Teaching Dossier

Christopher Teeter, Ph.D.

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Teaching Philosophy Statement

My teaching philosophy has emerged through my academic training as a graduate student, teaching assistant, and primary course instructor. These experiences have convinced me that being an effective educator is more than being able to clearly transmit information to students. Rather, it involves being a guide and role model who promotes deep learning and critical thinking. An educator should help students navigate the learning process by ensuring clarity with expectations, by being knowledgeable and prepared with material, and by being flexible, articulate and approachable during interactions. As an instructor I strive to meet these expectations by: involving students in the process, focusing on underlying principles rather than superficial details, recognizing that all students are different, and appreciating that the teaching process must constantly evolve. The professors and supervisors that I have truly respected and by whom I have been most influenced ensured these principles were at the foundation of their teaching activities.

Engaging students through involvement and personal relevance: if students cannot relate to the material that is being taught it will be more difficult for them to learn, retain, and apply. As an instructor, I make a sincere effort to establish a connection between course material and everyday life. For example, in research design and statistics courses for which I have been a teaching assistant, I generate example experimental designs and research questions that are relatable to student life. Typically this involves including things that can be observed right on campus or are relevant to topical world events. Stimulating interest in real-world, accessible examples drives students as active participants in the process, and helps put many of the necessary details in context. It allows for genuine participatory activities within lessons and increases the likelihood of connecting new material to established associations within long-term memory, which will benefit future recall. Challenging students in this way to really think about the material, identify common components and grasp the underlying concepts should facilitate their ability to apply the information in the future.

Teaching at a deep rather than superficial level to a range of students: teaching the underlying principles of a problem or concept rather than tactics necessary for passing an exam/course is something I emphasize. When teaching is focused on underlying principles, students can acquire skills and techniques that are more widely applicable. I aim to work with students in such a way that is beneficial to them not only within my course, but also across other courses. In this way I aim to be a teacher of the learning process, rather than only focusing on specific course material. For example, in upper level laboratory courses, for which I have been a teaching assistant, students were expected to design, execute and write-up an experiment. As students went through this process I ensured an active role in guiding them through general principles of the process, while also providing constructive critiques of details related to their experiments. I aimed to promote critical assessment of scientific data and the conclusions that can be drawn about human behaviour. This is a process whose utility extends well beyond the classroom. Critically, my interactions with students in this setting reinforced for me that not all students enter a course with the same background, knowledge, ability or desired outcome. This highlights the importance of being approachable to different skillsets and ambitions. This can be difficult, but is an attitude that encourages me to try new approaches for teaching.

Preparedness and willingness to adapt: a fundamental aspect of a teacher is that their teaching philosophy should always be a work in progress. As mentioned in the previous section, despite a course/program having the same teacher each term/year (even a really good teacher), the students in the course/program are always changing. This demands continuous evaluation and re-structuring of one's approach, taking each experience, positive and/or negative, forward to inform future teaching activities. Simply re-doing what has been done in a previous semester or year is not acceptable. Classroom interactions should be prepared by incorporating previous experiences that were well-received, and making adjustments to components that were not well received. Importantly, even when a component is well received it should be evaluated to ensure its contribution to student learning. If I feel that there is a way that something can be improved, I do what I can to improve it. As such, I frequently solicit feedback from students on my teaching and course structure, and regularly seek information from cognitive science and scholarship of teaching and learning literatures. In an effort to promote this approach onto others I founded and coordinated the Pedagogy Community of Practice at McMaster University. This is a campus-wide group that focuses on scientific examination of best practices in higher education. Activities like these promote a constant self-evaluation and help me stay current and enthusiastic for material, which is hopefully translated to students.

Focus on evidence-based practice: the most important aspect of my teaching philosophy is my attention to evidence-based instructional approaches. There is often grand conjecture from educators about the latest teaching activity that fosters student learning. This happens despite a lack of good evidence supporting the activity's effectiveness for learning. I find this troubling. As a result, I have sought opportunities to examine and become part of research aimed at advancing the scholarship of teaching and learning. For example, my postdoctoral fellowship involved conducting research that examined aspects of how students learn (e.g., retrieval practice) and teaching at the university level (e.g. designing slideware presentations, multiple choice testing). These projects provided me a direct avenue to critically investigative ideas related to improving my teaching. In fact, following the compelling evidence from cognitive science that learning strategies like retrieval practice, spacing, and interleaving are effective for long-term retention of information, I implemented weekly low-stakes quizzing into my large introductory level course. Monitoring evidence for suggested teaching innovations helps me to continue to evolve as an instructor, and will be best for my students' learning.

To conclude, my purpose as an instructor is to challenge students to think critically, motivate them to feel confidence in their abilities, and ideally instill a desire for deep learning. I aim to integrate and adapt the principles outlined here into my teaching, in order to be a positive influence on learners and fellow educators throughout the learning process.

Teaching Responsibilities

1. Summary of Courses Taught at St. Thomas University

PSYC 2013 – Introduction to Statistics (Sections E and F) (Winter, 2015)
Enrollment: 77 (33 and 34, respectively)

PSYC 2013 is the introductory level statistics course in the Psychology Department at St. Thomas University. The course focuses on quantitative statistics used by psychologists to describe and analyze data. Specific focus is given to descriptive statistics, distributions of data, hypothesis testing procedures and hypothesis testing. The course is delivered through face-to-face in-class lectures, along with several resources and assessments that encourage self-directed learning on the available learning management system.

Each week I gave an interactive lecture that attempted to situate primary course content in real-life situations. To facilitate students working with data and course material I encourage the benefits of retrieval practice. As such, in the course I had weekly assignments that were each worth ~3% of a student's final grade. The assignments required students to use a personalized data set to complete a series of questions related to content from that week and in some cases previous weeks. In addition to the weekly assignments I had three midterm-like tests that broke the course into parts and allowed the students multiple opportunities to review material and succeed in the course. Prior to each midterm test I provided students with a set of practice questions that were similar to items they would see on the midterm, along with a checklist of things that should be known to ensure success. Response to these interventions from students was mostly negative, research shows that this is to be expected as student metacognition is typically found to be at odds with what promotes long-term retention of information.

2. Summary of Courses Taught at McMaster University

PSYCH 1XX3 – Foundations of Psychology, Neuroscience & Behaviour (Winter, 2014)
Enrollment: ~ 1,600

PSYCH 1XX3 is the companion course to PSYCH 1X03 (Introduction to Psychology, Neuroscience & Behaviour); the two introductory level psychology courses at McMaster University. PSYCH 1XX3 focuses on the biological mechanisms informing psychology, neuroscience and behaviour. In the first half of the course students examine several levels of analysis (development, evolution, and neuroscience) while in the second half they apply these analyses to sensory systems and critical aspects human behaviour. This course is delivered through a combination of online web modules, in-class lectures from the primary course instructor, in-class tutorials from highly trained undergraduate teaching assistants, and resources and assessments that encourage self-directed learning.

I have been involved with the PSYCH 1XX3 course for a number of years (as you will see below). For the Winter 2014 term I was the primary instructor as part of my sessional faculty

appointment. I was in charge of running the course for the 1,600 students and 35 teaching assistants. While the delivery of the primary course content (through web modules) was established from previous years of the course, I was still able to have a real impact on the success of the students in the course. Each week I gave an interactive lecture that situated primary course content in real-life situations (three independent sections each week), reviewed and revised a test bank of questions for our weekly tests (~ 50 questions each week), met with teaching assistants to ensure that the content and learning activities for the in-class tutorials were prepared and ready to be communicated effectively.

One of my larger contributions to this course during my time as the primary instructor was the implementation of two instruction interventions that were intended to promote self-directed learning. The first of these was a set of learning reflections that engaged students in thinking about the process of their learning. As part of the reflections, at the mid-way point of the semester each student was provided with prospective feedback. Using data from previous iterations of the course I was created a statistical model that, when given some inputs (i.e., performance on certain course components) would predict students' grades. Students were able to access this 'Grade Forecasting Tool' through a website and could get a sense for how they were doing in the course. This is a relatively novel approach to providing students with feedback. Typically feedback is given in a retrospective manner, after work is completed. With this tool we could inform students of their trajectory in the course, allowing them to make any necessary adjustments in their learning strategies to improve their standing. The direct impact of this intervention on learning is difficult to assess, however the response from students to this tool was very positive.

The second intervention was directed toward getting students to take advantage of the benefits that come with retrieval practice. In PSYCH 1XX3, there are weekly tests that are each worth ~3% of the final grade. Weekly testing was something that I worked to implement into PSYCH 1XX3 (and PSYCH 1X03) in 2011 following the excellent evidence supporting the testing effect. Before the test there is a pre-test that is available to students to gauge how well they understand the content that week. The pre-test is not for marks but is required to open the test. Because it is not for marks students do not take it seriously, often completing it rapidly directly before starting their test. However, research shows that spacing out retrieval sessions is most effective; a fact that was made clear to students. I encouraged students to do the pre-test early in the week with an incentive: as long as they completed the pre-test before a given deadline (36 hours before the test) they would be allowed to drop their lowest test grade. I am still in the process of assessing the impact of this intervention on learning (initial results suggest it was effective), however again the response from students was positive.

PSYCH 1XX3 – Foundations of Psychology, Neuroscience & Behaviour (Summer, 2013)
Enrollment: ~ 100

My responsibilities as the primary course instructor for PSYCH 1XX3 in the Summer 2013 term were similar to those described above for the Winter 2014 term, with a few exceptions. First, given that it was offered in the summer it was on a smaller scale. As such there were no in-class

tutorials or teaching assistants. So I was not responsible for supervising teaching assistants. I was responsible for guiding students through the online web modules, giving the interactive in-class lectures, and ensuring clarity with the resources and weekly assessments.

3. Summary of Courses Taught at Conestoga College

PSYCH 1N03 – Introduction to Psychology, Neuroscience & Behaviour (Fall, 2011; 2012; 2013)
Enrollment: ~ 130

PSYCH 1N03 is a version of the McMaster University PSYCH 1X03 (Introduction to Psychology, Neuroscience & Behaviour) course that is offered for students enrolled in the Nursing program at Conestoga College. PSYCH 1N03 introduces a scientific framework to explore important questions in psychology, neuroscience and behaviour. The course incorporates psychological research methods to understand learning, cognition, personality and social psychology and helps learners develop skills to integrate, evaluate and examine information that is useful in applied settings. This course is delivered through a combination of online web modules, in-class lectures from the primary course instructor, in-class tutorials from highly trained undergraduate teaching assistants, and resources and assessments that encourage self-directed learning.

The in-class lecture component of PSYCH 1N03 is only offered for the Conestoga College students. It is not offered at McMaster University (PSYCH 1X03). As the primary instructor I was in charge of running the course for the 130 students and 2 teaching assistants at Conestoga College. The delivery of the primary course content (through web modules) was established from previous years of the course, but I was responsible for developing and delivering the interactive lecture that situated primary course content in real-life situations (two independent sections each week). A critical aspect of this was to make the content relevant for a nursing context, where it would be most applicable to the students. This is a required course for the nursing students and prior to teaching the course I was informed that many of the students did not appreciate the utility of a psychology course for their degree. So to promote student engagement I recreated several of the important experiments in class to serve as participatory activities and ground the content in the students' personal experience. The feedback on this approach was positive and each year I have revised my approach to incorporate students' suggestions for improvement.

PSYCH 1NN3 – Foundations of Psychology, Neuroscience & Behaviour (Winter, 2012; 2013)
Enrollment: ~ 130

PSYCH 1NN3 is a version of the McMaster University PSYCH 1XX3 (Foundations of Psychology, Neuroscience & Behaviour) course that is offered for students enrolled in the Nursing program at Conestoga College. My responsibilities as the primary course instructor for PSYCH 1NN3 were similar to those described above for PSYCH 1XX3. A critical exception was that the course was on a smaller scale and intended for nursing students. As such I was again responsible for ensuring that the content was appreciated within a nursing context. To do so, I took a similar approach as described above for PSYCH 1N03.

4. Summary of Teaching Assistant Responsibilities at McMaster University

While I have had numerous opportunities as a primary course instructor, I am also including my experience as a teaching assistant at McMaster University. The roles that I include below involved a prominent role in instruction, and/or course design and are relevant to describing my abilities as an educator.

PSYCH 2RA3 – Research Design and Statistics for Behavioural Sciences I (Fall, 2008; 2009; 2010; Spring 2010; 2011)
PSYCH 2RB3 – Research Design and Statistics for Behavioural Sciences II (Winter, 2009; 2010; 2011; Summer 2010; 2011)
Enrolment: ~ 190 (~70 in the Summer sessions)

This course introduces students to the study of advanced statistical principles in the design and analysis of experiments in psychology. Topics include frequency distributions, probability, sampling, the central limit theorem, statistical power and effect size, hypothesis testing with linear regression, single samples, two-sample and multi-sample designs, interpreting statistical and practical significance of results.

I was appointed the head teaching assistant for this course following my first year as a teaching assistant for the course. In this role, I supervised five other teaching assistants. One of my roles was to design weekly computer laboratory assignments that required students to use statistical software (i.e., MS Excel, SPSS) and create corresponding marking rubrics for myself and the other teaching assistants to use. Each of the assignments had students manipulate and describe a unique dataset (each student had an completely unique dataset). Thus the rubrics needed to be useful for any dataset. In addition, I had the opportunity to develop and deliver a weekly tutorial lecture. The lectures reviewed content relevant to completing the weekly laboratory assignment and guided students through the process of using the relevant functions within MS Excel and SPSS.

PSYCH 3MM3 – Cognitive Neuroscience Laboratory (Winter, 2008)
Enrolment: ~ 30

This course introduces students to conducting research in cognitive neuroscience. Students gain experience in formulating and testing hypotheses by designing formal experiments, collecting data, analyzing data, interpreting results, presenting results in written and oral form, and critically evaluating science. In addition, students learn about the brain through a hands-on brain dissection laboratory component.

My role was to facilitate weekly 3-hour class meetings in which students developed their research project and eventually interpreted their findings. I was responsible for meeting with many students one-on-one to assess their projects, work through their oral presentations, and provide critical feedback on scientific writing. In each situation I was sure to take time to be

clear with expectations, interpretations and suggestions for improvement. In addition, at multiple time points in the semester I facilitated brain dissection laboratory sessions in which students dissected a sheep's brain and identified key structures. This required a great deal of patience and attention to detail in order to ensure safety throughout the process.

5. Supervising and Advising

Undergraduate Honours Thesis Supervision

Year	Student	Thesis Title
2013-2014	Teddy Saull	Encouraging Students to Engage in Retrieval Enhanced Learning: Implications for Selection of Self-Directed Learning Strategies.
2012-2013	Amy Pachai	Evaluating the Effectiveness of Facilitated Learning Groups.
2012-2013	Devina Mistry	The 'None-of-the-Above' (NOTA) Response Option Paired with Elaborative Thinking: Implications for the Testing Effect.
2010-2011	Shermeen Farooqi	Examining the Contribution of Body-Based Cues to Spatial Updating.
2010-2011	Jessie Heaman	A Demonstration of the Facilitative Effect of Locomotion and an Examination of its Mechanism.
2009-2010	Nida Latif	The Contribution of a Head-Based Reference System Towards Spatial Representations.
2009-2010	Natalya Tuharyna	Body-Based Cues and Mechanisms of Spatial Processing.
2008-2009	Sam Stewart	The Role of the Identity of Environmental Features in their Spatial Representations.
2007-2008	Andrea Sergi	The Importance of Body-Based Cues and Knowledge of Body Orientation in Spatial Updating.
2007-2008	Mark Wade	Quantifying the Role of Spatial Updating During Viewpoint Changes of a Spatial Scene.

Undergraduate Independent Project Student Supervision

Year	Student	Topic Area of Project
2015	Amelia Secord	Multimedia Use, Mind wandering, and Multitasking
2014	Olivia Merritt	Retrieval Enhanced Learning
2014	Michelle Ogrodnik	Mind Wandering and Education
2014	Gloria Qui	Mind Wandering and Education

2014	Carly Watt	Mind Wandering and Education
2012-2014	Silvio Ndoja	Note Taking and Multimedia Design
2012-2013	Teddy Saull	Retrieval Enhanced Learning
2012-2013	Philip Omorogbe	Facilitated Learning Groups
2010-2011	Muna Ali	Facilitative Effect of Locomotion for Spatial Updating
2010-2011	Melanie Iarocci	Facilitative Effect of Locomotion for Spatial Updating

Evidence of Teaching Effectiveness

St. Thomas University

Average of student responses to a set of 21 questions related to the course. Ratings are given on each question from 1 to 5.

Course	Title	Year	Enrolled	Responded	Mean
PSYC 2013 - E	Intro. to Statistics	Winter 2015	33	15	4.27
PSYC 2013 - F	Intro. to Statistics	Winter 2015	34	19	4.13

McMaster University

Student responses to the summative question: “What is your opinion of the effectiveness of the instructor?” Ratings are given from 1 (very poor) to 10 (excellent).

Course	Title	Year	Enrolled	Responded	Mean	Median	Std. Error
PSYC 1N03/1NN3	Intro. Psychology	Fall 2011-Winter 2012	113	36	8.3	9.0	0.30
PSYC 1N03/1NN3	Intro. Psychology	Fall 2012-Winter 2013	120	38	7.8	8.0	0.27
PSYC 1XX3	Intro. Psychology	Summer 2013	88	5	8.4	8.0	0.61
PSYC 1N03	Intro. Psychology	Fall 2013	126	104	8.0	8.0	0.15
PSYC 1XX3	Intro. Psychology	Winter 2014	1,570	437	8.7	9.0	0.07

Unfortunately, I do not have a formal evidence of my effectiveness as a teaching assistant, as departmental evaluations of teaching assistants did not begin until Fall 2011 (the semester after I had completed my degree).

Teaching Contributions

1. Service Related to Teaching

Conference Organizer: McMaster Symposium on Education and Cognition (2013, 2014)
I was a part of the organizing committee for the first and second annual McMaster Symposium on Education and Cognition at McMaster University. I assisted with selecting speakers for the conference, coordinated and lead reading group sessions centered around the research of the invited speakers and obtained details for the conference website. During the conference I facilitated a workshop session with invited speakers and attendees that was intended to generate educationally relevant research ideas and establish future collaborations.

Course Refinement Facilitator through the McMaster Institute for Innovation and Excellence in Teaching and Learning (MIIETL) (2014)
A colleague of mine teaching a course for the first time in her career asked if I would come to her class and conduct a mid-semester course refinement review. This involved facilitating a discussion with her students to obtain detailed student feedback. Notes from the discussion pertaining to specific student concerns regarding what they thought was working well and not working well in the course were documented and given to my colleague. She was then able to use this to improve her teaching.

Co-Facilitator: Instructional Skills Workshop (ISW) (2012)
I served as a co-facilitator for two separate ISWs. The ISW is a nationally recognized instructor development program that covers the theory and practice of teaching adult learners, the selection and writing of useful learning objectives, techniques for eliciting learner participation, and suggestions for evaluation of learning. As a facilitator my role was to guide participants through the process, ensuring they were getting as much out of the experience as possible.

Selection Committee for President's Award for Outstanding Contributions to Teaching and Learning (2010; 2011)
I was the graduate student representative on the selection committee that reviewed nomination packages and made final recommendations for the recipients of the most prestigious teaching awards at McMaster University. This involved evaluating the most outstanding instructors at the university on criteria such as excellence in teaching, innovations related to teaching or course design, and educational leadership.

Conference Volunteer: Research on Teaching and Learning: Integrating Practices (2011)
I volunteered for the Centre for Leadership and Learning (CLL) at McMaster University while they hosted this conference on teaching and learning. I assisted with registration, chaired paper sessions, and provided technical assistance.

Leading Representative: Teaching Assistant Network (TAN) (2009-2011)
As a graduate student I was one of two leading representatives for the Department of Psychology on the Teaching Assistant Network (TAN) at McMaster University. In this role I

organized and co-facilitated a number of workshops for teaching assistant and graduate student development. These include an annual welcome workshop for new TAs in Psychology (co-organized three times), and departmental workshops on getting academic or non-academic jobs after graduate school.

2. Educational Leadership

Mentor for Undergraduate and Graduate Students (2006 – present)
I have supervised ten undergraduate honours thesis students and nine undergraduate independent project students. Additionally, during my time as a postdoctoral fellow I worked closely with two graduate students in my lab. Mentoring students is an aspect of my academic career that I have enjoyed the most. Working with the students as the progress through experimental design, data collection and analysis, and organizing the project into a written thesis are all real challenges but ultimately very rewarding. Many of the projects have been presented as formal talks or posters at national and international conferences and a few are in preparation for publication.

Founder and Coordinator: Pedagogy Community of Practice (2009 – 2014)
I established and coordinated the Pedagogy Community of Practice at McMaster University. This is a community of individuals from across campus (e.g., Psychology, Chemistry, Mechanical Engineering, McMaster Institute for Innovation and Excellence in Teaching and Learning) that met weekly to discuss research from cognitive science and the scholarship of teaching and learning. The focus was on assessing the efficacy of teaching techniques and strategies from an evidence-based perspective, and the implications of this research for our own teaching practice. For the vast majority of the meetings (~90%) I selected the article for discussion and facilitated the discussion at the meeting.

3. Teaching Development

Facilitator Development Workshop (FDW) (2011)
I completed this nationally recognized comprehensive facilitator development program that is intended as a training workshop for individuals who have completed the Instructional Skills Workshop (ISW) and want to facilitate the workshops for others. The FDW is a five day (40-hour) workshop that provides an opportunity for professional development. Instructional Skills Workshop activities (i.e., mini-lessons) form the core of the FDW. Participants refine their teaching techniques through the mini-lessons and, with guided practice and feedback, develop strategies for facilitating the group process central to the ISW. The small groups meet in plenary sessions each day featuring such themes as: learning styles, collaborative learning, feedback models, or other pertinent topics as requested by the participants. Completion of the FDW provides credentials to facilitate an ISW.

Instructional Skills Workshop (2011)
I completed this nationally recognized comprehensive instructor development program. The

ISW is designed to enhance the teaching effectiveness of both new and experienced educators and to provide a safe environment in which educators can try and receive feedback on new teaching techniques. Participants are provided with information on the theory and practice of teaching adult learners, the selection and writing of useful learning objectives with accompanying lesson plans, techniques for eliciting learner participation, and suggestions for evaluating learning.

Course: Education 750 - Principles and Practices of University Teaching (2011)
I completed this 13-week extra-credit course offered to graduate students at McMaster University through the McMaster Institute for Innovation and Excellence in Teaching and Learning (MIIETL). The course is broadly aimed at principle of university teaching, specifically covering curriculum design, teaching strategies, learning objectives, course alignment, assessment strategies, and research on teaching and learning.

Workshops completed through the McMaster Institute for Innovation and Excellence in Teaching and Learning (MIIETL; formerly the Centre for Leadership and Learning).

- Personal Efficiencies (November 2010)
- Effective Lectures (November 2010)
- Motivating Students (May 2010)
- Research on Learning and its Implications for University Teaching (September 2008)
- Actively Engaging Students (October 2008)
- How Assessment Affects Student Learning (December 2008)
- Teaching Assistant Day (September 2006; 2007)