A Report of the Discussion and Summary of the Graduate Leadership Summit (October 17, 2015)

School of Graduate Studies

November, 2015
How can we best prepare graduate students for leadership and success in an evolving global labour market?

Challenging the value of advanced education, particularly the PhD, has become a common feature in the media. The misconception that PhD graduates are only suited to jobs in academe is at the core of arguments to reduce the supply of new graduates. The case is fuelled by the fact that the number of PhD graduates far exceeds the availability of academic positions.

The majority of PhD graduates transition to satisfying careers in a wide range of fields; this has been the reality for some time and it is unlikely to change as graduates continue to make important contributions in many sectors in an advancing society and economy. The fundamental issue is to ensure that our graduates are prepared and feel prepared to apply their intellect, advanced knowledge and analytical thinking to multiple career options.

The Graduate Leadership Summit was an opportunity to seek input from graduate students and academic leaders on graduate education in the context of societal need, the global landscape and marketplace along with recommendations that will help inform the future direction of graduate education. Twenty-three graduate student leaders from various disciplines and senior administrators were invited by the Society for Graduate and Professional Students (SGPS) and the School of Graduate Studies (SGS) to contribute to the discussion with the goal of identifying key recommendations. Participants were divided into four discussion groups, followed by a plenary discussion to summarize recommendations.

NOTE. This report summarizes the discussions that took place at the summit and the emergent recommendations for further discussion and consideration. These are not consensus statements or a blueprint for action, but a sound basis to build upon. General terms were adopted that if unpacked might be uniquely defined in different discipline clusters. For example, “internship” could be understood as an experiential learning opportunity/practical experience in various settings (community, government, industry, etc…); “comprehensive exam” included candidacy exams, field exams, proposal defense, and like requirement of the PhD program.

Sub-Question: What should the PhD curriculum and the PhD thesis look like on 2016?

The four groups were asked to discuss concrete and pragmatic ideas that result in recommendations for short-term modifications to any or all elements of a PhD program (coursework, comprehensive exams, and thesis). An overarching theme in all discussions was the need to balance any modifications of PhD programs with the already significant workload of doctoral students so as to not negatively impact times to completion.

Professional Development Opportunities

All groups discussed the value of professional development opportunities in the form of workshops within a PhD program. The SGS (though the Expanding Horizons suite) and some programs offers such sessions, but workload through courses, comprehensive exams, and the thesis can limit the ability to participate in the program. Discussants suggested that the value of such training and access to it could be enhanced if professional development was integrated into the program requirements, and even made mandatory in lieu of some of the required coursework. This would serve to motivate students to think about their career pathways, and it would address the challenge of balancing workload and times to completion. Partnerships with other institutions and online courses could serve to broaden the knowledge base and available resources for professional
development. A recommendation was to establish assessed module-based professional development courses (including a campus-wide fundamental skills working group).

Comprehensive Examinations
Participants discussed the need for change of the comprehensive exam, such as the inclusion of professional development options. This could be facilitated through a “pathway” comprehensive exam which makes research and teaching focused options available (e.g. syllabi, research proposals, grant applications, publications), but also options beyond the conventional academic manifestions of knowledge and learning (e.g. managing a project and other demonstrations of leadership, development of a personal portfolio). Such “non-academic” comprehensive exams could then be evaluated by reviewers in the industry/career sector that the doctoral student is targeting.

All discussion groups identified disparities in the structure and weighting of comprehensive exams across disciplines (and in some cases among different supervisors) as a challenge area that should be addressed in order to work towards a common framework that takes the scope, timing, and relevance of the comprehensive exam into consideration. Discussants recommended:

- that both the format of the comprehensive exam and that of the thesis should be made more uniform across disciplines to make completion in a timely fashion tangible for all doctoral students; and. - re-evaluating the structure of comprehensive exams in order to keep in mind the learning outcomes of desired skill sets and knowledge.

Too often, students perceive the comprehensive exam as a “box to check off”, instead of a transformative learning experience.

Some participants suggested replacing the comprehensive exam with an internship or practicum, which would afford opportunities for experiential learning. Questions about whether the opportunity for assessment that the comprehensive exam offers should be replaced by an activity with less measurable outcomes were raised. Although there was not consensus that internships could or should be incorporated in to the comps process, all groups did recommend: the implementation of internship programs or other experiential learning opportunities and maintaining relationships with partners outside the university. Ideally this should be integrated within the program requirements so as to not adversely affect completion times.

To support students in completing degrees on time, it was suggested that the comprehensive exam be changed to constitute the first step of writing a thesis, instead of being implemented as completely separate from thesis work. The comprehensive exam could be an opportunity to strengthen research methods skills and to explore the topic within a clearly defined framework, allowing the student to stake out the territory of the research endeavour and manage expectations beforehand. This step is already implemented in form of a proposal defense in many programs.

Overall, participants recommended that the model/structure of the comprehensive exam be reformed to allow for non-academic/practical/applied components, while keeping feasibility and times to completion in mind. Furthermore, guidelines or regulations to bring into alignment the scope and demands of comprehensive exams across disciplines should be considered.
PhD Thesis and Curriculum
Modifications of the PhD thesis were discussed in the context of experiential learning opportunities. It was suggested that the thesis could include a practical element, such as a chapter which focuses on a project with an industry partner. This would not only serve to facilitate connections between students and potential employers, but it would also support the dissemination of research and knowledge beyond the academic context. PhD theses could also be modified to allow for collaboration among students, perhaps even across disciplines. This would foster project management and teamwork skills, and allow for the sharing of knowledge beyond the program.

A recurring theme of all discussions was the tailoring of the PhD curriculum to the interests and career aspirations of individual students. This would allow those students who are interested in project work to pursue “non-traditional” options for course work, comprehensive exams, and thesis. The following needs to be considered if such an approach were to be adopted:

- Students might not know enough about their own career aspirations at the beginning of their degree to make such choices. Autonomy over which skills to focus on during the degree could lead to confusion and delays in degree completion.
- Such customization of degree requirements would likely produce a two-tier system of degrees (an “applied” doctorate vs. an academic doctorate?).
- The prioritization of broad skills versus deep knowledge could change the nature of the PhD beyond recognition.

Overall, discussants recommended to establish a student-driven educational path allowing students choice in how to build a skill set aligning with their career aspirations. Programs and the SGS should facilitate the integration of professional development workshops into an existing or new course, and support the generation and maintenance a portfolio of workshops and experience completed. In addition, departments should come up with a framework or plan for preparing PhD students for the job market (all sectors) and propose modifications to the program for meeting this goal. Training supervisors and providing resources on how to mentor students academically as well as professionally is important. Such a framework should be regularly re-evaluated.

Other factors
A point often raised in discussions was the perceived stigma of non-academic careers for PhDs. Such career pathways are still often approached as “plan b” or, in the worst cases, as failure. It was suggested that this could be addressed by fostering relationships with alumni. This would provide role models for current doctoral students, and, by surveying those alumni, it would allow programs to take stock of the skills and knowledge identified as crucial for career development outside of the tenure track system.

Discussants suggested adoption of an ongoing portfolio of learning (e.g. an ePortfolio) that could be included as an option in the PhD curriculum. This would lead students towards recognizing career aspirations and identifying the skills and knowledge needed to work towards their goals. This portfolio could then be used to showcase accomplishments to potential employers.
Sub-Question: What strategies can we implement, or what opportunities can we create to facilitate interdisciplinary/collaborative approaches and discovery that align with identified community, industry, corporate, environmental, ... needs as well as integrate with the requirements of the PhD?

Groups approached this sub-question pragmatically, identifying opportunities that can be easily embedded in a PhD program, and that both facilitate collaboration, and enhance targeted skills-training. Skills that were identified as in demand included problem solving and analytical thinking, information management, leadership, teamwork, project management, and communication skills. Discussants from all groups identified the need to change the image of the PhD student as an isolated scholar, since such an approach is inconsistent both with the needs of academe and other employment sectors where the skills of teamwork are required.

**Departmental Activities**

Suggestions that emerged from the discussions include a more structured involvement of graduate students in departmental activities, such as symposia. To broaden their network, students could be required to attend meetings with guest speakers and learn how to promote their own research with such visitors. Discussants mentioned that doctoral students do not always seize this opportunity, perhaps because they do not necessarily understand the value of these activities. If such events could be embedded as part of the development of networking skills, this perception might change.

It was also suggested to expand the opportunities for students to showcase their own research. Events such as the Three Minute Thesis Competition support this endeavour, and interdisciplinary symposia allow for a deeper exchange of knowledge. Interdisciplinary working groups (e.g. on cancer research) were recommended for a more long-term format of collaboration.

*It was recommended that doctoral students take leadership on establishing such groups.*

Some participants also suggested including a course on interdisciplinary approaches as mandatory element of the doctoral program.

*The groups recommended fostering collaborative and interdisciplinary workshops for graduate students, integrated into degree requirements.*

**Mentorship and Collaboration**

Peer mentorship was discussed as a powerful tool to enhance skills and promote collaboration. All groups acknowledged that mentorship from the supervisor alone has its limitation in terms of preparation for careers outside academe. Upper-year graduate students who have participated in professional development and experiential learning programs could be matched with students entering the program to support them in making choices for their career development. This would be an opportunity to address above concerns about a student-driven educational path, where mentors would provide guidance to mentees in developing and refining career aspirations. In addition, a mentorship program would provide the mentors with the opportunity to develop their own leadership skills.

Opportunities for mentorship also exist outside of the university environment, in particular through alumni involvement or community expert involvement. These individuals could be non-academic members of thesis committees or supervisory committees and provide both expertise and opportunities for an expanded network.
Participants discussed the importance and need to expand collaboration beyond the university. Internships or project-based thesis work would open doors for such opportunities. Students could work closely with the community or the industry to identify needs and apply their problem solving skills. It was suggested that instead of following a conventional approach of trying to place students in internships, programs could create an “open call” to the various sectors of employment (industry, public, NGO, etc.) to submit problems that require creative solutions. Graduate students can then form interdisciplinary teams to work on these solutions. **Participants recommended the creation of a mechanism for students to work with interdisciplinary teams to solve community issues, which may form part of the degree requirement.**

It was further recommended that departments include speakers outside the academy in symposia and departmental speaker series, to foster collaboration and knowledge mobilization, and to introduce current doctoral students to an expanded network.

Alumni from the graduate program would be ideal candidates for such events. This would promote the value and possibilities of non-academic careers. A general recommendation was that programs permit or encourage “field” examiners and/or members of the community to be part a doctoral thesis examination and/or supervisory committee.

**Discussion Summary**

All groups agreed that a guiding principle for any reform or restructure should be that changes be integrated as part of the degree requirements for the PhD, so as to not add to workload and extend completion times. Discussants also suggested that these modifications be accompanied by continued conversations about relevance and needs. Students could be regularly surveyed on their career aspirations and how their programs prepare them for their goals.

**Key Recommendations:**

1. **Integrate experiential learning (beyond the research) into the PhD curriculum.**
   This could be realized by integrating an internship or project work within the PhD curriculum. Collaboration and interdisciplinary interaction should be encouraged as part of this curriculum element. Programs should consider maintaining relationships with partners outside the university, such as industry or community experts, or alumni from the graduate program.

2. **Revisit the structure and relevance of the comprehensive exam to align with current and future needs**
   Programs could consider introducing components into the comprehensive exam or ensuring flexibility within the structure to enable elements to be assessed that align with students’ career aspirations (e.g. environmental scan of market demands in the field/discipline, development of a course syllabus, research grant application, …) and that reflect manifestations of knowledge and learning that resonate within and beyond academe. Timing, scope, and relevance of the exam should be taken into consideration, as well as learning outcomes in order to keep the focus on desired skill sets and knowledge.

3. **Encourage a student-driven educational path**
   Programs and the SGS should provide opportunities for professional development workshops to be integrated as (or within) a course and support the generation and maintenances of a portfolio of workshops and experience completed. Programs can establish interdisciplinary and inter-institutional partnerships to provide a wider set of options to doctoral students.