

Research graduates and careers outside the university walls: state of play and prospective solutions

Consultation report summary

Intersectoral Student Committee
Fonds de recherche du Québec
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What is the CIÉ?

Established in 2014, the Intersectoral Student Committee (Comité intersectoriel étudiant or CIÉ) advises Quebec's Chief Scientist. The committee's mandate is to identify strategies to make more accessible the funding of graduate studies, value excellence of student researchers, and take part in efforts the outreach and promotion of student research.

Issue

The number of post-graduates entering the labour market has been steadily increasing in recent years. Although a large number of doctoral students aspire to a university career at the beginning of their training, it is clear that not many of them will reach this goal. In fact, currently less than one in five PhD graduates will obtain a position as a university professor. We are therefore seeing a transformation in the professional integration of doctoral graduates into the workforce.

This phenomenon opens the door to reflection on the professional integration of new post-graduates in research. If only a select few will be "elected" to academic positions (professors, university research), what other career choices are open to them? One possibility is to opt for a career "outside the university walls," which includes professional fields and areas of research outside of the traditional academic career path. However, the link between academic and professional settings is often seen as difficult. In an effort to better understand this issue, the CIÉ chose the professional integration of research graduates as the theme for its 2017 consultation.

Consultation objectives

This consultation had four objectives:

- 1- Characterize the profile of research graduates who turn to careers outside of academia;
- 2- Identify the barriers and facilitators to the transition to a career outside of academia;
- 3- Identify strategies and possible actions to facilitate the transition to a career outside of academia;
- 4- Establish which strategies and solutions are considered priorities for facilitating the transition to a career outside of academia.

Methodology

The research was carried out in three stages, each of which addressed one aspect of the general theme. First, an initial survey (Survey A, 90 questions, 291 respondents) was conducted to characterize the profile of individuals opting for careers outside of academia. Next, semi-structured focus groups of 18 participants helped identify strategies and possible solutions aimed at various community stakeholders (e.g., universities, funding bodies, employers, students) to facilitate the transition to non-academic careers. Finally, a second survey (Survey B, 856 respondents) was conducted to establish which strategies and actions were considered priorities for facilitating professional integration outside the university setting.

Data collection began in July 2017 and ended in February 2018. The target population at each of the three stages of the consultation included students currently enrolled in a graduate studies program, postdoctoral fellows and individuals who had completed a graduate degree within the last five years.

Main findings

Results of Survey A

The career plans of survey participants revealed that the academic environment continues to be appealing, with 39% of those surveyed considering an academic career (as a university professor or researcher). On the other hand, about half (51%) of respondents planned to pursue a career in research outside the university setting, and 36% envisaged a non-research-related career. These findings show that the respondents' planned career profiles are varied and that there is a wide interest in non-academic careers.

This survey also sought to learn more about the career plans of research students. About half of survey respondents reported having a firm career plan. However, it must be emphasized that 42% of the students and postdoctoral fellows had changed their career plan since the start of their graduate studies. Judging from their comments, it appears that a perceived lack of opportunities in the academic sector was the main reason for changing career direction among people who responded to the survey.

Finally, this survey provided an initial analysis of resources and initiatives aimed at facilitating the professional integration of new research graduates. The results clearly show that the survey respondents benefited very little from the services offered by universities or other organizations in defining their career plan. On the contrary, they appear to rely more often on informal resources and networks such as family and friends. The question of available resources and those used by research students and graduates was explored in greater depth during the focus groups.

Results of the focus groups

Before addressing the question of what resources should be put in place to better support the professional integration of research graduates outside the university setting, focus group participants were invited to discuss the obstacles to this type of integration. The main finding that emerged from these discussions was an apparent lack of alignment between academic and professional circles. For example, consultation attendees pointed out how little attention was paid to developing students' career plans during the course of their graduate studies.

The solutions proposed by students thus tended to focus on improving links between academia and professional settings. Suggestions included increasing networking opportunities, adapting employment assistance services to the reality of graduate studies, and creating internship programs providing experience in non-academic professional settings.

Results of Survey B

Following the focus groups, the CIÉ identified twelve ways to better support research graduates in pursuing careers outside of academia. The first objective of Survey B was to assess the relevance of these twelve methods using an appreciation scale. The results of this exercise showed that all of the proposed methods were deemed relevant by the survey respondents.

This survey then sought to prioritize the options by determining, among the twelve identified methods, the three that appeared to be the most important for fostering professional integration outside the walls of the university. The survey results pointed to three key solutions: networking, collaborative research, and internships in a practice setting. These three methods alone represented the “first priority” for 55% of those surveyed and the “second priority” for 42% of them. The adaptation of employment and guidance services to the reality of graduate studies emerged as a further priority in the analysis of “third priority” actions. These results showed that the survey respondents paid little attention to the promotion of entrepreneurial initiatives, a finding that is all the more surprising in the wake of initiatives such as *Savoir Affaires* (a week of entrepreneurial immersion organized by Université du Québec), *Startup weekends* organized by several universities, and other similar initiatives that appear to be increasing in number both on and off university campuses.

Courses of action and conclusions

The results highlighted the resources and means that could be deployed to facilitate the professional integration of research graduates outside the university walls. To better guide the implementation of these solutions, this report suggests courses of action for three stakeholders involved in this type of professional integration: universities, the FRQ and the Ministry of Economy, Science and Innovation (MESI).

Courses of action for universities

- Revise available employment and guidance services to ensure that they meet the real needs of graduate students;
- Customize skill recognition, resume writing and presentation letter writing workshops for the needs of graduate students;
- Enhance networking strategies by inviting post-graduates who work outside the university setting;
- Foster links between the university and external employers from the start of and throughout the graduate studies program;
- Ensure that university departments, teaching staff and guidance services and, by extension, students enrolled in a graduate studies program, are familiar with programs designed to provide practical and professional experience (scholarships internships in a practice setting, QuébecInnove, Mitacs, etc.);
- During career fairs, ensure the presence of agencies that fund practical experience opportunities and invite companies from employment settings that hire post-graduates.

Courses of action for the FRQ

- Develop and sustain a scholarship program for internships in a practical setting at the master's and doctoral levels in each of the three Fonds de recherche;
- Develop a scholarship program for internships in a practical setting for people who completed a graduate program within the past year;
- Fund collaborative research projects that specifically include the involvement and remuneration of graduate students;
- Ensure the presence of the Fonds de recherche du Québec on all university campuses (in the form of a booth/table at special events or conferences) to inform research students about its scholarship and work experience programs.

Courses of action for the MESI

- Better promote "First research job" aid programs (MESI's *Premier emploi en recherche* program) such as QuébecInnove;
- Be present on university campuses to inform research students about MESI "First research job" aid programs (MESI's *Premier emploi en recherche* program).

The CIÉ's 2017 consultation contributed to efforts to understand the inherent challenges surrounding the professional integration of recent post-graduates. It also showed that professional integration issues are of concern to research graduates.

Since the mission of the CIÉ is to promote and value the potential of student researchers, it was important to consider possible solutions to help new research graduates reach their full professional potential. Professional integration outside the university setting is a complex issue that requires concerted efforts on the part of all research stakeholders, from universities to funding agencies.