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From the Director

Although many professors (and graduate students) hold the view that the graduate supervision process is idiosyncratic and the unique product of each advising relationship, research on graduate supervision demonstrates that there are beneficial practices that cross personalities and disciplines. In this issue of *Focus*, colleagues from Dalhousie and beyond share their insights about effective graduate learning experiences.

Lynn Taylor
Centre for Learning
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DALHOUSIE
UNIVERSITY
Inspiring Minds

Guiding Principles for Graduate Student Supervision

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A. Introduction

Post-baccalaureate graduate studies are extremely important to the economic and social well being of Canadians and have an ever increasing role in higher education in Canada. Over the 10 year period between 1995 and 2004, graduate student enrollment increased from approximately 113,000 to 149,000 in Canada[1]. Graduate studies are not only a life and career enhancing activity for students, but also a vital component of research and scholarship in Canada, important drivers of the nation's productivity and essential for global competitiveness. The role of supervisors and supervisory committees, as well as the relationship between students and their supervisors, are key components affecting the success of research-stream students in their programs.

Superimposed upon the student-supervisor relationship are the roles of supervisory committees, graduate program committees, departmental bodies, and offices of faculties/schools of graduate studies. Further complicating the issue of graduate student supervision is the diversity in supervision culture across the University, where the relationship may range from a very structured "master to apprentice" scenario to a very unstructured, "subtle guide of an independent scholar."

Despite the complexity and diversity surrounding supervision of graduate students, the Canadian Association of Graduate Studies felt it important that guiding principles for graduate student supervision be identified and endorsed at a national level. While

many excellent guides on graduate student supervision exist within various graduate handbooks, senate or faculty by-laws, and websites within graduate schools across Canada, these are often highly specific to individual departments or graduate programs. This

> *"At the core of successful supervisor-graduate student relationships are mutual respect and professionalism."*

document is meant to identify, at a high level, guiding principles which can apply to all graduate supervisors and students. These principles can be a stand-alone resource or a precursor for graduate schools and programs to customize to their particular academic environment. It is also intended that the document be applicable to defining roles and responsibilities of graduate students in the student-supervisor relationship as well as for graduate supervisors and administrators of graduate programs across Canada.

Various documents have been utilized and are cited in the preparation of these guiding principles, but in particular, a document from the University of Western Ontario[2] has been used as a "template" for many of the principles identified here. The principles are intended mainly for research masters and doctoral programs, though they may have relevance to "professional" graduate programs where the student works with a supervisor.

B. Guiding Principles

1. A Supervisor should be identified in a timely fashion.

2. Supervisory committees or equivalents should be established early.

3. Expectations, roles and responsibilities of graduate students and supervisors should be made clear.

4. Supervisors should be readily accessible to their students, and regular monitoring and feedback should be ensured.

5. Student-supervisor relationships should be professional.

6. Intellectual debate and challenge should be encouraged and supported.

7. Supervisors should be mentors.

8. Issues of intellectual property and authorship should be made clear.

9. Conflicts should be resolved at the lowest level possible.

10. Continuity is important in graduate supervision.

11. Alternative supervision should be available.

12. Students have substantial responsibilities for managing their own graduate education.

C. Conclusion

As noted in these principles, successful supervision of graduate students depends on a healthy and productive relationship between the supervisor and graduate student, within a milieu that involves several other parties and conditions. At the core of successful supervisor-graduate student relationships are mutual respect and professionalism.

When combined with clarity on the respective roles of students, supervisors, and others involved in the students education, and information on the policy and procedures relevant to a student's graduate program, these features will serve students, supervisors and the rest of the University community well. Our goal is to ensure the success of graduate students in their programs and in their future endeavours.

D. References

[1] Canadian Association of Graduate Studies, 2007. *36th Statistical Report, 1992-2004.* CAGS, Ottawa, Canada.

[2] Faculty of Graduate Studies, University of Western Ontario, 2007. *Principles and Guidelines Regarding Graduate Student Supervision.* http://grad.uwo.ca/supervis/supervis.html

E. Other Resources

Butterwick, S. and Mullins K., 1996. *Research on Graduate Student Supervision: The State of the Art.* The Centre for Teaching and Academic Growth, University of British Columbia. (available at: http://www.tag.ubc.ca/resources/tapestry/archive/96/art.html).

Canadian Association of Graduate Studies, 2005. *Graduate Studies: A Practical Guide.* CAGS, Ottawa, Canada (NB: 2003 edited version by M. Crago available at: http://www.unb.ca/gradschl/apply/documents/GraduateStudiesAPracticalGuide_000.pdf).

School of Graduate Studies, University of Toronto, 2002. *Graduate Supervision Guidelines for Students, Faculty, and Administrators.* University of Toronto, Toronto, Canada

(available at: http://www.sgs. utoronto.ca/current/supervision/ guidelines.pdf

Faculty of Graduate Studies – University of British Columbia, 2007. *Handbook of Graduate Supervision.* University of British Columbia, Vancouver, Canada (available at: http://www.grad. ubc.ca/students/supervision/index. asp?menu=000,000,000,000.

Faculty of Graduate Studies, Simon Fraser University, 2007. *Report of the task force on graduate student supervision.* Simon Fraser University. Burnaby, Canada. (available at: http://www. sfu.ca/dean-gradstudies/surveys/ SupervisionTaskForce.html)

Canadian Association of Graduate Studies, 2005. *A Guide to Intellectual Property for Graduate*

Students and Postdoctoral Scholars. CAGS, Ottawa, Canada. http://www.cags.ca/Portals/34/pdf/ Guide_Intellectual_Property.pdf

Please note that the complete publication can be found online at: http://www.cags.ca/pages/en/ publications/cags-publications.php

Resources – Read More About Graduate Supervision

Handbook of Graduate Supervision. Faculty of Graduate Studies, University of British Columbia. 26 August 2009. http://www.grad.ubc.ca/students/supervision/index.asp?menu=000,000,000,000

Mentoring: How to Mentor Graduate Students – A Faculty Guide. University of Washington. 26 August 2009. www.grad.washington.edu/mentoring/

Delamont, Sara, Paul Atkinson, and Odette Parry. *Supervising the Doctorate: A guide to success*. 2nd edition. Philadelphia: Society for Research into Higher Education and Open University Press, 2005.

Dimitrov, Nanda. *Western Guide to Mentoring Graduate Students Across Cultures*. Purple Guides. London: The University of Western Ontario Teaching Support Centre, 2009.

Ryan, Yoni and Ortrun Zuber-Skerritt. Eds. *Supervising Postgraduates from Non-English Speaking Backgrounds*. Philadelphia: Society for Research into Higher Education and Open University Press, 1999.

Skarakis-Doyle, Elizabeth and Gayle McIntyre. *Western Guide to Graduate Supervision*. Purple Guides. London: The University of Western Ontario Teaching Support Centre, 2008.

Stockley, Denise and Brenda Brouwer. *Supervising Graduate Students*. Teaching More Students Series. Kingston: Centre for Teaching and Learning, Queens University, 2008.

Wisker, Gina. *The Good Supervisor: Supervising Postgraduate and Undergraduate Research for Doctoral Theses and Dissertations*. Hampshire: Palgrave Macmillan, 2005.

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Graduate Student Supervision
A "Research Team" Approach

Graham A. Gagnon, Centre for Water Resource, Civil and Resource Engineering

As a Canada Research Chair holder and NSERC Industrial Research Chair holder, I have had the privilege of supervising an energetic research team. Our current research team comprises of 2 Research Technicians, 1 Research Engineer, 4 undergraduate research assistants, 1 German research intern, 6 Master's students, and 7 PhD students. In September 2009, we plan on adding a few more graduate students with the expectation that some current students will graduate by the end of 2009. Over the past 11 years, it has been my experience that a critical mass of 10-12 student researchers (undergraduate or graduate) is sufficient to form the basis of robust "Research Team." It is within this lens that I have prepared this article.

The Challenge of Student Meetings

The challenge that most professors face is ensuring that their graduate students have sufficient guidance and interaction with their supervisor to achieve their research objectives in a timely manner. Within the context of a research team this challenge is heightened, as the available supervisory hours are sliced thinner among a larger group of students. To address this potential issue, I have used a number of approaches to ensure that I maximize student engagement and access to their supervisor.

First, our team meets regularly, normally every other Friday afternoon. During these meetings, 1-3 students deliver a presentation relevant to their research. Presentations may relate to graduate students preparing for a significant upcoming presentation (e.g., conference, defense) after which the group provides technical and non-technical input to the presenter. In addition, we have student presentations related to new methods and procedures in our laboratory (e.g., operating analytical equipment) or presenting new journal articles that may be relevant to the group. Finally, as a supervisor I provide presentations on the direction of our group–upcoming conferences, new proposals/initiatives, new papers from our group. This exchange normally lasts 1-1.5h. This approach ensures that each member is developing research in a timely manner, as each member will present about once per term and the meetings advance student communication skills in a supportive environment.

In addition to this approach, our group is often divided into less formal mini-teams. For example, within the context of "water quality & treatment" we have groups

"The challenge that most professors face is ensuring that their graduate students have sufficient guidance and interaction with their supervisor to achieve their research objectives in a timely manner."

of students studying inorganic contaminants, membrane treatment processes, nanotechnology, and treatment systems for small communities. Often we take on group projects to engage these students in areas that complement their individual research, but that a student could not do on their own. For example, students interested in membrane treatment have written literature reviews with Dr. Margaret Walsh for the Journal *Water Environment Research* on Water Reclamation and Reuse. As well, students interested in inorganic contaminants have conducted a national survey related to the inorganic compounds treated by Canadian water utilities. We also have a team of researchers studying new technologies for small and remote communities in developing countries. These smaller projects have provided focused activities for the students and offer an opportunity to discuss their research area in a broader context. Through these activities students have an opportunity to become engaged with water professionals and to begin to network themselves in professional circles. For example, in the small-communities group one graduate student has developed strong relationships with senior policy managers at Health Canada and another has started an internship in Geneva with the World Health Organization.

Finally, individual student meetings occur formally through set appointments. These meeting times are normally scheduled in direct proportion to the needs of the student rather than routine. As well, informal meetings are often held by purposely meeting them in the lab or in their office setting (i.e., on their turf). I often find that these meetings result in the most engaging conversation because the student is in action. Although a cautionary note is not to get lost in the "weeds of details"; at these meetings I find it is best to understand and appreciate a student's research challenges of the day, but I avoid changing the course of a research program.

Fostering the Spirit of the Team

I often listen closely to graduate students when they provide acknowledgements after giving a presentation. The regular folks are often acknowledged (supervisor, graduate student committee, funding agency), but a graduate student's passion often shines through when they acknowledge their "group." It is within this subtle but important set of statements that one can gauge the impact that the group had on a student's individual success.

There are some important steps that a supervisor can take to ensure that their graduate students understand that they are part of

a broader team effort. Where possible our group has developed standard operating practices (SOPs) for a variety of tasks. Within

Research Group #1

Back row (L-R): Judy Lee (MASc Student), Jessica MacKay (Research Technician), Yamuna Vadassarukkai (MASc Student), Rupa Lamsal (PhD Student), Meghan Woszcynski (MASc Student), Elsadig Abdallah (PhD Student), Ryan Broookman (MASc Student), Alisha Knowles (PhD Student), Heather Daurie (Laboratory Manager), Emily Zevenhuizen (BEng Student)

Front Row (L-R): Graham Gagnon, Jordan Schmidt (MASc Student), Sadra Monfared Hiedry (MASc Student), Md. Safiur Rahman (PhD Student), Megan Kot (MES Student), Wendy Krkosek (PhD Student), John Bergese (BEng Student)

the context of our lab we have several SOPs that are followed for measuring water quality. The SOPs are developed by students and technicians in our group and passed through student generations. The general idea is that students learn from their peers and appreciate the importance of documentation, standardization, and research development for future students.

In addition, students in our group have created a "standard" poster design and presentation backgrounds. These designs have transformed over the years, but have been largely student-driven projects. The advantage of this approach is that we can recycle figures, tables, text, etc. without reformatting presentations each

time. The standard backgrounds also provide a very polished feel to our presentations.

In addition, during my presentations I am very transparent about what proposals we are thinking about and/ or active in pursuing. This allows students to become engaged in the process and to question the overall direction. One year, I presented to the group an idea that I had for a Research Tool & Instruments (RTI) Grant. One member of the group noted that we really needed a different piece of equipment (a graphite furnace). A mini group was formed and we prepared the proposal abandoning my original idea and were awarded a graphite furnace, which is now used on a daily basis in our lab. Although there are different opinions on involving students in proposal preparation, my approach is to involve students at a manageable level (i.e., do not use too much of their research time). Overall, I have found that students gain a sense of legacy for the group and learn that each project has a budget and that their current research is leading to a next step. Also students quickly realize that we need to collaborate with other research groups, either on- or off-campus, to reach the overall goals of the project.

Preparation for Employment

Graduates from our group largely work in the "water industry." Alumni from our team now find

themselves working in engineering consulting firms, water utilities, government, academia, and not-for-profit organizations. Within the past 10 years the water industry has become a highly technical field with intense public scrutiny and business opportunities. Thus the need to train students who can disseminate well-informed ideas in a clear and passionate manner has never been greater.

Personnel from our team are normally offered employment prior to graduation. However, most students are still in close contact with our group. This contact comes in various forms–some graduates participate in social events (e.g., running clubs) with our team, others work directly by offering sub-contracts to our laboratory,

and others ask our students to conduct simple project tasks (e.g., policy reviews). Regardless of the connection, alumni from our group understand the student interactions that occur within our team and want to foster its development for the betterment of the water industry.

Final Thoughts

Research teams are often overlooked entities within a University system that is more related to the academic structure of a University than any direct intent. National funding steers professors to develop diverse research groups to address complex questions. In our case, water quality treatment and management cannot be addressed in a single student thesis. Indeed, it requires a team

of students who can be networked with other teams to make valuable advancements. Thus, Universities that provide the tools and the environment that help professors manage and engage research teams will ultimately train better students and advance their research ideas in a more meaningful manner. Within Dalhousie University, I have found that the Faculty of Engineering and Faculty of Graduate Studies have been highly supportive of the research group approach, although greater efforts need to be made to help students and professors manage their expectations in a research group as most graduate student policies are created for the individual graduate student rather than the research team approach.

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Preparing Graduate Students to Teach in Higher Education

Suzanne Le-May Sheffield
Centre for Learning and Teaching

Graduate students and post-doctoral fellows come to Dalhousie to be immersed in their discipline of study and to engage in exciting research opportunities, aspiring to go on to become researchers in academe and beyond. Yet, many of our students arrive at the university unaware of the broader scope of the careers they aspire to and graduate curricula have only recently begun to incorporate formal professional development programming. Higher education researchers have argued that graduate students need a better socialization to academic careers and professional life. (Trower et al., 2001; Gaff, 2002; Austin, 2002 and 2006; Wulff et al., 2004). One area of preparation that is often overlooked is students' preparation for teaching. Lack of formal teacher training and opportunities for teaching practice are significant factors in the attrition rates amongst junior faculty. As a result, over the last ten years, universities across North America have attempted to address this lack of teacher preparation by establishing various programs that attempt, to varying extents and levels, to prepare doctoral students for teaching roles. The majority of Canadian universities with graduate programs now have formally recognized courses or certificate programs in teaching and learning.

Four years ago, in an effort make such an opportunity available to Dalhousie graduate students and post-doctoral fellows, the Centre for Learning and Teaching initiated the Certificate Program in University Teaching and Learning (CUTL), supported by the Faculty of Graduate Studies. The goal of this voluntary program is to provide a complementary and inter-connected series of programming opportunities for graduate students and post-docs that invites them:

- to connect theory and practice in higher education through a graduate course or learning project and through teaching practice

- to practice reflective thinking about their teaching, receive collegial feedback, and engage in on-going professional development of their teaching

- to articulate their philosophy and approaches to teaching in their discipline via the creation of a teaching dossier

While students may engage in any of these activities, those who choose to complete all aspects of the program obtain a notation upon their transcript formally recognizing their efforts to prepare for their future careers.

As part of the Centre for Learning and Teaching's efforts to ensure that the program meets our own and students' expectations, we established an ethics-approved research study entitled, "Developing Teaching Scholars: The Impact of a Certificate in University Teaching and Learning Program on Graduate Students' Beliefs, Concepts, and Practice of Teaching and Learning." Our goal in this project was to investigate whether or not the CUTL program would encourage participants to re-conceptualize their ideas about teaching and learning in a more sophisticated way. We were curious to learn whether students in the program would make a shift in their ideas and beliefs about teaching from a teacher-centered, information-transmission approach to teaching and learning, to learning-centered approaches where learners construct and take ownership over knowledge learned and change their perspectives or world-views. To study the possibility of change over time in students' thinking and approaches, we asked registrants in the program to complete entrance and exit surveys and to participate in a follow-up interview 18-months after graduating.

This project is still on going, but early results are highly encouraging of the program's efforts to attain these goals. When they enter the program, students are very focused on the value of gaining another credential to place in their CV. As one participant said, "[I]t will eliminate one more red flag" on the way to career success. They are also cognizant of the fact that they have limited teaching experience and realize that gaining some skills would undoubtedly be useful to them in the job search and in subsequent teaching. At this stage of entry to the program the majority of participants who

completed the entrance survey expressed their understanding of teaching and learning in the context of delivering knowledge and expecting the students to understand and engage critically with the material.

By the time participants exit the program, their perception of the value of the program has become internalized. They recognize that the process of engaging with each aspect of the program enables them to explore many aspects of teaching and learning but also to enjoy teaching and feel passionate about playing a role in student learning. Although external recognition is still important, they are less concerned about others' perceptions about their Certificate program completion. At the end of the program they also focus on the meaningful gains they have made personally and as teachers:

"It provided me with a great background in the literature on teaching and learning, student learning styles, etc., which I had not been previously exposed to."

"I learned a lot about myself as well as teaching and feel better prepared to get up in front of the room in general and to take the reins of my own class more specifically."

"The course focused on fundamental concepts and we practiced techniques such as group work in the classroom–giving me an opportunity to see how these techniques can work."

"It was very important to me–and I found it very informative–to study aspects of both learning AND teaching. Being a successful teacher is dependent on successful student learning; therefore both

areas must be addressed and understood by instructors."

"The CUTL program provided me with the words to express my [learning-focused teaching] perspectives, and from there engage and reflect further on my philosophies."

In contrast to their perspectives at the outset of the program, graduates from the program articulate a much deeper and more complex understanding of their own teaching and its relationship to student learning. For example, one participant upon exiting the program defined effective teaching as, "Facilitating a participatory, interdisciplinary, and reflective environment where students can engage in learning, integrate new ideas with previous knowledge and experience, apply new concepts to different contexts, and direct their passion … towards achieving positive change." Similarly, when asked to define effective learning, the responses were equally thoughtful and grounded in the participants' changed perspective. For example, one student wrote that effective learning is, "Being engaged in material, taking ownership of process, being open-minded about new ideas and concepts, and taking an active role in integrating the material into their own experience." For participants exiting the program, teaching and learning, and teacher training, are no longer items on a 'to do' check list, but experiences through which they and their students will both grow as learners. They have learned that there are many different ways to teach and learn successfully, that reflecting on what has worked and what has not is a valuable approach to their on-

going teaching experience, and that effective teaching is a "dynamic process."

The immediate benefits of the Certificate program to the individual participant teachers, their current and future students, Dalhousie, and the institutions in which they will pursue their career, are clear. As our project is now beginning to follow up with participants 18 months after completing the program, the long-term and broader ramifications are becoming apparent. For example, as students begin the job search process, they have found that articulating their ideas about teaching with others and via their teaching dossiers enables them to talk about their teaching in interview settings with greater depth and ease: "I had an interview … last week, and I feel I was able to answer teaching questions confidently (and they seemed impressed!) thanks to the training I received in the certificate program."

Equally, the program enables participants to accomplish the demands of teaching as a junior faculty member when they obtain an academic position: "I had to design that [Masters level] program from scratch in three weeks … but I had that background with the course that had been offered, so I knew every step of the process I needed to do to put that course together … it went superbly well … if it hadn't been for that course, there is no way I would have been able to do that…" Another participant explained, "I think that probably one of the most challenging aspects of a beginning professor is the teaching load … As you know, in the graduate program,

there is no prior [teacher] training. So to have the CUTL program really helps that transition, and it's not as big of a shock when you arrive … you have at least some experience with it."

Graduates have come to understand too that teaching is inevitably about life-long learning and they engage in discussion, research, and innovations in teaching with others in their new institutions. In sum, graduates of the program feel confident and positive about their teaching and students' learning experiences in their classes, and so do their institutions. One graduate from the program let us know: "After one semester of teaching the Associate Dean of Teaching and Learning … has nominated me for a teaching award. I am very pleased! I think

that the value of the certificate program to my development as a teacher is clearly demonstrated by this outcome." While not all graduates from the program will win teaching awards, participants do all generally leave the program with new-found confidence in themselves as teachers and with a strong interest in developing students as learners, that can only serve them well as they move forward in their careers.

References

Austin, Anne E. and Melissa McDaniels. "Preparing the Professoriate of the Future: Graduate Student Socialization for Faculty Roles." *Higher Education: Handbook of Theory and Research*. Vol. XXI, Netherlands: Springer, 2006. 397-456.

Austin, Ann E. "Creating a Bridge to the Future: Preparing New Faculty to Face Changing Expectations in a Shifting Context." *The Review of Higher Education*. 26.2 (2002): 119-144.

Gaff, J. "The Disconnect Between Graduate Education and Faculty Realities: A Review of Recent Research." *Liberal Education*. 88.3 (2002): 6-13.

Trower, Cathy A., Ann E. Austin and Mary Deane Sorcinelli. "Paradise Lost: How the Academy Converts Enthusiastic Recruits into Early-career Doubters." *AAHE Bulletin*. 53.4 (2001): 3-6.

Wulff, Donald H. et al. *Paths to the Professoriate: Strategies for Enriching the Preparation of Future Faculty.* San Francisco, California: Jossey-Bass, 2004.

Looking Back on Life as a Grad

Jennifer Legere, Dalhousie Graduate MSc. Biology ('05), BSc. Marine Biology (Hons '03)

As a Contracting Officer with Public Works and Government Services Canada, I am responsible for issuing and administrating contracts on behalf of the Government of Canada, for everything from sewing machines to janitorial services, microscopes to instructional services, and everything in between. In this line of work I am required to document and defend my actions and decisions on a daily basis. This often leads me to reflect on my time as a graduate student, planning and defending my research.

Why did I decide to enter graduate studies? At the age of 21, I still really had no idea what I wanted to be "when I grew up." As I neared the end of my undergraduate degree in Marine Biology at Dalhousie, an ambition I had had since I was ten years old, I was left with a feeling of "Now what? Where do I go from here?" I didn't feel quite ready to leave the security of academia, and I wanted to belong to something. I thought that doing a Masters was the best way to accomplish these things and to open some doors (or at least some windows) into the workforce. In 2003 I entered graduate studies at Dalhousie to complete a Masters of Science in Biology.

Everything I could have asked for but didn't know I needed

Supervision. My graduate experience was, in many ways, everything I could have asked for but didn't know I needed. I was provided with many opportunities to try new and interesting courses, equipment, and techniques. (How many people can honestly say they've made glow-in-the-dark embryos during their lives?) I had a supervisor who was very supportive of everything I wanted to try, who kept encouraging me to try a different approach when I was discouraged by my research progress. He allowed me to take on extracurricular activities such as volunteering with the departmental social committee and at the Museum of Natural History, and gave me the opportunity to attend a field course in Washington State. Having a supportive supervisor is, in my mind, one of the most important parts of successful graduate studies.

Socializing. Yet my graduate experience was certainly not all work and no play. Work-life balance wasn't always easily achieved, but was certainly supported. I can remember a number of occasions when we left our lab benches to attend the weekly seminar and social. After several hours, we often returned to the bench to continue experiments. These social activities gave us a chance to network, compare research ideas, and blow off steam, improving our focus when we returned to the bench. Some of the relationships established during these events will last beyond our degrees.

Networking. Graduate research should lead to conferences, which leads to travel. I was fortunate enough to attend conferences across North America and to meet with researchers recognized world-wide in their field. Meeting numerous subject-matter experts was thrilling for me. Who knew anyone could get so excited about mollusk sperm (except of course the mollusks)? The content these scientists were studying wasn't the only exciting aspect. It was their perseverance, their passion, and the idea that they could study a miniscule part of our world and turn it into a life-long career that was so stimulating and inspiring.

> *"All in all, I consider myself lucky to have completed graduate studies at Dalhousie."*

Teaching. Being a Teaching Assistant, and, later, a lab instructor at Dal was a very rewarding experience. While watching students struggle is frustrating and saddening, watching a student have an "ah-ha" moment can be so gratifying. Having the opportunity to complete the Certificate in University Teaching and Learning program was probably one of the Dalhousie experiences I am the most grateful for, as this is the program that has benefited me the most. It not only provided me with the tools to improve my teaching; it has also proven particularly useful in training new employees at my

current position. Training new employees will become more and more important in any workplace as demographics change, with retirees leaving the workforce and recent graduates filling their positions.

Soft-skills. All of my grad school experiences eventually produced a thesis. What is not explicit in the pages of a thesis are the "soft skills" we learn during the graduate experience. Resourcefulness: making your own lab equipment, because budgets are tight. Communication and diplomacy: how do you tell your supervisor you're not ready to do a PhD? Event planning: because someone needs to plan that weekly social, right? In all seriousness, the skills I use at work everyday I didn't learn from a book or a microscope. Critical thinking, problem solving, asking the right questions, patience, self-motivation, keeping detailed and organized notes and records, multitasking and objectivity – these are just a few of the skills that serve me the most in my current position. Members of the so-called millennial generation, such as myself, have grown up with slogans such as "reach for the stars" and "you can do anything you put your mind to." However, the realities of the workforce can be sobering. Sometimes you don't succeed at what you set your mind to doing. Of course, that doesn't mean you

should give up. On the contrary– the perseverance we learned during our graduate careers is most useful in giving us the self-motivation we need to try again, or try something new. There is nothing wrong with changing career paths–I've done it four times now since graduating from my masters program. To meet the challenges created by changing demographics and an uncertain economy, the versatility and resourcefulness learned during grad school will serve you well in the workforce.

Now that I know what I needed, what else could I have asked for?

Writing. It sounds simple, but writing is a generic skill that needs constant practice and evaluation. Communication is so important– whether it be with your supervisor, a student, the Deputy Minister, or a fellow researcher. No matter what you have to say, if you can't get your ideas across what you have to say won't matter. Practice writing texts other than research papers, and to different audiences, would be beneficial.

Career development and job hunting. When you graduate, the whole world is open to you. While this is a very positive thing, it can also be very overwhelming and discouraging. Coaching on discipline-specific resumé writing, conducting yourself in an

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academic/professional interview, writing pre-screening essay-style job applications, and how do deal with apparent defeat–this training would have been a nice addition to my graduate experience. Many such programs are now offered through Dalhousie's Faculty of Graduate Studies, but I would add that having some of these programs tailored to our particular degree program would have allowed us to more easily benefit from them.

Exploring non-traditional careers. It is often subliminally assumed by our mentors and the system we work in (departments and supervisors) that a biologist or a sociologist will go on to work at a research institution or pursue an academic career, that a civil engineer will go on to build bridges, or a health professional will go on to work in a clinical setting, and so on. However, there are multitudes of rewarding career options available open to anyone with any graduate degree; specific content knowledge is not always required. Exposure to these options is important not only during high school and undergraduate, but also during graduate studies. Students of graduate programs need to know that they can make meaningful contributions to society in careers outside of research and the university.

Looking back. All in all, I consider myself lucky to have completed graduate studies at Dalhousie. While I'm still not sure I know what I want to be when I grow up, I now know more about who I am, and feel like I belong.

Coming to Terms with Personal and Professional Development for Graduate Students

Sunny Marche, Faculty of Graduate Studies and School of Business Administration

The debate about the place of personal and professional skills development in the modern university is not at all new. There has been no shortage of effort invested in addressing students' personal and professional skills development, occupying the attention of university leaders at many institutions and at many levels within those institutions. Yet there is rather less agreement on the part of universities on what their responsibilities in this area might be. Meanwhile, stakeholders of all stripes (private sector, public sector, and NGOs) have had much to say about the limitations of the skill sets of university graduates, whatever the level of their accomplishments. This ongoing attention to personal and professional skills development at the university has some of the characteristics of a low-grade infection. On one hand, it does not seem serious enough to get professional help, and perhaps if we ignore it, there will be some kind of spontaneous resolution. On the other hand, the infection continues to sap our energy, and we are not working to our full potential.

Three years ago, Dalhousie's Faculty of Graduate Studies (FGS) undertook a strategic planning process that, among other things, raised the issue of a potential role for the Faculty in personal and professional development for graduate students. It seems there is something of a pent-up demand for such a capability, especially in the context of the new demands of the Postdoctoral Fellow's (PDFs) administration occasioned by a change in the taxation approach to fellowships.

FGS wasn't quite sure how to deal with the increase in their responsibilities, but the addition of another part-time associate dean to share the heavy lifting made it possible for us to take an initial run at the question. We began with a survey in which we asked graduate students what they think are their development needs. We ran a subsequent survey asking faculty what they believe are the personal and professional needs of graduate students. We then went one step further and asked our alumni the same set of questions. Of particular interest was the response from alumni who have never been graduate students, and have no interest in ever becoming one, but who hire them.

These data sets provided much food for thought and the conclusions were reported in a paper presented at the Administrative Sciences Association of Canada annual conference in 2008–"Professional Development Needs of Graduate Students: Comparing and Contrasting Perspectives"

> *"In the short- to medium-term, we will continue to develop, source, and deliver a variety of personal and professional development sessions."*

(available at http://www.dalgrad.dal.ca/annualreports/professional_development_publication.pdf.) It turns out that there are significantly different views about development needs, depending on whom you ask. Bottom line–FGS has taken this thinking to heart. Our view is that the university that does a superior job on this front will have a significant recruiting and retention advantage. We have also had a hand in working with the other members of the Canadian Association of Graduate Studies in drafting a set of national principles on the topic, entitled "Professional Skills Development for Graduate Students." (Available on-line at: http://www.cags.ca/pages/en/publications/cags-publications.php) This paper argues that the skills we are most readily able to implement in the university are: communication skills, management skills, teaching and knowledge transfer skills, and ethics. Our goal is to help ensure that graduate students and post-doctoral fellows are prepared for all aspects of the positions they hope to obtain upon graduation, and that employers believe they are reaping the rewards of the preparation that Dalhousie provides to its students.

Of course there is an old saying, "principles without programs are platitudes." We have begun to work at developing programming. We started with the post-doctoral fellows for three simple reasons: 1) they benefit from personal and

professional development; 2) for PDFs who are in the first 3 years of a fellowship, such a program reinforces the development nature of their relationship with the supervisor, and 3) this programming supports the non-taxable status of their award.

We have had one initial year of experience with the PDF program. Programming has included a course, "Professional Development for Post-doctoral Fellows," that we designed to extend competencies in the general areas of personal effectiveness, managerial effectiveness, and career intelligence. For the broader topics such as CV writing and public speaking we have invited PhD students who might have an interest. Other programming such as Write Here, In Plain Sight (WHIPS), a now annual demonstration of academic writing, is open to the wider university community. We are entering into the second year of the PDF program this fall, and therefore have had to organize program material for those students who completed the first. This second year of programming will build on the competency areas established in the first year.

There are many challenges in this work, beginning with the issue of FGS's internal capacity to develop and deliver the content. The second challenge is sorting out what part of the responsibility belongs to the host Faculty, School, or department. We have expressed these concerns informally with our faculty colleagues, and they understand what we are saying. But they have pointed out that their students sometimes benefit from hearing these messages from voices other than the ones they hear day-in and day-out. This will be a matter of ongoing thought and experimentation.

"It turns out that there are significantly different views about development needs, depending on whom you ask."

In the short- to medium-term, we will continue to develop, source, and deliver a variety of personal and professional development sessions. Now that we have additional staff we will develop a certificate program akin to the Certificate in University Teaching and Learning designed, run, and administered by our colleagues in the Centre for Learning and Teaching [See article pp 7-9]. In the long term, there are two imperatives we would like to see addressed. First, that these kinds of development opportunities for graduate students should be much more comprehensive in their reach (i.e., expanding the kinds of skills addressed), and much more sophisticated in their delivery (providing far less of Sunny Marche's talking head and far more genuine coaching). This can only happen if the universities in Canada collaborate in developing the program, since it is unlikely any one of us can do as good a job as all of us.

Not all graduate students are a fan of this kind of thinking. There is more than a little credentialism out there–people who imagine that they simply need to get the credential and their troubles are over. They offer me the argument that they took all this stuff in high school and they don't need any more of it. The counter-argument is two words–"Tiger Woods." He is the best golfer on the planet, and arguably the best golfer in history. He has a swing coach. What is it about the rest of us that makes us think our skills development doesn't have to be deliberate?

Master's student Stephen Petersen and PhD candidate in Oceanography Yuehua Lin discuss their C.V.s with workshop leader Sunny Marche. (Nick Pearce Photo)

Providing Feedback on Graduate Theses
Notes from the Field

Jerry Bannister, Associate Professor and Graduate Coordinator, Department of History

There seems to be a Chicken Soup book out there for everyone, except graduate supervisors. It would be comforting to have a collection of motivational stories to draw on when trying to read lengthy theses and provide feedback while juggling other academic duties. Yet, working with graduate students is my favourite part of my job: it is a wonderfully creative and rewarding experience that offers a unique opportunity to combine teaching and research. It is also the most complex challenge I have faced since I came to Dalhousie University. I would never attempt a Chicken Soup book, but through trial and error I have developed some strategies that seem to work fairly well. While these strategies may not work for everyone, they reflect my practical experience working with MA and PhD students who have successfully completed their programmes.

The most basic lesson I have learned is that providing feedback is a central part of graduate supervision. It should not be treated as a discrete aspect of graduate pedagogy or kept separate from the rest of your supervisory relationship with your students. Consistency and transparency are essential to building a strong relationship, and your assessment of graduate theses should apply the same style and standards that you use in other aspects of supervision. If students perceive a disparity between how you conduct a seminar and how you evaluate a chapter, sooner or later you will run into problems. As with any relationship, you need to build and maintain an appropriate level of trust between you and your graduate students. You have to be not only honest and fair, but also sensitive to their perspective and their needs. Building trust can take time, but undermining it can happen surprisingly quickly if you give thoughtless advice or make flippant comments. Above all, providing feedback should be approached as part of an ongoing dialogue between you and your students, rather than a one-way message. You should also work on the assumption that any written comment–whether in an email or on a hard copy of the thesis–can be circulated among other students and faculty. Never say anything in writing that you would not say in public, nor make a comment that you are unprepared to discuss in person with a student.

> *"While structure and consistency are important to providing effective feedback, they cannot serve as substitutes for a relationship."*

The parameters for providing feedback should be discussed at the start of the graduate programme. It should be part of the larger schedule that you negotiate, which includes group seminars, writing deadlines, and individual meetings. I try to establish clear expectations as early as possible, as it can be quite difficult to change criteria once a student has finished the first phase of their project. My goal is to establish a stable routine of research, writing, and discussion that provides three different types of feedback: written comments on each chapter, with close attention to grammar, style, and format; a separate summary, often written as an email, which assesses the chapter's use of the scholarly literature and primary evidence; and verbal comments given during a follow-up meeting, where the student has an opportunity to respond and ask questions. I have found through experience that these three types of feedback are equally important, because written evaluations work much more effectively when accompanied by a meeting or telephone conversation. Listening to students and openly discussing your views of their research and writing are necessary conditions for a successful graduate thesis.

When drafting comments, I follow two criteria. First, I tailor my comments to fit the specific stage of the writing. At an early

stage of a student's programme, there is more opportunity to suggest additional research or secondary reading than at a late stage of the writing. Of course, I push my students to do their best; however, I try to give practical feedback which students can realistically act upon within the time constraints of their programme. In other words, the type of feedback a student receives has to evolve as the thesis itself evolves. Second, I try to place my comments on a chapter firmly within the larger context of the whole thesis. Discussing how each chapter fits into the evolving thesis is important because it helps to ensure cohesion and to avoid redundancies. Each time I provide feedback on a chapter, I challenge the student to explain how it relates to the other chapters and fits into the overall arguments. Helping the student to see the proverbial big picture is often the most useful thing a supervisor can do.

While structure and consistency are important to providing effective feedback, they cannot serve as substitutes for a relationship. As much as I try to apply the same approach and treat students equitably, I often end up confronting new or unexpected problems that force me back to the drawing board. For example, helping graduate students deal with serious writing problems, especially writer's block, is an extremely difficult challenge, because no two students are exactly alike. An approach that works well with one student, such as scheduling frequent meetings and deadlines, may be completely counterproductive for another. I do not think that there is any single way to solve such problems, other than through dialogue and persistence. My preference is to keep trying different approaches until I find one that works, but this process is not limitless and, unfortunately, not every writing problem can be solved. While professors should be strongly committed to help students deal with writing problems, or other challenges that come along, they also need to recognize their limitations as supervisors. Letting a graduate student work out a problem on their own can be as important as giving them detailed advice. Students can also benefit tremendously from the informal support of their graduate student

peers. The hard part for supervisors is to know when to step back and give a student space and when to step in and intervene. While experience makes such decisions easier over time, turning to a senior colleague for advice about how to proceed in a particular situation is always helpful, as is encouraging students to seek out other resources, such as the Dalhousie Writing Centre.

Finally, as the student progresses through the writing process, I remind myself, and the student, of the actual degree requirements. In the flurry of activity and anxiety that surrounds a graduate thesis, it can be surprisingly easy to lose sight of the fact that it is part of a larger degree programme that has specific requirements and deadlines. It can be easy to forget that these students are not–at least not yet–writing academic books for publication by a university press.

Conversely, it can be tempting to believe that every problem can be solved with more writing and a deadline extension. Discussing how to publish a graduate thesis can be one of the most enjoyable parts of your supervisory relationship, but it is important to recognize that your first responsibility is to help the student complete his/her graduate programme. I have often found myself advising students to step away from their writing because they have fulfilled the requirements for the thesis, and it is now time to think about preparing for their oral defence. As university teachers, we spend so much energy encouraging our students to start writing that it is easy to forget how important it is to know when to stop.

Reflections on a Dalhousie Graduate Education

Fiona McDonald
(JSD(c) Dalhousie Law School)
Lecturer, School of Law, Queensland
University of Technology

I began my first academic position in mid-2007 as an Associate Lecturer in the School of Law at Queensland University of Technology (QUT) and, after achieving tenure, I was promoted to Lecturer at QUT. Beginning my career as an academic was a big step but one for which I was well prepared by my graduate studies in the masters and doctoral programs at the Law School at Dalhousie University and through completing the Certificate in University Learning and Teaching.

One of the most inspiring things from my time at Dalhousie was the collegial and collaborative atmosphere I encountered during my program. I saw faculty and students, often from different disciplines, working together to create new understandings and new knowledge. I saw the excitement, the frustrations, the challenges, and ultimately the rewards of collaboration. As a result, I have taken every opportunity to collaborate with others from within my discipline, from other disciplines, and from other countries both in research and in teaching. One of my current projects involves working with researchers from Australia and Indonesia examining how district governments in Indonesia make policies to address malnutrition. My colleagues are from different disciplinary backgrounds, namely: health informatics, sociology, food technology, nutrition, and health policy. It has been a wonderful experience and one from which I have learnt so much.

I also was very impressed and inspired by faculty members' scholarly approach to both their research and their teaching. Research was conducted with rigour and integrity and made a real contribution to knowledge and to the public good. Research was designed not just to generate knowledge but to maximize the opportunities for making real legal, political, social, or cultural change. Once the research project was completed there was a great emphasis on communicating research results to the public or to stakeholders, not just through academic channels to fellow academics. The social conscience displayed by members of faculty was remarkable. Most gave very generously of their time and expertise to professional, academic, or community bodies because they genuinely believed that they had a professional responsibility to the community to provide service.

The rigour and integrity of the process was seen also in teaching. I observed faculty giving much thought to how to equip students with the skills necessary for successful professional practice, for their contribution to their profession, and ultimately their contribution to the public good. This thought was in turn reflected in how the courses were designed, assessed, and delivered–and courses were never static, always evolving in response to student feedback, discussions with peers, and changes in content or social concerns. This was also emphasized in the Certificate program. The awareness I developed about teaching as a graduate student at Dalhousie has allowed me to identify a teaching challenge I face in my current position. Working with colleagues from the Law School and the Faculty of Education at QUT, we have developed a research project to explore best practices in teaching to multi-disciplinary cohorts in our courses.

Last, the mentorship and support I received and am still receiving from my supervisors and from other members of the Faculty was, and is, so important. My supervisors and other faculty members made sure I was offered opportunities outside my program to become involved in research, to give guest lectures in their classes, and for community service. Their doors were always open for advice about my studies, but also about other important matters for a would-be academic—how to write grant applications, manage grants, write journal articles, where to publish, how to write a job application and undertake job interviews, teaching strategies, time management, and so much more.

My time at Dalhousie was invaluable for equipping me with the tools to be a competent teacher and researcher and I am indebted to all who helped me along the journey. Seek out and offer opportunities and take them, always keep learning and maintain your integrity–that is what my time at Dalhousie taught me.

How to Supervise PhDs Effectively
Six best practices for supervisors, students, and supervisory committees

Carolyn Watters, Sunny Marche, and Dieter Pelzer, Faculty of Graduate Studies

Supervision only works when all participants are working together: supervisor, student, and supervisory committee.

We often see rights and responsibilities listed in calendars and handbooks for supervisors and students, but we are at the same time left without much of a clue about how to actually manage the supervision process to a successful conclusion.

The goals of the PhD supervision process are challenging and varied: high quality research, high-quality graduate experience, timely completion, development of new expertise, and, finally, the creation of a new colleague.

Supervision is not an exact science and varies not only on an individual basis but also along disciplinary lines. Sometimes this relationship works out terrifically and sometimes not so!

Here are a few best practices based on our collective experience and discussions with colleagues. The process is not, of course, the sole responsibility of the supervisor, and so our remarks are addressed to all participants: supervisor, student, and supervisory committee members.

Share expectations early

All relationships benefit from a shared understanding of mutual expectation, and the supervisor-student one is no different. If it helps, use this article as a basis for that discussion. There are many other topics that deserve attention when establishing such expectations, depending on discipline, some as trivial as what time of day people work best and some as fundamental as respect for intellectual property.

Draw the Box

"Draw the Box" is a way to define the research topic. It is being clear about what problems will be addressed (i.e., in the box) and even clearer about what will not be addressed (i.e., outside the box). This short circuits well-meaning diversions along the way. This works best, of course, if the problems in the box are doable in three to four years! The limits to the proposed research shape the timetable and deliverables.

Meet early. Meet often

The most common cause of a supervisory malfunction is lack of meetings. Meetings are in many

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Professional Development Workshops

In Conversation with Anthony Stewart, author of *You Must be a Basketball Player: Rethinking Integration in the University* (2009)

Anthony Stewart, English Department
Tuesday, November 3, 2009 • 1:30-3:00 • Room B400, Killam Library Basement

"The greatest single problem in the Canadian university is the unrepresentative composition of the people who teach in it…one can only imagine how hostile, unwelcoming, and exclusive it must look to a young person of colour…" (p.49) Stewart argues that the integration of people of colour into the university benefits everyone and can be accomplished by more open discussion, preferential diversity hiring policies, and engaging with people of colour in roles of power and authority.

Join Professor Stewart for an engaging discussion about integration in the classroom, amongst the professoriate, in the university, and beyond the academy.

Reaching for the Top: Mentoring undergraduates as novice researchers

Anne Marie Ryan, Earth Sciences and Jennifer MacDonald, Chemistry
Thursday, November 19, 2009 • 1:00-2:30 • Room B400, Killam Library Basement

Authentic research in the undergraduate years? Imagine the excitement of discovery coupled with the mastery of skills and the opportunity to be truly part of the community within your discipline, even in the undergraduate years! Not only does authentic research open doors for students, it also provides a rich and meaningful learning experience. Join Anne Marie Ryan and Jennifer MacDonald as they explore the variety of options and approaches possible—as well as look at potential pitfalls—in combining research and teaching within the undergraduate experience.

ways a bellwether of progress. Meeting the supervisory committee at least once or twice a year allows the student to demonstrate progress (or lack thereof); both the student and supervisor get a reality check. Regular scheduled one-on-one meetings of the supervisor and student drive the process forward with their odd mixture of guilt, pat on the back, and planning. Regular meetings, of course, increase the pressure to demonstrate actual progress!

Having structured meetings is useful. For example, sticking to an agenda, expecting a summary or presentation from the student at each meeting, keeping notes of meetings, providing documentation of the process, and keeping that timetable and those deliverables in sight provide tangible evidence of progress and prevent many unwanted surprises.

Have a Plan B

Attacking a research problem needs an understanding of the required resources. Not everyone gets to use the Cyclotron or rent an icebreaker for the summer! The resources must be affordable and they must be available in the time frame of the student's program. Even best-laid plans have problems, and often unanticipated road blocks occur: software or hardware does not arrive, equipment breaks, manuscripts are delayed, datasets are incomplete or garbled, etc. A three-month delay can easily develop into a show stopper and the supervisor, student, and perhaps the committee need to be proactive and be prepared to move to Plan B before the timeline of the thesis is completely destroyed.

Show and Tell

Unless the thesis contains code for the next Google or a multi-gazillion dollar patent, ideas benefit from exposure. Supervisors should make opportunities for the student to speak about their work; students need to take them. Write about it. Give seminars on the question, the methodology, the results. Go to conferences and talk about it to people in the coffee line, around the posters, after your talk, after other people's talks. Develop and practice an elevator pitch, the

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Resources – Visions for Doctoral Education

Austin, Anne E. and Melissa McDaniels. "Preparing the Professoriate of the Future: Graduate Student Socialization for Faculty Roles." *Higher Education: Handbook of Theory and Research.* Vol. XXI, Netherlands: Springer, 2006. 397-456.

Golde C.M. and G.E. Walker. Eds. *Envisioning the Future of Doctoral Education: Preparing Stewards of the Discipline.* Carnegie Essays on the Doctorate. San Francisco: Josey-Bass, 2006.

Lovitts, Barbara E. *Making the Implicit Explicit: Creating Performance Expectations for the Dissertation.* Sterling, Virginia: Stylus Publishing, 2007.

Maki, P.L. and N. Borkowski. Eds. *The Assessment of Doctoral Education: Emerging Criteria and New Models for Improving Outcomes.* Sterling, Virginia: Stylus Publishing, 2006.

McAlpine, Lynn and Judith Norton. "Reframing our Approach to Doctoral Programs: An Integrative Framework for Action and Research." *Higher Education Research and Development.* 25.1 (February 2006): 3-17.

Nyquist, J. and B. Woodford. *Re-envisioning the PhD: What concerns do we have?* Seattle: Center for Instructional Development and Research, University of Washington, 2000.

Walker, George E. et al. *The Formation of Scholars: Rethinking Doctoral Education for the Twenty-First Century.* The Carnegie Foundation for the Advancement of Teaching. San Francisco: Jossey-Bass, 2008.

Wulff, Donald H. et al. *Paths to the Professoriate: Strategies for Enriching the Preparation of Future Faculty.* San Francisco, California: Jossey-Bass, 2004.

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two minute spiel in English that covers the problem (so what), the idea (what), and the results (how good). Hopefully the student and supervisor have the same story!

It's all about respect

Above all, a good supervisory experience is about respect. Respect of the student for the content knowledge and experience of the supervisor and the supervisory committee. Respect by the supervisor and committee of the needs and expectations of the student. This plays out in the manner that everyone (i.e., not just the student) accepts and acts on feedback, the collegiality of interactions, and the timeliness of feedback.

Fundamental, of course, to respect is good old fashioned honesty. Students are responsible for honesty in their effort to act on feedback, to be honestly interested in the topic. Supervisors are responsible for honesty in their interactions with the student especially when the student is falling behind or not performing at the level expected.

These six ideas are not new and they are not rocket science but they are good starting points and timely reminders for us all. At the end of the process, the newly minted PhD becomes a colleague, and whether the relationship grows or withers will depend on the mutual respect developed getting there.

If we could add a seventh point it would be to participate fully in the process: celebrate the successes, mourn the losses and the rejects, and laugh at the improbable. It is hard to think of a single researcher who does not treasure the time spent with his or her graduate students and certainly administrative researchers, to a person, call this the best part of their week. So it is our job to make sure this is also the best part of the student's week as well.
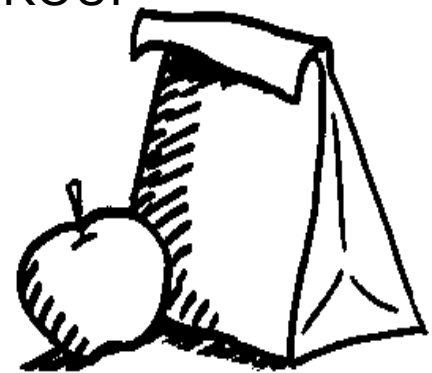

LUNCH & LEARN: DISCUSSION GROUP
Challenging Questions in University Teaching and Learning

The Lunch & Learn series of discussion groups will provide an opportunity for teaching staff to engage in informal converations about teaching and learning with their peers.

All sessions will be held in Killam B400

The Role of Technology in the Classroom

Jennifer MacDonald, Department of Chemistry & Centre for Learning and Teaching

Wednesday, October 28, 2009 • 12:00-1:00

A variety of technologies have become pervasive in the university classroom. How do you find a balance between the demands to use technology and ensuring that you and your students make judicious use of them in your classroom? Two articles will be available to read before the session, raising this question. Come and join us to share your views and engage in a discussion on this topic.

Learning and Teaching in the Last Class

Suzanne Le-May Sheffield, Centre for Learning and Teaching

Tuesday, November 24, 2009 • 12:00-1:00

Too often, we put significant amounts of preparation into the first class—beginning with a bang—only to end with a whimper in the last class. How should we prepare for the last class? What sorts of activities and attitudes could we bring to that class to ensure that students are engaged in a memorable learning experience? Join us with your own thoughts and ideas.

Teaching and Learning with Technology Grants
Call for Proposals

The Teaching and Learning with Technology Grants are intended to encourage faculty members who are seeking new and innovative ways to incorporate technology into their teaching practice. Two types of grants will be awarded to individuals and/or groups who can demonstrate the project's benefits to students and/or faculty. All grant recipients will be required to share their project results for the benefit of the wider Dalhousie community through the Centre for Learning and Teaching or other means.

Applications will be accepted for two types of grants.

Type One Grants ($2001 to $5000) will be awarded for projects that involve course/curriculum design or redesign, affect a significant number of students, and include a plan to evaluate the project outcomes. Priority will be given to projects that have the potential for application beyond a single course.

Eligibility: Full-time Dalhousie faculty. To optimize the long-term sustainability of the project, non-academic staff and part-time or sessional faculty may be co-applicants but each project team must include at least one full-time faculty member.

Type Two Grants (up to $2000) will be awarded for projects that provide direct learning benefit to students and have the potential for a long-term benefit in a particular course or program. (Examples of past projects include the creation of digital learning resources, virtual labs, multimedia productions, learning objects databases, online tutorials, computer-based student assessment systems.)

Eligibility: Full- and part-time Dalhousie faculty; limited-term faculty must have at least one year remaining in their contract term.

For more information, please contact Carol O'Neil, Associate Director (Technology), Centre for Learning and Teaching (Tel: 494-1895 or Email: Carol.ONeil@dal.ca). Download the application form at http://learningandteaching.dal.ca/grant_tlt.html

Deadline for applications: **November 30, 2009**

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