

The PhD is in need of revision

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Too many students are dropping out of doctoral programs or taking too long to finish, prompting some universities to question what they can do to help them along.

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Illustration by Lamosca.

After completing five years of study towards his PhD in English at Queen's University, Ian Johnston dropped out. To those who have similarly slogged through a doctoral program without success, his reasons will sound all too familiar: his funding had run out; he hadn't yet begun to write his dissertation; the isolation had become oppressive; and the prospects for landing a tenure-track faculty job in English studies – were he to forge ahead and finish – were dim.

So he left Queen's in 2009 and enrolled in a master's program in educational counselling at the University of Ottawa, which he completed in 2012. Now 32, Mr. Johnston is working as a freelance writer while he looks for work in the counselling field. He laments those lost years.

"I think I could have done a lot better. I could have gotten some practical skills, a career of some kind, some earnings; whereas now I'm just starting out." He puts the blame squarely on his own shoulders – "I didn't put enough into it," he says – but adds thoughtfully, "It would have been nice to have had a bit more help."

For those about to enter doctoral studies, the statistics are sobering. The completion times are long and the success rates, though improving, are dismally low in certain disciplines (see "[The latest data on completion rates and times](#)"). Yet, PhD enrolment continues to climb, more than quadrupling over the past 30 years. The increase was spurred by government policies that sought to fill a perceived labour market need for highly skilled workers and to keep pace with the United States and other industrialized countries that outrank Canada in PhD production. Since 2000, almost 200 new doctoral programs were launched in Ontario alone, according to data compiled by the Higher Education Quality Council of Ontario. Enrolment growth occurred in almost all disciplines and was strongest at mid-sized institutions.

Some are starting to question this expansion. Maybe "it's time for a little evaluation of what happened in the recent past ... and some sober reflection on what we think we have to do in the future," suggests Harvey Weingarten, HEQCO's president. "Why did we make this investment? Are [PhD graduates] getting jobs? Did we expand in the right places?"

These are questions some universities are also starting to ask themselves. "I don't think we have been as careful or as thorough as we should be at looking at PhD programs," says David

Farrar, provost and vice-president, academic, at the University of British Columbia. UBC, for one, plans to review its PhD programs, examining everything from curricular requirements to completion times, graduation rates, and employment prospects for its doctoral graduates. It plans to post graduation rates and completion times, by program, on its website so prospective students can easily access the data.

In what's bound to be a more controversial move, UBC is also considering limiting PhD enrolment in some disciplines. "In some areas there is a huge demand for our PhD students," says Dr. Farrar. However, "I believe there are other areas where we may be producing more PhD students than we need. We need to look at where our graduates are going and then ask questions about how many PhDs we should be admitting." It won't be an easy conversation, he acknowledges, "because at some universities we think our mandate is to produce high-quality graduate students." But, he adds, it's only fair to students: "They need to know when they get into this where it's going to take them."

Queen's University, as well, is taking a second look at how it runs its PhD programs. Some programs have moved their comprehensive exams to earlier in the process and tried to limit their scope so that students can move on to the research phase of their studies sooner. Last summer, Queen's launched a week-long dissertation boot camp for students to help them write their theses. "We knew things were good when Friday rolled around and it was time to have a few refreshments, and one of the participants said, 'I can't stay. I finished a chapter. I've got to get it to my supervisor,'" says Brenda Brouwer, vice-provost and dean of graduate studies. Queen's continues to follow up with the 26 participants to ensure that they're still making progress. It also recently surveyed its PhD students for suggestions on additional incentives to encourage them to complete faster, but the results aren't yet available.

It's too soon to know whether the changes are having an impact, but Dr. Brouwer says the university's time-to-completion rates, based on a five-year-rolling average, are "moving in the right direction." Queen's aims to have 80 percent of its students complete within a "reasonable time frame," which will vary by discipline, she says.

It's in everyone's interest to do so. Long completion times are costly – not only for students who accumulate debt and delay their entry into the job market, but for institutions, too. Queen's estimates that it spends twice as much on teaching and research assistantships and other forms of financial assistance to support students beyond four years of doctoral studies as it collects in tuition revenue. (In Ontario, universities receive grants from the provincial government to support PhD students for four years of study.)

Concordia University is offering completion bonuses to students who finish their degrees on time and short-term financial assistance to those who are at the thesis-writing stage but whose funding has expired. "We are trying to use a mixture of the carrot and the stick," says Graham Carr, Concordia's vice-president, research and graduate studies, and president of the Canadian Federation for the Humanities and Social Sciences. Along with offering financial incentives, Concordia plans to limit time extensions and is closely monitoring annual progress reports filed by supervisors and students.

In the U.S., Stanford University recently announced it will provide incentives to humanities departments that retool their programs to allow students to complete in five years, via extra financial assistance to students in those departments. The American Chemical Society has called for sweeping changes to graduate education in chemistry, including limiting the completion time for a PhD to less than five years.

The Modern Language Association has forcefully called for reform of humanities doctoral programs. In an address to the 2012 Congress of the Humanities and Social Sciences in Waterloo, Ontario, former MLA president Sidonie Smith said the dissertation is one of the major impediments responsible for high attrition rates and long completion times in the humanities. “We cannot afford to lose our students and the funding we have invested in them,” she said.

As president of CFHSS, Dr. Carr has echoed the call to reform the dissertation here in Canada. “The default position has always been that the dissertation should resemble a manuscript that will become a book. Is that the only appropriate vehicle?” he asks. Or are there more innovative forms that would capture the knowledge and expertise that PhD students acquire equally as well and would have more practical applications to careers outside of academia?

There’s no single reason to account for the high attrition rates and long completion times that have long plagued doctoral education. Studies have pointed to various reasons, including inadequate funding, lack of preparation among students, academic isolation and poor supervision. But choice of discipline is undoubtedly near the top. A 2006 study prepared for the Social Sciences and Humanities Research Council (and confirmed by the most recent data from the U15 group of universities) found that students in the humanities and social sciences take about a year longer to complete their degrees and are more likely to abandon their studies than their counterparts in sciences and engineering. Equally worrisome, these students are more likely to devote several years working towards a degree before abandoning it.

Cultural norms and traditions in these disciplines play a role. Students in the social sciences and humanities more often work alone while those in the natural and health sciences collaborate on research projects with colleagues and supervisors. Research shows that students who work on teams are less likely to abandon their studies.

A publishing record also begets success, according to a study by Université de Montréal researcher Vincent Larivière, published last year in the journal *Scientometrics*. Dr. Larivière, an assistant professor in the university’s school of library and information science, found that of the 30,000 students who entered PhD studies in Quebec between 2000 and 2007, those who published papers were more likely to graduate.

“If you are integrated into research you’ll finish faster and you’ll finish, period,” says Dr. Larivière. Students in the medical and natural sciences are better positioned for success, he observes, since they are more likely to collaborate on research projects and publish their results.

Funding is also an issue. In a related study soon to be published in the *Canadian Journal of Higher Education*, Dr. Larivière found that students who received scholarship funding from federal and provincial research councils were more likely to publish and to graduate. An interesting finding was that the amount of money they received had no impact on the amount they published.

“The big difference,” he concludes, “was not between having \$20,000 or \$35,000 but ... between having something and having nothing. That, I think, goes against the grain of everything the federal government is doing right now, which is to create super-scholarships.” Instead of doling out large sums to a few elite students, the granting councils, he suggests, should spread the funds out.

And while the outlook for students in the social sciences and humanities is problematic, “everything is not necessarily rosy in the lab-based culture either,” argues Brent Herbert-Copley, SSHRC vice-president, research capacity. PhD candidates in the natural and health sciences may complete their studies faster, but they also are more likely to linger in postdoctoral positions, he points out. The close working relationship between students and supervisors in these disciplines is beneficial in many ways but can hinder students’ progress, since there is little incentive for supervisors to see them move on to become independent researchers.

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“I am one of those people who strongly believes that students tend to take as long as their advisers want them to,” says Jay Doering, dean of graduate studies at the University of Manitoba and past president of the Canadian Association for Graduate Studies. He speaks partly from experience, but experience of a different kind: Dr. Doering was fast-tracked from his bachelor degree into a PhD program and then completed his doctorate in four years. The main reason, he says, is because his adviser encouraged it.

However, many professors labour under the impression that it takes years and years to complete a PhD. “Part of the problem, I think, is that a large part of the academy still believes they are creating Mini-Me’s or clones,” says Dr. Doering. “The only way I see it changing is to get a buy-in from the vast majority of the academy that this is a problem.”

In a 2003 report, CAGS made a dozen recommendations for PhD reform. These included recommendations to collect and disseminate data on graduation rates and completion times, to encourage students to work in research teams and to publish more, to consider direct admission into PhD programs, and to provide more guidance to professors on supervision practices. Few of the recommendations have been put into effect.

But change is coming, albeit slowly. Frank Elgar, associate professor at McGill University’s Institute for Health and Social Policy and department of psychiatry who published a study on PhD completion while he was doctoral student at Dalhousie University, says universities are

experimenting with ways to redesign programs, restructure comprehensive exams, limit coursework and other efforts to get students through faster. His [2003 report](#), which drew attention to lengthening completion times, was highly critical of universities for turning a blind eye to the problem.

Now a supervisor himself, Dr. Elgar says getting the right match between student and adviser is crucial. But doctoral students need to be “very driven” and to have a career plan in place at the start of their studies, he adds. Those who enrol for lack of better options or to delay entry into a poor job market are the ones who tend to languish.

For their part, graduate students are wary of speaking out about their personal experiences for fear that what they say could jeopardize their academic success. Yet a lack of funding is top of mind for many of them. Most doctoral candidates receive funding, either through their institution in the form of teaching and research assistantships and other stipends, or through scholarships from the federal tri-council agencies and other government programs. In the sciences, many also receive support through faculty research grants. But assistance is usually limited, and once it runs out students may have to find outside work, which can impede their progress.

Poor supervision is also a common and pressing issue, say students. Supervisors can take months before providing feedback on completed work. “They don’t keep up with you,” says one student who asked not to be named, noting that her own supervisor went on sabbatical for a year, during which time she received no response. Personality conflicts between students and supervisors can also derail things. Some students have complained about outright abuse and exploitation.

When the student-supervisor relationship does break down, students feel they have little recourse and are powerless to speak out. “It’s a little tricky because, in the long term, students are hoping to get reference letters, so maintaining a relationship with their supervisors is quite a sensitive topic,” says Carolyn Hibbs, the graduate students’ representative of the Canadian Federation of Students and president of the York University Graduate Students’ Association.

Melonie Fullick, a PhD candidate at York and a blogger for *University Affairs*, believes part of the trouble is that faculty members are required to supervise more and more students. “More often people are competing for the attention of supervisors,” she says. The pressures along with the isolation can quickly lead to mental distress.

Mr. Johnston, the former Queen’s student, says that although he had completed much of the research for his dissertation, when it came time to write it, he was completely stymied. His supervisor, though supportive, was busy and preferred to take a hands-off approach. He didn’t know where else to turn for help. Depression quickly set in. There was “a lot of disillusionment and disappointment,” he says. “I remember feeling completely isolated.” He sought counseling for his depression after his second year but he hung on mainly because he liked to teach. Once his funding ran out, he decided to move on.

While universities continue to grapple with the problem, there are two concrete things they could do to help, says Richard Wiggers, executive director, research and programs, at HEQCO: collect and publish more data on doctoral students, and be more candid with them about their prospects. Dr. Wiggers says a colleague recently received a letter from a Canadian university admitting him into a PhD program but advising that his chances of landing a tenure-track position at the end of his studies were slim. “I applaud them” for their frankness, Dr. Wiggers says.

Concordia’s Dr. Carr agrees. “If I were a graduate student today applying to a doctoral program, I would want to be able to have a conversation with the graduate program director about the normal time-to-completion of students in that program and ideally about career outcomes.” In the future, he predicts, the most successful PhD programs will be those that show a willingness to have these discussions, to experiment and to innovate.

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The latest data on completion rates and times

The proportion of PhD students who successfully complete their degrees within nine years has risen across all disciplines, but completion times remain long and in some fields have even increased, according to new data collected by the group of 15 research-intensive Canadian universities known as the U15.

The figures are the most up-to-date on PhD graduation rates and completion times for Canada and are based on data collected from eight of the 15 institutions for which there is comparable data. None of the institutions was identified.

The percentage of students who entered PhD studies in 2001 and successfully completed within nine years averaged 70.6 percent across disciplines; this compares to 62.5 percent of students who started in 1992 and successfully completed. Among the 2001 cohort, completion rates ranged from a high of 78.3 percent in the health sciences to a low of 55.8 percent in the humanities; graduation rates averaged 75.4 percent for students in the physical sciences and engineering, and 65.1 percent for those in the social sciences.

Mean completion times also varied by discipline. Among the 2001 cohort, mean times-to-completion ranged from a low of just under 15 terms – or five years, based on three terms per year – in the physical sciences and engineering, to a high of 18.25 terms, or just over six years, in the humanities. The mean time-to-completion was 15.4 terms in the health sciences and almost 17 terms in the social sciences. Completion times rose in all disciplines except the health sciences.