Teaching Matters
Great Teaching . . . by Design
Issue No. 41 University of Waterloo January 2013

Can risk-taking be taught?

Freedom to fail. Learning from mistakes. Seeking discomfort. Not your normal ways of thinking about a higher education learning experience, are they? And yet, recent literature that promotes innovation and creativity as part of university courses focuses on the importance of risk-taking (e.g., Kazerounian & Foley, 2007). But can we teach students to take risks?

Reid (2009) suggests that we need to ask for and reward risk-taking learning behaviours in our courses. She provides five specific strategies:

1. Model risk-taking behaviours: encourage students to brainstorm essay topics to the extreme to expand how they may think about approaching a topic.
2. Use peer-based learning: activities such as Think-Pair-Share (where students first contemplate a problem or question a conclusion on their own, discuss their ideas with a partner, and then share to the whole class) allow for uncertainties to be explored in a limited way.
3. Build assignments around questions: encourage students to reflect on their questions in an assignment rather than move to a solution to give them practice at question-asking, or ask for a paper in which they explore their difficulties with an assignment and why they believe they struggled.
4. Create low thresholds: scaffold risk-taking behaviour through practice exams, interim project reports, or short presentations that are for low or no marks.
5. Reward academic risk-taking: if we want students to take risks, we need to support them by not penalizing their attempts to try something new or by acknowledging when they choose to try harder tasks.

Kazerounian and Foley's (2007) study on the factors that may impede creativity in engineering, science, and the humanities found that students in all of these disciplines were afraid to make mistakes on homework and tests "even if they feel they have still learned an important lesson in the process" due to the importance of grades (p.766). If we give grades for taking risks and allow for the practice that Reid recommends above, our students may be more willing to step outside of their comfort zones.

Of course, it can be a challenge for faculty members and students to perceive academic risk in the same way. In the Kazerounian and Foley study, engineering and science students reported that faculty did not encourage them to take risks since they felt that unexpected answers on assignments were not valued, whereas faculty indicated that they strongly encouraged risk-taking on assignments and projects (p.766). These authors suggest that when a misalignment in perceptions occurs, the students' perceptions should be considered first.

So can we actually teach academic risk-taking? I question that. But I do believe we can create an environment in which risk-taking is not only allowed but encouraged. When we put some focus on the process of learning rather than solely the product, our students can flourish.

Kazerounian, K. & Foley, S. (2007). Barriers to creativity in engineering education: A study of instructors and students perceptions. *Journal of Mechanical Engineering, 129*, 761-768.

Reid, S. (2009, October). *The Teaching Professor*, 3.

Donna Ellis

Cultivating creativity: An interview with LITE grant recipient Geoff Malleck

Spend even just a few minutes with Geoff Malleck, and you will feel inspired – inspired to take risks, to understand better the learners in your classroom, to take on big ideas in teaching – like teaching the seemingly unteachable skill of creativity. Malleck, a Faculty member in the Department of Economics who teaches courses on Entrepreneurship, doesn't see creativity as an innate characteristic. Instead, he talks about the learnable skill of "disciplined creativity". Are you intrigued? I was, and so I recently sat down with Malleck to discuss the subject of his recently-awarded Learning Innovation and Teaching Enhancement (LITE) Grant: "Offering Disciplined Creativity as a Deeper and Richer Learning Experience for Undergraduate Students at Waterloo".

The importance of learning to be creative

GM: Being creative is a core responsibility that we have for several reasons: Our ability to succeed in life is dependent on our ability to create and innovate, and if we don't flip those switches, we're letting our students down. We need creative minds that know how to work together. The LITE Seed Grant has really enabled me to integrate that into my classes.

Creativity is also the core of entrepreneurship. In order for entrepreneurship to happen, it is preceded by innovation, and that is preceded by creativity. Creativity, innovation, and entrepreneurship will enable our nation to retain its high level of prosperity. I think the culturally significant activity that a nation can engage in is entrepreneurship and the stages that lead to entrepreneurship. We don't do a very good job in terms of promoting it, encouraging it. If I were looking at my grandiose objective, it would be to culturalize Canada to be more creative.

The idea of "Disciplined Creativity"

GM: "Disciplined Creativity" distinguishes itself from creativity in that it's process-rich, and it's framed. If we create a context and we show people *how* to create and we show them what we're looking for in terms of sought-after outcomes, now we've put them in a position where they can actually work towards something.

Understanding our individual preferences for different parts of the creativity process is also key. The LITE Seed Grant enabled me to develop the knowledge and receive certification on the FourSight® Method and to implement this process into my courses. FourSight® enables the certified leader to help someone identify if he/she is a "Clarifier", an "Ideator", a "Developer", or an "Implementer". Rather than measuring what a person is best at, FourSight® measures what we like to do the most, where we're the most engaged.

And here's the key: because the entrepreneur never succeeds as an island, most of the courses I teach (e.g., ARBUS 200, ARBUS 300, ARBUS400, ECON 203, and ECON 220) have a heavy weighting related to group work. So, if I know that you're an "Ideator," someone who likes to sit back and come up with ideas, and I'm a "Developer," and I want to move on and do something, there's a natural tendency to conflict. If we understand each other and we're put together as a group, with someone who's a "Clarifier" and someone who's an "Implementer," then our output and the quality of our output is going to be significantly better. With over 300 students a year involved in the FourSight® process, the potential impact on the enhancement of creativity skills, and ultimately, on entrepreneurship, is substantial.

Creativity as the core of Entrepreneurship
GM: The University has identified entrepreneurship as its sixth pillar, and I think that for entrepreneurship to manifest as one of our key pillars, we've got to get really good at the first two steps in that continuum: creativity and innovation.

When faced with complex problems where there are no apparent or identified solutions, people will engage in the creativity process, so we've got to promote, encourage, and celebrate creativity and all the elements of that. Ultimately, I'm interested in understanding whether the creativity modules in my courses have affected students' ability to address challenges in creative and effective ways. We need to work harder at that as a collaborative unit. The scattered pieces are all very impressive. Just imagine what we could if we all worked together.

Some creativity resources:

Buffalo State University International Center for Studies in Creativity

"Think Better: An Innovator's Guide to Productive Thinking" by Tim Hurson

"The Beermat Entrepreneur (Revised Edition): Turn Your Good Idea into a Great Business" (2nd Edition) by Mike Southon and Chris West

Julie Timmermans

Opportunities and New Directions Conference (OND) 2013

Please plan to join us for OND's fifth anniversary.

Date: Thursday, April 25, 2013
Proposals due: Friday, January 25, 2013
Theme: "Barriers and breakthroughs: Accounts of change in teaching and learning".
Keynote Speakers: Decoding the Disciplines experts Dr. Leah Shopkow and Dr. David Pace, Indiana University Bloomington

Topics we'll address:

- Breakthroughs and barriers experienced in facilitating effective learning and teaching
- How focusing on student learning has changed our teaching
- How we can help students break through bottlenecks in their learning to deepen understanding
- How focusing on teaching has enhanced student learning

Call for Proposals
Proposal Submission form

CONFERENCE HIGHLIGHTS:

- Break-out sessions, including presentations, panels, workshops, and posters to share practice and research
- Lunch at the University Club
- "Igniting Our Practice": Showcase of teaching by exemplary uWaterloo Professors
- Keynote speakers Dr. David Pace and Dr. Leah Shopkow, Indiana University Bloomington

Registration will open later in January.

For questions regarding the Conference, please contact Julie Timmermans.

We hope to see you in April!

Julie Timmermans

Announcing recipients of the Learning Innovation and Teaching Enhancement (LITE) seed grants and full grants

In collaboration with the Office of the Associate Vice-President, Academic and Strategic Initiatives, the Centre for Teaching Excellence is pleased to announce that six exciting new LITE Grant projects were funded through the October 2012 competition. Congratulations to all the recipients!

*Denotes Graduate Student

**Denotes Undergraduate Students

LITE SEED GRANTS

Project Title	Name(s) of Applicant(s)	FACULTY, Department or Unit of Applicant(s)
Community Service Learning: Testing the Indirect Effects on an Undergraduate Social Determinants of Health Class	Kelly Anthony Jenna van Draanen Thivaher Paramsothy**	AHS, School of Public Health & Health Systems St. Michael's Hospital AHS, School of Public Health & Health Systems
Identifying and Decoding Bottlenecks in Tax	James Barnett Julie Timmermans	ARTS, School of Accounting & Finance Centre for Teaching Excellence
Mapping Treaties: An Interactive Visual Tool for Teaching Aboriginal Treaty and Indian Reserve Histories for University Classes and First Nations Communities	Susan Roy Meaghan Fowler*	ARTS, History

LITE FULL GRANTS

Project Title	Name(s) of Applicant(s)	FACULTY, Department or Unit of Applicant(s)
Building Capacity for Case-Based Learning at uWaterloo	Scott Anderson Chad E. Gooyers* Diana E. De Carvalho* Jack P. Callaghan Kelly Anthony Jennifer Lynes Patricia Hrynchak James Barnett Nancy Vanden Bosch Greg Berberich	Centre for Teaching Excellence AHS, Kinesiology AHS, Kinesiology AHS, Kinesiology AHS, School of Public Health & Health Systems ENV, SEED SCIENCE, School of Optometry & Vision Science ARTS, School of Accounting & Finance ARTS, School of Accounting & Finance ARTS, School of Accounting & Finance
Life-Long Science Literacy Across The Disciplines	Carla Fehr	ARTS, Philosophy
A Simulated Environment for Real Learning: Redesigning a Problematic Business Writing Course	Dorothy Hadfield Jay Dolmage	ARTS, English Language and Literature

Some stats from this round of LITE Seed Grants applications:

- Number of LITE Seed Grant proposals submitted: 7
- Number of LITE Full Grant proposals submitted: 13
- Number of proposals funded: 6 (3 Seed and 3 Full)
- Number of Faculties represented by projects funded to date: 5 of the 6 Faculties
- Number of LITE Grant projects funded in 2012: 12

The purpose of the LITE grants is to provide support for experimenting with and investigating innovative approaches to teaching that aim to foster deep student learning and enhance teaching at the University of Waterloo.

Two kinds of grants are available: LITE Seed Grants for projects up to $5,000, and LITE Full Grants for projects up to $30,000. Both grant formats emphasize the contribution of the project to the University of Waterloo learning community.

For Seed Grants, the three annual application deadlines are February 1, June 1, and October 1. The one annual deadline for LITE Full Grants is October 1.

Information about the grants

To register for an upcoming LITE Grant Information and Working Session, please visit the Centre for Teaching Excellence website.

If you and/or your colleagues are considering applying for a grant and would like to discuss your project, please contact Julie Timmermans at the Centre for Teaching Excellence.

Julie Timmermans

Teaching Awards

Teaching award nomination due dates

Tips on writing a persuasive nomination letter can be found in Trevor Holmes' blog entry 'How to Write an Effective Nomination Letter'.

Distinguished Teacher Awards are given in recognition of a continued record of excellence in teaching at the University of Waterloo. The nomination deadline is Friday, February 1, 2013.

Amit & Meena Chakma Awards for Exceptional Teaching by a Student are given in recognition of excellence in teaching by students registered at the University of Waterloo. The nomination deadline is Friday, February 8, 2013.

Distinguished teaching awards and honours for uWaterloo instructors

Darrol Bryant, Centre for Dialogue and Spirituality in the World's Religions, Renison University College, **Huston Smith Award for Interfaith Education**, Council of Interfaith Communities of the United States.

Keith Hipel, Systems Design Engineering, **Joseph G. Wohl Outstanding Career Award**, IEEE Systems, Man, and Cybernetics Society, and **Outstanding Engineering Educator Award**, IEEE Canada.

Jeff Nagge, School of Pharmacy, **Excellence in Teaching-Academic**, Michael G. DeGroote School of Medicine, McMaster University.

James Skidmore, Germanic and Slavic Studies, **Annual German Online Award**, CAUTG.

Robert Sproule, School of Accounting and Finance, **Desire2Learn Innovation Award in Teaching and Learning**, The Society for Teaching and Learning in Higher Education.

Paul Stolee, School of Public Health and Health Systems, **Evelyn Shapiro Mentoring Award**, Canadian Association on Gerontology.

Gordon Stubley, Mechanical and Mechatronics Engineering, **Ontario Undergraduate Student Alliance Award for Teaching Excellence**, Ontario Undergraduate Student Alliance.

Congratulations to all awards and honours recipients!

Verna Keller

Catching up with our Teaching Fellows

From left to right: Rohan Jayasundera, Kelly Anthony, Mary Louise McAllister, Shannon Dea, Gordon Stubley

Waterloo's new Teaching Fellows have had a very productive Fall term. Each Teaching Fellow is approaching this new role in unique and exciting ways. Read on to get a glimpse into their successes and upcoming plans…

Kelly Anthony, AHS: I meet frequently with faculty in small groups or individually to talk 'teaching and learning', support their specific course needs, and connect them to CTE and other resources. I organized several small seminars on classroom strategies such as clicker use and experiential learning. Quarterly, I host a 'Teaching Tea' where we explore topics of shared interest which are then highlighted in our new quarterly AHS Teaching Newsletter. Upcoming projects include work on the AHS website to raise the visibility of teaching. With CTE's help, I am designing a more formal AHS Faculty Peer Review Process. We are also working to create a more engaging first-year undergraduate experience; stay tuned for details. For our inaugural AHS Teaching Seminar this January, I have invited a team of innovative McMaster University instructors. I am working with our student association to more deeply and thoroughly assess teaching and learning from our students' perspective.

Shannon Dea, ARTS: My main priorities this term are supporting equity and inclusivity in the classroom and developing faculty-wide best practices for assessment. With respect to the former, in the Fall 2012 term, I co-founded a university-wide working group on Universal Design for Learning. We are working to develop resources to help make the University of Waterloo as accessible as possible for all learners, teachers and others. With respect to assessment, I have struck an ad hoc committee to gather longitudinal grades data from the faculty in order to assess what assessment looks like in the Arts at Waterloo.

Some other initiatives I've been working on:

- a Teaching Fellows Blog
- regular meetings with colleagues to discuss teaching
- peer review of teaching models for the Arts
- blended learning research with WatPD
- creating a line-up of "Teaching Tuesdays" where Arts instructors will share with colleagues the neat stuff they're doing in (and out!) of the classroom.

Rohan Jayasundera, SCI: As the Senior Teaching Fellow for the Faculty of Science, I play the role of a "foreperson" for a group of six teaching fellows – one each from Biology, Chemistry, Earth and Environmental Sciences, Optometry and Vision Science, Pharmacy, and Physics and Astronomy. I am mainly involved in the following activities:

- Identifying effective, innovative teaching practices and promoting their use within the Faculty of Science
- Facilitating and promoting participation in professional development activities
- Leading efforts to make all faculty, particularly pre-tenure faculty, aware of the importance and benefits of good teaching
- Providing leadership or guidance at the Faculty level (e.g., as a member of or advisor to the Faculty's hiring Committee)
- Chairing the committee that selects the ESTA (Excellence in Science Teaching Award) winner(s)
- Identifying and mentoring the next Senior Teaching Fellow for Science.

I meet with the Fellows group once a month to discuss teaching matters and/or new developments in teaching, and as our first step we organized a teaching retreat in December 2012.

Mary Louise McAllister, ENV: As the Teaching Fellow for the Faculty of Environment, I have identified the following three priorities: 1) introduce a widespread ethos of mentorship, peer teaching, and collaborative teaching/learning approaches; 2) facilitate the engagement of faculty in discussions and initiatives to foster effective teaching and learning outcomes, with specific reference to environmental education; and 3) encourage integrative, experiential and innovative teaching approaches. The first teaching seminar, held in November, was entitled *Outside The Lecture Hall.* This roundtable discussion presented some innovative teaching approaches currently employed by our faculty members. Experiential teaching is highly valued and widely-practiced in the Faculty of Environment. This Fall also saw the first meeting of the ENV-TLC (Teaching-Learning Committee) composed of professors, graduate and undergraduate students. Students in the faculty are also organizing into advisory committees to provide suggestions to the TLC. Planning is underway for a faculty Teaching-Learning website, Townhall meetings, and roundtable seminars with faculty and students.

Gordon Stubley, ENG: In Engineering, the Teaching Fellow role is as Associate Dean, Teaching. In this role, I support the development of teaching practice to improve depth, effectiveness, and efficiency of learning in my Faculty. I have four main areas of focus: faculty development, TA development, teaching awards, and student course evaluations. One success to highlight for this past term in the area of faculty development is the establishment of the Teaching Development Working Group in Engineering. I bring together these departmental representatives at workshops designed to help develop their teaching and mentoring capacities. Workshops run so far have included reviewing student evaluation, observing classroom teaching, and organizing our teaching around threshold concepts. More workshops are being planned for the Winter term. I have also been meeting with all new faculty members in Engineering to help orient them to Waterloo and ensure that they are aware of the new faculty programming offered by CTE, which is mandatory in our Faculty.

CTE will regularly highlight the work of our Teaching Fellows, so stay tuned!

Donna Ellis

Teaching Excellence Academy (TEA)

Are you looking for new ideas to include in your course syllabus revision? The four-day Teaching Excellence Academy being held Wednesday, April 17, Thursday, April 18, Friday, April 19, and Monday, April 22, 2013 at St. Paul's University College may help you achieve your goal. Your Chair/Director must recommend you for the Teaching Excellence Academy.

Verna Keller

Bill C-11 - How will changes to the Copyright Act affect instructors and students?

Bill C-11, an amendment to the Copyright Act of Canada, was proclaimed on November 7, 2012. This amendment has implications for universities as it affects the definition of the "fair dealing" use of copyright materials for educational purposes. The scope of what is considered to be fair dealing use will be much broader now so this will enable instructors to legally copy "portions" of copyrighted works as class handouts. In some cases where the content of the course packs will now be covered by fair dealing, the new interpretation will mean a decrease in the price of course packs for students.

An interpretation of the new Fair Dealing Policy for universities and colleges has been crafted by AUCC (Association of Universities and Colleges of Canada) and this information has been incorporated into the uWaterloo copyright site. To access the latest information on how Bill C-11 will affect what you can provide see the uWaterloo Copyright FAQ site.

A good source of information on how Bill C-11 will impact Canadians can be found on Michael Geist's website. Dr. Geist is a law professor at the University of Ottawa where he holds the Canada Research Chair in Internet and E-commerce Law.

Jane Holbrook

Annual CTE Research CV

During 2012, staff at the Centre for Teaching Excellence engaged in various research activities. In the Centre's Annual Research CV, staff members gave invited presentations/workshops in addition to publishing in peer-reviewed journals and presenting at teaching and learning conferences. Of special note, Trevor Holmes (Senior Instructional Developer, Programming) co-edited a special issue of the International Journal for Academic Development called Political Geographies in Academic Development.

Verna Keller

Loving to learn day

Please join us for CTE's seventh annual "Loving to learn day" dedicated to celebrating the joys of learning.

Date: Tuesday, February 19, 2013

Contest: If you were to write onto a postcard something that you are proud to have learned in the past few months, what would it be, and to whom would you send it and why?

Contest Deadline: Friday, February 14, 2013

Use this online form to submit your entry. If you have any questions, please contact Mark Morton.

Mark Morton

Congratulations to CTE Fall 2012 grads!

The following 6 students completed the Certificate in University Teaching program in Fall 2012: Allison Cattell (Arts), Jennifer Doyle (Arts), Amin Haghnegahdar (ENG), Zhiyue Huang (MATH), Kyra Jones (SCI) and Gerlinde Weimer-Stuckmann (ARTS).

In addition to CUT graduates, 23 graduate students completed the Fundamentals of University Teaching program in Fall 2012. The numbers by faculty are: Applied Health Sciences 2, Arts 5, Engineering 11, Environment 1, Mathematics 2 and Science 2.

Darlene Radicioni

New Graduate Instructional Developers (GIDs) join CTE

Karly Neath

As a Graduate Instructional Developer for the Centre for Teaching Excellence, Karly is dedicated to educating her peers with improving their teaching skills. Karly will be involved with microteaching sessions, facilitating workshops and developing workshops, as well as providing written and oral feedback to graduate students who are hoping to enhance their teaching abilities. Karly has advanced her delivery, organization, and leadership skills through her academic, teaching, and volunteer experience. These skills have been enriched through teaching assistantships, guest lectures, the Fundamentals of University Teaching Program, and the Student Leadership Program of Waterloo. Additionally, Karly volunteers as a J/K teacher assistant for KidsAbility, helping to build social skills and teach academic subjects to children with Autism Spectrum Disorders (ASD). Karly has been elected Cognitive Neuro-science division representative in both 2011 and 2012, serving as an intermediary between the graduate students and psychology administration.

Karly, a PhD candidate in the Cognitive Neuroscience division in the Psychology department, is currently studying the neural bases of social cognition using eye-tracking and EEG. Specifically, her research aims to elucidate the neural events that underlie the processing of emotional faces. Her work is necessary to better understand the early stages of face processing which have been shown to be altered in clinical populations such as ASD.

Karly is thrilled to have the opportunity to share her experiences and knowledge with her peers to collectively enhance student learning in the university classroom.

Carsen Banister

Carsen Banister will be facilitating workshops and microteaching sessions in his role as a Graduate Instructional Developer at the Centre for Teaching Excellence (CTE). He will provide valuable feedback to participants to strengthen their teaching abilities and develop new skills. Carsen has developed his instructional techniques through teaching opportunities and participation in CTE programs. Carsen has held a total of six teaching assistant (TA) positions for a variety of engineering courses, including thermodynamics, fluid mechanics, and calculus. He has received “Outstanding TA” awards on several occasions as identified by the students whom he taught. Carsen has a strong focus on interactivity in the classroom to grab students’ interest. He has worked with instructors to redesign and improve courses.

Carsen started his PhD research in Fall 2010 with the Department of Mechanical and Mechatronics Engineering at the University of Waterloo. His research focuses on new heating technology for buildings, specifically the investigation of systems which combine heat pump and solar thermal technologies. Methods used include both experimental and numerical techniques to explore system configurations, performance, and reliability. Prior to commencing graduate studies, Carsen obtained a BASc in Mechanical Engineering at uWaterloo.

In his spare time, Carsen enjoys exploring what the natural world has to offer while kayaking, rock climbing, and endurance cycling.

Karly Neath and Carsen Banister

Teaching Matters is published by the Centre for Teaching Excellence at the University of Waterloo. At the Centre, we foster teaching and learning of the highest quality at Waterloo.

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Previous Teaching Matters newsletters can be viewed in **CTE's newsletter archives**.

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ISSN 1918-898