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Note From the Director

Teaching Assistants have a unique opportunity to provide undergraduates with windows into graduate student life and work. This graduate student issue of *Focus* highlights a number of approaches TAs can take to prepare students during their undergraduate years for later graduate work.



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Making the Leap: How Graduate Students Can Help Bridge the Gap From Undergraduate to Graduate Life



Kate Thompson, Department of Psychology, Graduate Teaching Associate, 2012-2013

What is graduate school like? How is it different from an undergraduate degree? Should I go to grad school? Will I like it?

Making the decision to go to grad school is a weighty one. Grad school involves a significant commitment: of time, of money, of energy, of your self. As someone who is nearing the end of that journey, I know it can be an extremely rewarding and enriching experience. However, in remembering what it was like starting out, I know it can also be an experience fraught with uncertainty and doubt. When I got accepted into the MSc program at Dalhousie, I was excited about the challenge ahead of me, but always conscious of the latent doubt, that "Impostor Syndrome" we all experience to some degree. Was I really good enough to be here? Could I actually succeed?

Given my own apprehension, it was not surprising to find that the rate of drop out from graduate degrees is so high. Estimates vary, but some researchers have suggested that attrition from graduate programs can be as high as 40-50% (Council of Graduate Schools, 2008 and 2010). Attrition from graduate programs is likely due to many different factors, and the reason for dropping out will be different for each student. However, perhaps one of the reasons students might drop out is that grad school is not what they expected – they come to realize that they

are not doing what they thought they would be doing. In addition, they may not be enjoying what they are doing. Alternatively, undergraduate students who might enjoy and excel in graduate school may not pursue such a degree if they don't know what they are missing. Perhaps one of the best ways to decrease the discrepancy between expectations and the reality of grad school is for current graduate students to aid in the transition from undergraduate to graduate thinking.

As a veteran graduate student, I try to take advantage of my knowledge and experience to better prepare undergraduate students in my classes for the types of skills they will need in grad school. This takes the mystery out of what will be expected of them, and gives them a leg up starting out. Students need a chance to get their hands dirty – to see if they enjoy this kind of learning. As graduate students, not only can we share our practical experience, but many of us also have a sense of closeness. We are no longer undergraduates, but we were in their shoes not so long ago. We can remember what life before grad school was like.

This graduate student issue of *Focus* is about how graduate students can help to better prepare undergraduates for grad school. We will see how this can be done in a general sense, by simply communicating to undergraduates about the challenges of graduate school, and how to address them. In addition, we will hear some interesting and innovative suggestions about how to include more preparatory skills for graduate school in the undergraduate curriculum. In the end, these approaches to educate undergraduate students will hopefully lead to more informed decisions about whether graduate school is the right choice. Who knows, with more exposure to what grad school is really like, maybe more students will find the idea enticing and be prepared for what to expect when they arrive!

We start off this issue with an article by Jill McSweeney and Raghav Sampangi, who tackle the tricky task of managing undergraduate students' general expectations about grad school. The article they have written lays out some important things to remember about the nature of graduate school. To ensure success, it's important to maintain a balance between school,

work, and social life. The particular challenges that grad school poses to each of those areas of life are explored in Jill and Raghav's article, and they provide a framework for understanding and coping successfully with those challenges.

Next, Adam Auch, who has a PhD in philosophy, provides us with insights into how we, as graduate students, can be valuable to undergraduate students by helping them understand how writing is different in grad school. Adam's article touches on academic writing, but also includes discussion of other kinds of writing, like grant applications and statements of interest. These very unique writing tasks are rarely practiced at the undergraduate level, and a lot can depend on their quality!

Jantina Toxopeus introduces us to the idea of inquiry-based labs in our undergraduate science curriculum. As suggested in Jill and Raghav's article, in practice, science can be messy. Our hypotheses are not always supported, and we often go through a lot of trouble-shooting and re-thinking before our final results are written up into a coherent report. This process is not reflected in the more 'cookie-cutter' labs that undergraduate students are often expected to complete, but learning to roll with the punches of science is an important skill to develop. Jantina shows us that we can give undergraduates a more realistic science experience that will help them develop useful skills, and give them a better idea about what science is all about.

Finally, Hany Abdelhady and Gaia Aish consider the important opportunity that exists in one-on-one mentor relationships. In many cases, especially in the sciences, graduate students have the opportunity to engage in supervision of junior lab members or honours students. These relationships provide a more personal way to communicate and educate undergraduates. The authors discuss how to best take advantage of this time, and suggest some strategies that might prove useful in developing graduate-level thinking and learning in undergraduate students.

I hope you enjoy this year's graduate student issue of *Focus*, and that you are inspired to diminish the gap between expectations and reality in the minds of undergraduates who are considering the graduate school experience!

A Balancing Act! The Realities of Graduate School



Jill McSweeney, Interdisciplinary Studies, Graduate Teaching Associate



Raghav Sampangi, Computer Science

We have all experienced the good, the bad, and maybe the somewhat ugly aspects of grad school; ensuring that you give sound and sage advice to new students can be difficult. Here is our take on how you can describe graduate school. Graduate school is a unique balance of three distinct aspects of one's life: work, school, and social life. While undergraduates may be familiar with balancing some or all of these, a successful graduate student understands that graduate school is a continual balance of these three aspects.

School

Graduate school is much different than undergraduate education. School will now become a portion of their life that requires more dedication, time, and pursuit. Undergraduates are often unaware that they will have to balance a heavy course load. During their undergraduate studies, they may have been able to finish tasks the night before or day of, but they should

know that they will be expected to work several hours outside the classroom for each course, and go beyond the content delivered. They are now becoming an expert in their own area, and should be ready to be questioned and challenged.

They may also need to manage a thesis or research project. Many will have experience working on an honours thesis. While the honours thesis will have laid a foundation for independent research, there will be a variety of other, potentially new, responsibilities. This may overwhelm the new grad student, so as a graduate

student pro you should suggest they take advantage of campus resources and departmental mentors. They might also be concerned about their thesis timeline. Remind them that many unexpected things happen when conducting research, and they should plan accordingly. Let them know that the most important deadline is graduation, and that they should always keep that goal in mind when planning.

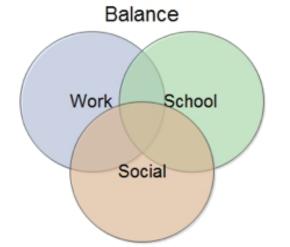
Work

Undergraduates often enter graduate school never having taught a lab, given a lecture, or worked on a research project. Encourage them to experience these opportunities, as these add critical professional development skills for the post-graduation job market. Teaching may be foreign and frightening to them. As a graduate student, they will be in a unique situation of being both a teacher and a student. Teaching

assistantships (TA) are a great way to develop skills and make extra money; however, the new grad student may be hesitant to pursue a position or may be worried about their abilities to manage a class on their own. There are valuable resources through the Centre for Learning and Teaching that can help them prepare for the classroom; and you might recommend that they observe your own class/lab.

Advising undergrads who are interested in grad school to keep an eye out for research assistantships is a good idea,

as this is a great way for them to build their own researching skills and confidence. Suggest that they talk with their supervisor(s) or committee members about opportunities. Getting involved with additional projects can create opportunities to build strong networks across disciplines and departments, and help develop research management skills for their own work. However, you should stress that they be conscious of the balance between their school and professional work - they don't want to become overwhelmed.



The Graduate School

Social

Potential grad students should know they need balance in their personal lives They should be reminded that they need to put as much effort into achieving a rich personal life as they do with their school and work responsibilities. Many students get stuck in a vicious cycle of work. It is important that they know they must take time away from the constant demands of graduate school, and relax and enjoy life. Participating in groups and activities, both within the university and in their neighbourhoods, is not only a great way to enjoy their time outside of school, but it also lets them meet new people, which is particularly useful if they are visiting or international students.

Graduate school is a difficult balance of these three aspects, and potential graduate students should know that when they are faced with obstacles in graduate school, it is essential for them to reflect back on their motivations, desires and goals for pursuing a graduate degree. Graduate school is an experience where they will face many critics. They should be prepared to experience rejection by their committee, conference reviewers, funding applications, or manuscript publishers. Remind them that it can be disappointing

at times, but that they should keep positive and use this as motivation to strive even harder. They must learn that rejection and criticism are an essential part of the process of graduate school, academic life and life in general. Even the most esteemed scholars experience rejection. They should also know that they will be their own biggest critic. Remind them that the graduate process is one of self-discovery and learning, and that in order to learn, one must make mistakes. Grad school might seem like a journey filled with uncertainties, responsibilities and challenges to an undergrad. Remind them that it is these aspects of graduate school that will help them face their future in the employment world. Remind them also that these uncertainties, responsibilities and challenges will help them face their future in a much better, stronger and mature way. This is why grad school becomes an opportunity for them to experience the realities associated with a future career in a variety of professional fields. Stress to them that they need to be motivated, excited and ready to define their own parameters of success. If they see grad school as a place where they strive for excellence in what they do, success will follow.

On Preparing Students for Writing at a Graduate Level



Adam Auch, Department of Philosophy

One of the interesting things about going to graduate school in the humanities is that undergraduate students start coming to you for advice. Because many students do not even consider the possibility of graduate school until their senior year, even the brightest undergraduate students can

struggle with the transition. In particular, many new graduate students struggle with their writing. Although they may already be good writers, undergraduate students may not be aware of the amount and nature of the writing that will be required of them when they pursue graduate studies in their chosen field. As a current graduate student, you are in a unique position to help undergraduates understand these demands.

For one thing, graduate-level writing is considerably more professionalized than undergraduate writing. For the most part, undergraduate students write essays to fulfill course requirements. Once completed, these papers are usually cast aside. In graduate school, however, class essays become an opportunity to produce material for future publication and presentation, and may form the basis of one's thesis or dissertation research. This means that students may be required to learn new forms of organizing papers, structuring arguments and presenting information. They also may have to learn how to respond to and provide constructive feedback.

How can you, as a graduate student, help prepare undergraduates for graduate-level writing? The simplest thing you can do is to read their work and provide constructive feedback. Given that you may be busy enough with your own work, this may seem a little onerous. There are, however, ways of making the

process easier. In the first year of my PhD in philosophy at Dalhousie, another graduate student and I founded what we called the 'Publication Support Group.' The idea was to provide a means for philosophy students to read and comment on each other's papers in order to prepare them for eventual publication. Each week a different student would share a paper he or she was working on. The group would then meet and discuss the paper in detail. The group also organized presentations from faculty members on publishing and presenting. Although the group was initially pitched as a resource for graduate students, we also invited senior undergraduates in our program to contribute. Although not everyone decided to participate, those who did received considerable feedback on their work as well as valuable insight into the business of writing papers at the graduate level.

Our experience in philosophy can be generalized to other fields. Many academic departments in the humanities have reading and discussion groups that allow the participation of committed undergraduates. What's more, many undergraduate academic societies publish journals and run student conferences. By making students aware of these opportunities, and by offering your time to serve as a referee or moderator, you can help undergraduates to understand what graduate level academic writing is all about.

But, as you well know, graduate students often have to write things other than academic essays. For example, students applying to graduate programs may be required to provide proposed programs of study, or statements of interest. What's more, these research statements (particularly those for national scholarships like SSHRC grants) may need to be written for an interdisciplinary, non-specialist audience. You can help

undergraduates prepare for this kind of writing by sharing your experiences with the application process. This advice will be particularly helpful, because, as a current graduate student, you may be much more familiar with the current graduate application process than, for example, tenured professors in your department (who may be several years removed from the experience). If you have been fortunate enough to receive a grant, you may also consider sharing copies of your research statements with interested undergraduates. This will give them a sense of what such statements look like.

Finally, it should be noted that you also stand to gain from helping undergraduate students improve their writing. For one thing, it is sometimes said that teaching something is the best way to learn it. Helping undergraduate students recognize the norms and expectations that come with graduate-level writing will, perhaps, make you better able to meet these demands yourself. Furthermore, reading other people's work with a critical eye will help you develop skills as a reviewer and commentator that will serve you well in your future academic career. Indeed, if you are hoping to pursue a career in Academia, part of your job will be to advise students. By helping undergraduate students prepare for graduate school, you will be well prepared to offer advice in a more official capacity.

Wherever you are in your graduate school journey, your experience and knowledge are invaluable to those just starting out. By sharing what you have learned about writing at the graduate level, you not only provide a real service to undergraduates contemplating future study in your discipline, but you also develop skills that will serve you well as you pursue your own academic career.



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The Allies at Dalhousie exist to support students, staff, and faculty of the Rainbow community by encouraging the University to welcome and respect its diversity. The term "Rainbow" is used as an inclusive term for lesbian, gay, bisexual, transgender, queer, questioning, two-spirited, and intersexed persons.

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Allies on campus can be identified by the Ally Card in their work spaces.

Congratulations to the 2013 President's Graduate Teaching Assistant Award Recipients



Left to right: Dr. Tom Traves; Christina Lord; Laura Ruth Albrecht; Marcel Peloquin; Dr. Lloyd Fraser

Christina Lord (Department of Biology) has been a teaching assistant at Dalhousie University since 2008. She has consistently garnered accolades from her students, fellow teaching assistants, supervisors, and professors. A recent graduate of the Certificate in University Teaching and Learning, Ms. Lord is always looking for feedback from students on how she can improve. Her ability to listen to students, and respond to their needs in a positive way, shows that she is a natural educator who does not rest on her laurels.

Laura Ruth Albrecht (Department of Chemistry) is a research assistant supervisor who has been teaching with the Organic and Introduction to Chemistry groups with great success. Laura's practical experience in the field of chemistry, combined with her academic prowess, has made her an indispensable member of the teaching team in the department. Laura is an active participant in the Certificate in University Teaching and Learning and says, "My goals as a teacher are to empower students to believe in themselves, to impress upon them the importance of practice and persistence, and to inspire curiosity."

Marcel Peloquin (Department of Psychology and Neuroscience) has provided teaching assistance in many courses. He has provided workshops on many topics from mindfulness and sleep, to graduate school preparation, and many students say his tutorials are the highlight of the course. His maintenance of open dialogue with students in and outside of class results in a full learning experience for his students. They can call on him for help with course material as well as future study and work plans. In this way, he approaches the whole student as an educator, advisor and friend. Mr. Peloquin is also an active participant in the Certificate in University Teaching and Learning program at the Centre for Learning and Teaching at Dalhousie.

Undergraduate Laboratories: What Are We Teaching?



Jantina Toxopeus, Department of Biology

Did you know what you were in for when you went to grad school? Many students' expectations don't line up with the realities of graduate school degrees, resulting in high rates of attrition (drop-out) within the first year of a Ph.D. (Golde 1996). Particularly in science, we don't seem to be preparing students well for life after a bachelor's degree,

with many students primarily focusing on absorbing content from lectures so that they can succeed on tests ... and can we blame them? The way students are taught and assessed both before and during university reinforces these patterns. One way we can change this is by implementing inquiry-based laboratories in our undergraduate science curricula.

Inquiry-based study involves students in a "discovery process" (Weaver et al. 2008), which in science can include designing a research problem, conducting appropriate experiments, analyzing data, and presenting the results in a meaningful context. This is in contrast to "cookie cutter" laboratories, wherein students follow a set of instructions, usually designed for them by the educator, generating predictable results that confirm the proposed hypothesis, demonstrating a scientific concept or reinforcing course content in some manner (Luckie et al. 2012). The large majority of undergraduate laboratories follow the "cookie cutter" format, but is this the best way to make use of that laboratory time?

Undergraduate laboratories are a perfect opportunity for students to practise being a scientist; and scientific research is hardly ever black and white like the "cookie cutter" labs our students are learning about. Research requires consideration of the literature, careful planning, critical thinking, and communicating the analysis in a meaningful way – skills we should be teaching our students in any science course. Research also often involves failed protocols, results that are difficult to interpret, and frequent trouble-shooting – scenarios that we should make students aware of in order to prepare them better for graduate school.

You may be thinking, "Well, isn't that what an Honours degree is for?" You would be correct; many graduate students have had some exposure to research through an Honours program or directed study in their undergraduate degree. However, these programs only capture a fraction of undergraduates (Hartman 1990), and incorporating inquiry-based laboratories would reach a wider audience. The Honours project also generally occurs near the end of an undergraduate degree, which is a bit late to start effectively teaching inquiry skills after years of education that involves "cookie cutter" labs and memorizing facts for multiple choice tests. An Honours research project is only one research experience, and an Honours graduate can still have unrealistic expectations when it comes to graduate school.

Pros and Cons of Inquiry Based Laboratories

Strengthening students' exposure to research situations should prepare them better for graduate school. As more and more students pursue graduate school due to degree inflation (Snuffer 2011), we should be educating as many students as we can in the strategies and skills involved in research and we should be doing this throughout the student's degree. Inquiry-based laboratories encourage scientific thinking and collaboration, as well as fostering deeper understanding of content and increasing student enjoyment of the course (Luckie et al. 2012, Weaver et al. 2008). In addition, when students design and carry out experiments in groups, this creates the potential for them to coauthor their laboratory report/research paper, a process common to academic research that many undergraduates don't experience prior to graduate school.

Inquiry-based laboratories are, of course, more labour-intensive for the instructors, teaching assistants, and students (Weaver et al. 2008). It takes a lot of planning to develop an inquiry-based laboratory that is appropriate within the framework of the course, and there may not be the flexibility to accommodate some student research questions. Student groups also require some guidance and frequent feedback in order to maximize the benefits of the experience. This kind of

laboratory would also require more extensive training of teaching assistants. All in all, it is a slow process to transition from "cookie cutter" to inquiry-based laboratories.

Biology 2020: A Success Story

With dedicated instructors, it can be done. There are examples in the literature (e.g. Luckie et al. 2012) and we also have instructors at Dalhousie who are transitioning to more inquiry-based projects. Mindy McCarville, the laboratory instructor of 2000-level Introductory Cell Biology in Dalhousie's Biology Department, piloted one such laboratory this academic year with the help of recent Biology PhD graduate, Dr. Allison King. Students focused on a protein of their choice from brine shrimp (also known as Sea Monkeys) for an entire semester, examining it from various aspects to investigate that protein's function. Mindy strongly focused on giving students choice in the project they conducted (within the scope of available resources), and some of the research was original, having never been published before. Through writing and laboratory work, the students were able to learn cell biology skills and techniques in a meaningful context. Many had to troubleshoot and try to explain unexpected results. Overall, student feedback was very positive and students showed higher engagement

in the lab. Teaching assistants also noted evidence of better conceptual understanding in students' writing. What's really amazing is that because of the high enrolment in this required course for biology and marine biology majors, over 500 students were able to experience this inquiry-driven laboratory in the 2012/2013 academic year! Mindy was recognized for her efforts as one of this year's winners of the "Change One Thing" Challenge.

All in all, this is the direction we should be taking undergraduate laboratories, for the benefit of all students, and especially those with graduate school in their futures. And if a large, core biology course at Dalhousie University can make it work, there is hope for the rest of our science laboratories.

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Encouraging Undergraduate Students to Think and Work Like Graduate Students







Gaia Aish, Department of Chemistry

As graduate students in science programs, we teamed up to consider how budding science undergraduate students could be better prepared for graduate school through their interactions with current graduate students. Graduate students often function as teaching assistants, tutorial leaders, tutors, supervisors, and mentors to undergraduate students. When we shared our undergraduate teaching experiences, we quickly realized how different our lines of experience are. Our expertise has spanned from supervising half a dozen honours and summer students and working as a tutorial leader for the problem-based learning component of the pharmacy program, to working as a laboratory teaching assistant and instructor as well as a private tutor. Although our experience differs, we had our first team 'ah-ha!' moment when we realized that our personal messages are essentially the same, regardless of the specific teaching situation. We agree that the first step toward preparing someone for graduate school is encouraging them to work and think like a graduate student by developing the ability to work independently, confidently, and thoughtfully.

Students coming to university from high school quickly realize that the teaching and learning process is significantly different. Undergraduate students are faced with a similar challenge when they start graduate school. Undergraduate students generally tend to rely on their professors and teaching assistants to confirm that their answers are 'right' and to understand what they should know for 'full' marks. In graduate school, students often take on the role of teacher. They must understand what they are teaching, and be able to accurately interpret their students' understanding of the topic. Graduate students accomplish an advanced level of understanding by independently finding and compiling accurate information while being confident

in their research methods and resources as well as their understanding of the material. As graduate students, we grasp and analyze information and discuss all relevant aspects fluently often with little or no confirmation from our advisors. This process is central in much of our graduate school experience, yet we often take it for granted. It is important to consider how and when we learned these skills and how we can facilitate their development during our own teaching.

Working with undergraduate students, questions often focus on whether they are 'right' or 'wrong'. It might be easy to simply say 'yes' or 'no', but our role as teachers is to help build their confidence and thoughtfulness so that they start to work independently. One tool that works well in lab situations is to assign students to small groups and have them work through the questions that arise as a group. For example, when a student asks a question, do not feel responsible for delivering the answer. Instead, ask the group to answer it. Get them to work together, with your help, through the theory behind what they are doing. In time, this will lead students to ask each other questions and work together independent of their teaching assistant. When a student's first response is to check their work and ask their peers for insight, they are developing a more advanced level of understanding and critical thinking.

As teachers, we don't need to show off how much we know to our students. Instead, we can help students become confident in what they know. We can provide them with information on how to find the answers, including the reference material, databases, software, and processes that are used in the discipline. Becoming fluent with these resources early in their academic career will help prepare undergraduates for research projects. To do this, we can include students in the research processes. Think about the process you use when you need to find information: How do you search? Where do you find answers? How do you compile information? Teaching students about these processes, instead of doing it for them, will allow students to work independently. We can facilitate this in a variety of teaching situations. Consider how you prepared for the class, lab, or tutoring session you're taking part in. Next, ask students to explain what

they did to prepare. Although you may be surprised at the disparity in preparation, this is a great teaching opportunity.

The first challenge undergraduates usually face during their honours or summer research project is the transition from the well-structured classroom environment to the unstructured research environment. As graduate students, we can help make this transition smooth and develop a deep mentoring relationship which will include sharing academic knowledge and personal experiences as well as providing support. We can mentor undergraduates regarding safe laboratory practices, and explain the work that has been done already in relation to their research project. We can share our personal successes and failures as well as help them through their own. As a mentor, you want to challenge yourself to balance your roles of teacher, supporter, role model, and learner so that the experience is dynamic and interesting for you and your students.

Initially, we get undergraduates to start with experiments using standardized protocols, and make sure that they understand the scientific principles behind each step. This makes it easier to identify any potential errors and correct them. As the research project moves on, it is crucial to get the undergraduates more involved. Undergraduates

often tend to ask "What do you want me to do?" Rather than providing direct answers, we can deflect the question "What do you think needs to be done? And why?" We can get undergraduates involved in developing troubleshooting plans when their experiments do not work. It is often hard for them to realize that experiments may not work because of simple and usually overlooked mistakes that can easily be avoided with careful forethought. We can also get undergraduate students involved in planning their future experiments. This will encourage them to understand the significance of their results and fit them into a bigger context, which allows undergraduates to communicate their work more confidently and prepares them to write a thesis and present their results.

In conclusion, as graduate students, we can help undergraduates develop critical thinking and problem-solving skills, take an active role in their learning, and inspire a continuous learning attitude. The majority of the skills students need in order to excel in these tasks are not chiefly developed in lectures or classrooms, but rather in laboratories, group discussions and student projects. Therefore, as graduate students, we have a strategic position that enables us to play a key role in facilitating the development of these skills in undergraduates which will prepare them to decide whether they would like to pursue a graduate degree.

Welcome!



Jill Marie McSweeney is the 2013 - 2014 Graduate Teaching Associate.

I am currently completing my PhD in the Interdisciplinary program at Dalhousie, focusing on how indoor environments influence cognition, attention, and physiological well-being.

My work as the Graduate Teaching Associate involves a range of activities from designing and organizing the Teaching Assistant Professional Development Day, editing the Graduate Student issue of *Focus*, and assisting and delivering workshops and discussion series through

the Centre for Learning and Teaching.

I will be hosting a discussion series during the fall term on the topic of a 'flipped classroom'. Discussions will focus on the pros and cons of introducing the concept of the flipped classroom into higher education; how flipping the classroom can be used to foster engagement and a sense of community between students; and how technology can be used to integrate learning in and outside of the classroom.

Within the context of teaching and learning, I am interested in the integration of technology into the classroom, the use of blended learning, and how teachers and students can facilitate social engagement and learning through BBL and various freeware applications.

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Week of November 11

Departmental and instructor-generated questions may be added via email link sent from the SRI system. Instructors will receive an email through their Dal account with a link to the SRI site and instructions on how to access the system.

Week of November 18

Email links become active for students to complete their course evaluations. Students will receive an email through their Dal account with a link to the SRI site and instructions on how to access the system. Please note: For courses that have (1) multi-instructors or (2) lab and tutorials sections you may receive a second separate email containing a link which must be used to evaluate these courses.

Instructors are requested to provide a 15-minute time period for in-class completion of the course evaluations by students present.

December 3

Access to the site closes at midnight. Students must complete course evaluations before this deadline.

www.dal.ca/sri dalsri@dal.ca

Congratulations to the 2013 Certificate in University Teaching and Learning Graduates!



Front row (left to right): Melanie Rose Power-Coomb, Christina Lord, Krista Patriquin, Karyn McLellan, Sabri Elatreesh

Middle row (left to right): Hai-Dang Vu, Lori McCay-Peet

Back row (left to right): Marek Lipczak, Emmanuel Eroume A Egom, Christopher Whidden

Graduates not present: Alya Arabi, Sakher Mrishih, Geoff Kershaw, Kate Thompson, Jantina Toxopeus, Nadia Al-Banna, Hafeez Anwar, Sebastien Rossignol

