for social, economic, and systemic challenges faced by our generation and beyond.

Conclusion

As student leaders from across Canada, we recognize that some challenges and opportunities in PSE are unique to each institution while others exist across the country. Structural and systemic changes are needed to address widespread issues such as funding, while individual institutions have the ability to target other needs such as opportunities for experiential education. Post-secondary institutions will continue to play an important role in shaping leaders and actively contributing to the betterment of society; their role is not to be taken lightly. As we ended the plenary with the following poem, we also felt it is fitting to do so here:

Far be it from me to say
What it is that students need
When at first they may endeavour
Not to follow but to lead

Perhaps they need a challenge
For failure strengthens resolve?
Perhaps they need support
To cushion them when they fall?

These questions I cannot answer
For no two of us are the same
But I think that to know this
Is to know our challenge by name

This much I feel for sure
Your encouragement cannot be hollow
For if it is felt and true
You will watch your students lead, where others will only follow.

Acknowledgments

We are grateful to those who made the 3M NSF possible and contributed diligently in direct and indirect ways. These include the adjudicators and nominators, Arshad Ahmad, Mike Atkinson, Sylvia Avery, Don Cartwright, Alice Cassidy, Natalie Gerum, Valerie Lopes, Ron Marken, Ron Smith, Greg Snow, 3M Canada, Denise Stockley, and Angie Thompson. Thanks to those at the STLHE conference host institutions and organizing committee who worked to bring the student representatives on board: Janette Barrington, Dianne Bateman, Effi Kaoukis, Cynthia Weston, Laura Winer. We are grateful to the CELT organizers and anonymous reviewers. We offer special thanks to Alice Cassidy, 3M NSF Coordinator and facilitator extraordinaire, for organizational efforts in the months leading up to STLHE 2012 and for assisting us in preparation of this paper for publication.

References


Biographies

The 3M National Student Fellowship Award was introduced in 2012 to honour undergraduate students in Canada who have demonstrated qualities of outstanding leadership and who embrace a vision where the quality of
their educational experience can be enhanced in academia and beyond. Read the full bios of this inaugural cohort at http://www.stlhe.ca/awards/3m-national-student-fellowships/2012-2/2012-3m-national-student-fellows/. For the plenary, 3M students were joined by CEGEP undergraduate and a graduate student chosen by the institutions co-hosting the 2012 conference.