

# Spotlight on Best Graduate Supervision Practices

Academics recognized for their ability to guide students through their studies talk about their approach to supervision.

*University Affairs* by Mohamed Berrada & Daniel Halton  
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In the academic world, certain professors aren't just known for their research contributions, but also for their ability to shape graduate students' paths. Well-versed in the subtle art of supervision, these academics guide their protégés toward excellence. Recently, [University Affairs](#) reached out to academics who have won a graduate supervision award to learn more about their winning practices.

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## **Fostering student independence and leadership**

*Sylvain Fiset, Université de Moncton*

When I supervise a student, I focus on independence, leadership and creativity. In my laboratory, each student is assigned a specific project regardless of their level of training. Depending on their research experience, I work out the broad outlines of the project with them (objectives, methodology, etc.). The student is responsible for designing and carrying out the study based on this rough structure. I encourage them to show me all their drafts, and I point them in the right direction every day. What's important is that students develop a sense of ownership of the project they've been assigned. With that, they're ready to make every effort to bring the project to fruition. And that's fantastic!

What's more, in my lab, students get direction from other students. For example, student X working on project A helps students Y and Z with their projects B and C. This approach is highly formative: in addition to creating team spirit, it develops leadership, autonomy and a sense of responsibility. The flip side is that autonomy sometimes means failures and mistakes... For example, one of my students recently spent the summer carrying out a series of experiments that required a lot of travel and recruiting a large number of participants. Unfortunately, when we analyzed the results, we saw that the research protocol had induced a bias in the participants' behaviour, skewing

the results. She had to start all over. But as university professors, we should never forget that our primary goal is to encourage the pursuit of excellence. And sometimes this means learning through failures and mistakes, even if it is costly in terms of resources.

*Sylvain Fiset is a professor of psychology at the Université de Moncton, Edmundston campus, and winner of the university's 2023 excellence in supervision award.*

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### **Each student is a unique individual**

*Elena Bennett, McGill University*

Training students is one of the most important things professors do, and has always been a centerpiece and highlight in my career. I believe this training must go beyond helping students amass expertise and earn a degree. My real job is to guide students, not just in the subject matter at hand, but also in how to be great and passionate scientists, first-class colleagues and societal leaders on the path to a better future.

What helps me do this is to remember that each student is a unique individual, and not just a cog in the machine of the lab. Each student has specific strengths as well as areas for improvement. I strive to focus my full attention on each individual student, helping them design a degree program to put them on the path toward work and life goals. I make sure to notice and praise strengths and to openly discuss areas that need work, providing advice about how to improve. I also share things I'm working on improving, so they know that we're never done learning.

There is nothing I love more than seeing graduate students learn and thrive, reaching through fear of failure to growth. I strive to provide a safe space for all students to explore their passion for research, teaching and community service and to make strides towards their most important life goals. This is undoubtedly the best way to educate healthy productive students and ultimately, the best way to change the world.

*Elena Bennett is professor and Canada Research Chair in sustainability science at McGill University. Dr. Bennett won the Carrie M. Derick award for excellence in graduate supervision in 2013, and the David Thomson award for graduate supervision in 2022.*

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### **The bigger picture**

*Jason Brown, Dalhousie University*

Students are always amazed when they first find they can indeed make new discoveries and carry out research. They need our encouragement, support and enthusiasm on this path. But once they pass this hurdle, we need to stress the bigger picture and ask them to defend *why* their research is important. The question is one of the hardest ones to answer.

Students need to understand that it is not enough for the work to be new – it needs to play a role in the overriding scientific story. I have often, after congratulating students on their new result, pressed further, asking them to explain what their work adds to the encompassing picture. Does it settle an open problem for others? Does it add evidence, and if so, how compellingly? How do you explain your work and its importance to those outside your field? Does it add to the content or the aesthetics? How does it fit in the narrative that has been and continues to be written on the topic?

As researchers, we routinely ask these questions of ourselves, but viewing our research, at the *meta* level, is not natural. We have to teach our students to see the forest for the trees.

*Jason Brown is chair of the department of mathematics and statistics at Dalhousie University. He is the recipient of the 2022 award for excellence in graduate supervision.*

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### **Excellence and empathy**

*Najat Bhiry, Université Laval*

Training students is the essence of my role as a professor in geo-archaeology, a field that combines earth sciences with archaeology. My training philosophy is based on respect, excellence, perseverance and open-mindedness. I constantly strive toward greater equity, diversity and inclusion. I pass these values on to my students and interns through their research projects, while creating a favourable environment for scientific discoveries and advances in knowledge.

One of my strategies for keeping students on track and ensuring their success is to maintain regular contact (in person and/or remotely) throughout their studies; these meetings can last from 30 minutes to two hours. I supervise students at every stage, from research project development to manuscript submission, including field and laboratory work. In addition to providing scientific training, I make sure to show humanity and be empathetic to all of my students and interns.

I was very honoured to receive the university's 2022 excellence in teaching: graduate supervision award. I share the award with the dozens of students and interns whose questions, curiosity, ambitions and achievements have shaped my career as a professor.

*Najat Bhiry is a professor as well as head of the department of geography at Université Laval; she is also winner of the university's 2022 excellence in teaching: graduate supervision award.*

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### **Mutual trust**

*Mohammad Zulkernine, Queen's University*

Supervision is an ongoing process rather than a series of isolated tasks. It starts with the selection of the most suitable student for a project and extends through project completion, followed by offering guidance for their subsequent career path.

Throughout this journey, a supervisor's role involves fostering trust by communicating the collaborative nature of their efforts, aimed at benefiting both the student and the project. Building this trust hinges on recognizing the student's strengths and providing academic and research guidance and encouragement in those areas.

The objective is also to convey the message that the supervisor is interested not solely in the student's academic achievements, but also in their personal, familial, and societal well-being. This approach involves motivating the student to engage in extracurricular and volunteer activities. The depth of mutual trust cultivated directly correlates with the student's level of motivation for making academic and research progress. However, instructing or coaching students on how to trust or respect is not effective; instead, we must lead by example and demonstrate these qualities ourselves.

*Mohammad Zulkernine is a professor and graduate chair at the school of computing at Queen's University. Dr. Zulkernine held the Canada Research Chair in software dependability from 2011 to 2021. In 2023, Dr. Zulkernine was recognized with the excellence in graduate student supervision award at Queen's.*

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### **A focus on transferable skills**

*Shawn Fraser, Athabasca University*

A commitment to an excellent graduate student experience is a key to successful graduate student mentorship. Understanding the challenges faced by graduate students with complex lives on top of the stresses of graduate school and the uncertainty of life after graduate school is something essential in order to provide effective mentorship.

Most graduate students will go on to careers outside of academia which means mentorship goes beyond a particular research project or program and includes a focus on transferable skills. My advice is to seek to understand a graduate student's circumstances and career aspirations. New supervisors should be aware of the resources available for graduate students for funding, professional development, childcare, student groups, research networks, and so on in order to match the student with the support they need now and in the future. Attention to these things can make a big difference and demonstrate a commitment to graduate student success, promoting an environment where students feel involved and empowered.

Most universities have some professional development and/or on boarding for new supervisors to learn the basics of graduate policies and procedures and, more importantly, ways to develop skills around student mentoring. Additionally, talk with colleagues from the same and different disciplines. Regardless of discipline you'll find there are common issues graduate students and supervisors face, and there are common successful supervisory practices.

*Shawn Fraser is the dean of graduate studies and a professor of health studies at Athabasca University. In 2018, he received Athabasca's award for excellence in graduate student supervision.*

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### **Cultivating collegiality**

*Lisa-Jo K. van den Scott, Memorial University of Newfoundland*

I am honoured to have a wide array of graduate students. There are some key things I can do in my role. First, I "raise" my graduate students to be the kind of colleagues I want, shifting the academy away from competitiveness and towards collegiality. We, together, can be the change we want to see. My students make this possible.

Second, never forget that graduate students are the lifeblood of departments. Their presence allows for more intellectually-stimulating conversation, more publications, more of all the good stuff. Be grateful they are there, and be grateful to them.

Third, make clear the tacit rules. This includes communication practices for the screen-addicted. Set temporal boundaries and teach them how to set them with time-management. Answering e-mails late at night and on the weekends will show that you are always available and that they should be. Neither should be the case. Be clear and open and address those pesky tacit rules.

Last, encouraging them to be ever-expanding their circles. Teach them to be welcoming to others. Work on porous boundaries and inclusion all the time.

*Lisa-Jo K. van den Scott is an associate professor in the department of sociology at Memorial University. She is the recipient of the 2023 school of graduate studies ROCKStar supervisor award.*

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### **An honour and a responsibility**

*André-Marie Tremblay, Université de Sherbrooke*

When graduate students choose you as their supervisor, they're trusting you to guide them through some of their most formative adult years. I consider this a great honour and responsibility requiring me to focus on many issues at once. I'm responsible for setting students on their intellectual path as scientists, physicists and civic-minded individuals. They're adults, so I start by listening to them and understanding their goals and aspirations.

There's no recipe. Above all, I try to tailor my efforts to each individual's needs. The Université de Sherbrooke asks us to fill out a training plan, which is a great opportunity to discuss all aspects of their studies: duration, recommended courses, financial support, ethics, research project, etc.

Many tricks of the trade are easy to teach but shouldn't be overlooked, for instance filing and sharing bibliographic references, writing and sharing computer programs and keeping abreast of new developments on a daily basis.

Good oral and written communication is extremely important regardless of profession. I encourage my students to develop their writing skills by starting to work on their dissertation or thesis as soon as research begins. To improve oral communication, there's nothing like rehearsing in front of colleagues and taking part in international conferences.

It's also important to hold weekly individual meetings, remain available, hold group meetings, engage in frequent social activities, foster respect, help choose a stimulating research project, encourage students to collaborate with others, write articles and supervise interns as soon as they're ready, and provide professional guidance. I've had several decades to learn all of this.