

Teaching Matters

Great Teaching . . . by Design

Issue No. 53

University of Waterloo

Winter 2018

Change is Good

In my May 2017 *Teaching Matters* article, I wrote about the value of saying no and described how in CTE we have been undertaking a process as part of our external review to determine what to stop doing so we have the time and the resources to move to new priorities. One service that has come under the microscope is this newsletter. The online traffic to it is not high and we believe that there may be more impactful and less resource-intensive ways to share our news and ideas. I am likely the most reluctant to say goodbye to this publication since I launched it in September 1999 by merging two existing newsletters. But, it seems to be time for a change and, as my article title says, “change is good”.

This title stems from a gift that CTE staff members gave to me last term at our tenth anniversary celebratory event. It was a dish for collecting loose change, with the inscription “change is good”. But of course, the meaning goes far beyond some coins to the practice of doing things differently. Change is so vital to our experience and our work in CTE. In the 21 years I have worked at our teaching centre, we have changed names, changed office locations, reported to different senior administrators, welcomed and said goodbye to staff members, and changed mandates. And I don’t see such changes stopping in the near future. We recently received a report from our external reviewers who, while applauding CTE for the depth and quality of our work, identify more ways for us to change. We are still processing their ideas, but I suspect that we will be contemplating not **whether** to make changes to address their recommendations but rather **when** and **how** to do them.

Change, though, can happen well beyond CTE. Recently, our President, Feridun Hamdullahpur, sent an article our way about an initiative from the Association of American Universities. In a report called, *Framework for Systemic Change in Undergraduate STEM Teaching and Learning*, the Association addresses a key issue in higher education: not putting into practice what we know about evidence-based teaching practices in undergraduate courses. Their focus is STEM courses, but the STEM disciplines are not alone. The framework outlines three critical layers for system-level change: pedagogical practices, scaffolding of these practices, and cultural change. Miller et al. (2017) published an update on this initiative in *Change*, identifying steps needed to make changes and ideas for institutionalizing reforms to undergraduate teaching based on projects undertaken at their partner institutions. The projects include a donor-funded grants program to enable curricular level redesigns of course sequences to include high-impact, active learning experiences as well as classroom redesign projects to provide collaborative learning spaces (pp.41-43). We have seen the beginnings of initiatives here at Waterloo to address the evidence-based teaching implementation gap, but the reality is that we have a ways to go. More change is needed.

In advocating for change, I also acknowledge that change is unsettling. We get comfortable with how things are – to change things may result in a loss of control, unintended consequences, or a push against organizational culture. Why should we stop producing a newsletter? Why should we change our teaching practices? Why indeed? The impetus, despite the discomfort, truly lies in the evidence. Personally, I am a high-information decision-maker, almost never making up my mind without analyzing all available data and seeking input from others. I look for patterns and alternative explanations; I often look for ways to keep things just as they are. But I cannot deny good evidence that says the time has come to make a change. And that is when I remind myself that “change is good”.

You will likely see more changes out of CTE over the next few months, but know that our decisions are backed by evidence and have been contemplated thoroughly. These changes will also be viewed as opportunities, despite any misgivings about what we may be leaving behind. So, farewell to *Teaching Matters* as a publication. It has served us well but new ways have emerged to tell our story, such as our [annual report](#) and our [website newsreel](#). Stay tuned for more good changes to come!

References:

Association of American Universities. (2013). Framework for systemic change in undergraduate STEM teaching and learning. Retrieved from: https://www.aau.edu/sites/default/files/STEM%20Scholarship/AAU_Framework.pdf

Miller, E.R., Fairweather, J.S., Slakey, L., Smith, T., & King, T. (2017). Catalyzing institutional transformation: Insights from the AAU STEM initiative. *Change: The Magazine of Higher Learning*, 49(5), 36-45. DOI: 10.1080/00091383.2017.1366810

Donna Ellis

Robert Danisch: Reflecting on the Practice of Communication



When asked about the role experiential education plays in his classes, Robert Danisch, Professor of Drama and Speech Communication, quips, “I didn’t know there was another kind.” In the courses Danisch teaches at Waterloo — Speech Writing, Small Group Communication, Persuasion, and Communication Ethics — practice is integral to student learning.

Danisch wryly summarizes how Humanities classes tend to work: read some stuff, talk about what was read, then write or talk about it in a more formal way. This, too, is the foundation of his classes, and Danisch establishes this expectation for his students early in his courses. To some outside of the Humanities, how experiential learning fits into this process might not be immediately evident. But as he tries to make clear to his students, everything is communication. Students are always “doing” communication in his classes, as they are in all of their classes.

Danisch seeks to make students aware of the ubiquity of communication and their role in it as active communicators. When he began teaching Small Group Communication at Waterloo in 2011, he brought to the course the unorthodox approach that he had employed when teaching a similar course at Concordia University: on the first day of class, he walked into the classroom and simply sat down. What happened next was up to the students. When Danisch paused the class some time later, he asked students to reflect on the toolkit of small group communication practices they had to resort to when his refusal to lead the discussion gave them no other option. The message was clear: we are all always practicing learned communication skills. Taking the time to reflect on those skills can help us to be more intentional about how we relate to and with others.

In this way, Danisch helps students develop as reflexive practitioners — as communicators capable of reflecting on their practices and making adjustments based on those reflections.

In his Speech Writing course, for example, students explore a rhetorical device like parallel structure (verbal elements or phrases that repeat to build rhythm, pattern, and meaning) in a speech that they write and deliver to the class. Students receive real-time feedback from Danisch and their peers; as he points out, this class is not for the faint-hearted. While daunting to some, this cycle of practice-feedback-reflection develops in learners not just a knowledge of theory, or what Danisch calls “know-that,” but an embodied knowledge embedded in practice, or “know-how.” It is this know-how that Danisch works to cultivate in students, and he attempts to do so by placing agency in the hands of learners.

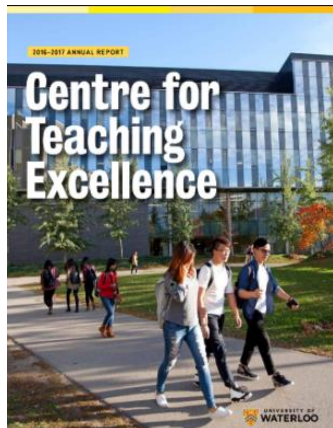
It’s not surprising, then, that Danisch sees himself as one of many collaborators in his students’ learning. Group work and collaboration are important components of his classes. To facilitate this, he created a “collaborative course dialogue” assignment in his Communication Ethics course. In groups of three to four, students use Google Docs to develop a claim in response to a dilemma, and others respond. A deceptively straight-forward assignment, it in fact challenges students to develop their own system of citation to support their claims, and, in so doing, recognize and value the important role citation plays in effectively and persuasively communicating a position.

On top of his teaching duties, Danisch is also the Director of [Arts First](#), the Faculty of Arts’ response to the Steering Committee for the English Language Competency Initiative. Through two-first year courses, Arts’ students will build foundational skills in communication and analysis.

While our interview focused on experiential education, collaboration, and student agency, when asked what advice he would give to a new instructor, Danisch didn’t hesitate. “Teach to your personality,” he says, “and not to some other set of expectations of what teaching ‘should’ look like.” Want to get a glimpse of Danisch’s teaching? He has developed over 30 [videos about key communication practices](#), from the somatic-marker hypothesis to nested narratives, in order to free up more time for active learning in his classes.

Lisa Kabesh

CTE Annual Report



[CTE’s third annual report](#) reflects on the Centre’s activities from the 2016-2017 fiscal year. CTE Director, Donna Ellis, notes that in the report you will read about CTE’s various programs and services to support quality teaching and learning at Waterloo.

Verna Keller

CTE642 Course Design Fundamentals

Date: Tuesday, February 6, 2018

Time: 9:30 am to 3:30 pm

Location: EV1 241

Register through [myHRinfo](#)

Verna Keller

Educational Technologies Week

March 12 to March 16, 2018

CTE's fourth annual [Educational Technologies Week](#) features 18 different workshops, ranging from 1.5 to 4.5 hours in length. All UWaterloo instructors and staff are welcome to attend as many workshops as they choose. For detailed descriptions of each workshop and instructions about how to register contact [Mark Morton](#).

Day	Course Title	Time
Monday, March 12	CTE784 Keynote: The Intersection of Learning and Learning Spaces	10:00 – 11:30 am
	CTE785 Spark Technology: Collaboration and the Future of Learning & Teaching	12:00 – 1:00 pm
	CTE732 Course Redesign for Blended Learning	1:30 – 3:30 pm (March 12 and March 19)
Tuesday, March 13	CTE786 Technology and Academic Integrity: Discouraging Cheating and Enhancing Learning	9:30 – 11:00 am
	CTE787 Flipped Classroom Using LEARN	11:30 am – 1:00 pm
	CTE788 The Educational Benefits of Peer Review and Some Peer Review Tools	1:30 – 3:00 pm
Wednesday, March 14	CTE789 Instructional Strategies that make a Difference: Teaching Online at Waterloo	9:30 – 10:30 am
	CTE790 VoiceThread: Media Presentation Tool and Interactive Discussion Space	11:00 – 12:00 pm
	CTE791 Riipen: Facilitating Experiential Learning	12:30 – 1:30 pm
	CTE766 Improving Grading and Saving Time with Crowdmark	2:00 – 3:00 pm
Thursday, March 15	CTE792 GeoGebra: An Interactive Mathematical Tool for Plotting Functions and Creating Simulations	9:30 – 11:00 am
	CTE750 Enhancing Learning Through Gamification	11:30 am – 1:00 pm (March 15 and March 22)
	CTE793 MarkBox: Making and Marking Randomized (or not) Multiple Choice Tests (Without Walking to East Campus)	1:30 – 3:00 pm
Friday, March 16	CTE733 Making Screencasts with Camtasia	9:30 am – 12:30 pm
	CTE253 Leveraging Twitter to Enhance Classroom Learning	9:30 am – 11:00 am
	CTE794 Techniques for Using Piazza to Increase Student Engagement	11:30 am – 12:30 pm

Day	Course Title	Time
	CTE795 ExamSoft: Software for Creating and Administering Electronic Tests	1:00 – 2:00 pm
	CTE796 Lightboard: Video Demonstrations that Engage Students	2:30 – 3:30 pm

Mark Morton

The Engineering Ideas Clinic – Engineering Design Days

There has been explosive growth in the popularity and prevalence of hackathons worldwide. Waterloo’s own *Hack the North* brings over 1000 students from around the world together with 300 mentors for an intense, creative weekend each September. There is growing evidence coming from around the world that hackathons can promote engagement, innovation, teamwork, and problem-solving in STEM students before, during, and after their undergraduate studies. In late 2015, Dr. Sanjeev Bedi, the Director of the Engineering Ideas Clinic¹, challenged the instructors in 1A Mechatronics (MTE) to develop an event which would integrate all the first semester subjects into an “academic hackathon”-a 2-day event with a common, open-ended goal, but with structured learning checkpoints.



Figure 1 Students working on their robotic arm design for Tron Days, 2017

The 1A MTE teaching team had a number of concerns about this idea: existing hackathons tended to be open, extra-curricular events with a focus on software design and UX/UI design, with no time for students to reflect on their learning. In addition, while some hackathons have a theme to steer students towards a problem space defined by the organizers, there were no prior examples of hackathons used in-class to support course-level learning objectives. This group of staff and instructors (Carol Hulls, Sanjeev Bedi, William Melek, Jim Baleshta, Eugene Li of Mechanical and Mechatronics Engineering; Mary Robinson, Chris Rennick, and Michael Cooper-Stachowsky from First Year Engineering; and Andrew Beltaos and Francine Vinette from the Faculty of Math), buoyed by the success of the Case Days which were run by Ken McKay in Management Engineering for the first time that fall, began a 10-month long development process for what would become “Tron Days”.

¹ The Engineering Ideas Clinic is a faculty-wide, interdisciplinary group of faculty and staff who have set out to improve the education of undergraduate Engineering students. This initiative is supported by Dr. Sanjeev Bedi’s NSERC Chair in Immersive Design Engineering Activities (IDEAs) with sponsorship from the Dean of Engineering and industry (ANSYS, D2L, Quanser, Rockwell Automation, and Skyjack).



Figure 2 Students working during ECE Days, 2017

Since the first offering of Tron Days in October of 2016, the idea of an in-class, curricular hackathon has been expanded to eight different undergraduate programs (Biomedical, Civil, Computer, Electrical, Management, Mechanical, Mechatronics, and Systems Design Engineering). This model, which we have named *Engineering Design Days*, has been implemented in slightly different ways to engage the various cohorts of students and investigate best practices for student engagement. Each instance has had two days with no traditional classes, labs, or tutorials. Instead, the students work in teams to design and build solutions to open-ended problems. These problems are designed to integrate knowledge from across multiple courses in which the students are enrolled. As with traditional hackathons, the students' solutions were presented and tested in front of their peers at the end of the event.



Figure 3 Participants in Civil Engineering Days with the Ideas Clinic and its supporters (Oct. 2017)

Chris Rennick

University of Waterloo Teaching and Learning Conference: Motivating Our Students and Ourselves



(Thursday, April 26, 2018)

For our 10th annual Teaching and Learning Conference, *Motivating Our Students and Ourselves*, we invite you to submit proposals for presentations, panel discussions, workshops, and poster presentations that share your practices and research related to motivating deep learning in students and motivating ourselves as instructors.

At this year's Conference, instructors, staff, and students will gather to explore how motivation intersects with our learning and teaching. A student's motivation plays an important role in their education, from providing a sense of purpose to developing a genuine love of learning. The desire to spark or sustain student motivation shapes how instructors design their courses and informs our instructional and assessment methods. Our own motivation as instructors is also important, from staying motivated to sustaining and continuing to grow our teaching.

Dr. Joe Kim, Associate Professor in Psychology, Neuroscience, and Behaviour at McMaster University and recipient of the 2017 D2L Innovation Award in Teaching and Learning, will kick off the conference as our keynote speaker. Drs. Sarah Tolmie (Associate Professor, English Language and Literature) and Brian Forrest (Professor, Pure Mathematics) will each recreate a successful instructional method that ignites motivation in their learners in the Igniting our Practice plenary session.

Last year, over 300 faculty members, staff members, and students gathered for an enriching and exciting day. We hope that you and your colleagues will join us this year.

For more information about the Conference and to submit a proposal, please visit the [Teaching and Learning Conference](#) website. Proposals are due Wednesday, January 24, 2018.

Crystal Tse

Learning Innovation and Teaching Enhancement (LITE) Grants

The University of Waterloo's LITE Grants fund projects investigating innovative approaches to enhancing teaching and fostering deep student learning at Waterloo. Since 2012, recipients across campus have used LITE-Grant funding to explore topics ranging from transcultural learning to ePortfolios, Communities of

Practice to undergraduate teamwork development workshops, peer review of teaching to information literacy, and more.

Two kinds of annual grants are available: proposals for LITE Seed Grants, which fund projects up to \$5,000, are due on February 1 and June 1, and proposals for LITE Full Grants, which fund projects up to \$30,000, are due on October 1.

If you are considering applying for a grant and would like guidance on your project or feedback on your application, please contact [Crystal Tse](#) (ext. 31240) or [Kristin Brown](#) (ext. 32940) at the Centre for Teaching Excellence.

Crystal Tse

Teaching Award Call for Nominations

Tips on writing a persuasive nomination letter can be found in Trevor Holmes' blog entry 'How to Write an Effective Nomination Letter' at <http://cte-blog.uwaterloo.ca/?p=9>

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 2, 2018. For more information, visit the [Distinguished Teacher Awards webpage](#).

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 9, 2018. For more information, visit the [Amit & Meena Chakma Awards for Exceptional Teaching by a Student webpage](#).

Verna Keller

Grad Student Programming

The Centre for Teaching Excellence is excited to welcome new members to our [graduate programming team](#)! In Fall 2017, Tait Wilman (Fine Arts) and Wanis Nafo (Civil and Environmental Engineering) joined us as our TA Workshop Facilitators. Graeme Northcote (English Language & Literature) and Shahrukh Athar (Electrical & Computer Engineering) joined us as Graduate Instructional Developers.

This coming Winter 2018, Nickolas Rollick (Pure Mathematics) and Luc Cousineau (Recreation & Leisure Studies) will join us as our TA Workshop Facilitators. Cathy Wang (Combinatorics & Optimization) and Dylon McChesney (Philosophy) will join us as Graduate Instructional Developers.

The graduate programming teams consist of graduate students who successfully completed CTE's Fundamentals of University Teaching program. They were hired based on their interest in university teaching, strong communication skills, and interest in supporting teaching development of graduate students.

We would also like to recognize our TA Workshop Facilitators and Graduate Instructional Developers, who have completed their contracts this term:

TA Workshop Facilitators – Luke Turcotte (School of Public Health and Health Systems).

Graduate Instructional Developers – Jhotisha Mugon (Psychology).

We thank them for all of their hard work and contributions made during their time at the CTE, as well as wish them the best of luck in their future endeavors.

Monika Soczewinski

Congratulations to CTE Spring and Fall 2017 grads!

Congratulations to graduate students who recently completed CTE teaching programs.

Certificate in University Teaching program:

We had five participants complete the program in **Spring 2017**: Christopher Pugh (SCI), Faten Salim (SCI), John Saunders (MATH), Caitlin Scott (ENV), and Cathy Wang (MATH).

We had five participants complete the program in **Fall 2017**: Ahmed Abdel Aziz (ENG), Ahmed El-Awady (ENG), Kevin Goorts (ENG), Esmat Sheydaeian Arani (ENG), and Saisai Zhang (MATH).

Certificate in University Language Teaching program:

We had two participants complete the program in **Fall 2017**: Alexander Sullivan (ART), and Erica Swyers (ART).

Fundamentals of University Teaching program:

We had 67 participants complete the program in **Spring 2017**. The numbers by faculty are: Applied Health Sciences: 14; Arts: 8; Engineering: 22; Environment: 8; Mathematics: 9; Science: 6.

An additional 53 participants completed the program in **Fall 2017**. The numbers by faculty are as follows: Applied Health Sciences: 4; Arts: 16; Engineering: 18; Environment: 7; Mathematics: 2; and Science: 6.

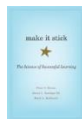
Teaching Development Seminar Series program for postdoctoral fellows:

We had 20 Postdoctoral fellows complete our Teaching Development Seminar Series in the Fall 2017 term.

Monika Soczewinski

New Items in the CTE Library

CTE has further expanded its library with these new additions! If you would like to borrow any of the books visit us in EV1 325 to check them out.



Make It Stick: The Science of Successful Learning by Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel LB1060 .B768 2014



Open and Integrative: Designing Liberal Education for the New Digital Ecosystem by Randy Bass and Bret Eynon LB1028.3 .B377x 2016



Student ratings of instruction: a practical approach to designing, operating, and reporting by Nira Hativa, foreword by Michael Theall and Jennifer Franklin LB2333 .H38x 2013

Magdalena Bentia

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.

Centre for Teaching Excellence

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

http://cte.uwaterloo.ca/who_we_are/index.html?tab=6

CTE Staff can be contacted by email or telephone. Contact information can be found on Our Staff

Members page at <https://uwaterloo.ca/centre-for-teaching-excellence/about/people?tab=2>

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