**Canadian Association for Graduate Studies: Imagining Canada’s Research Future | 2015**

*University of Toronto: New Ways of Learning*

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ABSTRACT

In order to address the particular CAGS/SSHRC Future Challenge Question, “what new ways of learning, particularly in higher education, will Canadians need to thrive in an evolving society and labour market,” the University of Toronto’s School of Graduate Studies enlisted a select group of graduate students across a variety of disciplines for an intensive focus group. After four hours of substantive dialogue, a series of pointed suggestions and proposals were generated that spoke directly to the issue of imagining “new ways of learning” from multiple perspectives. Based on the structure of the focus group discussion, critical needs were first identified in three main areas of higher education that should be addressed by new ways of learning. The first of these needs was being able to concisely define what it means for higher education to contribute to a society that “thrives.” The second need was to consider the current challenges within the “environment” of higher education, especially as these challenges pertain to the larger socio-economic and political environment of Canadian society. Finally, the focus group determined a pressing need to review the current knowledge and skill sets that are currently imparted by graduate studies, and to then identify the critical gaps and weaknesses that new ways of learning might help to mitigate.

After determining these specific need areas, the focus group then proposed, in short, that in order to adequately prepare graduate students to enter into, and flourish within, a dynamic job market, and for the job market itself to benefit from a population of highly educated and innovative graduates, graduate studies should generally move towards developing new ways of learning that specifically involve a greater emphasis on collaboration and collaborative projects, cultivating and communicating transferrable and marketable skills, and fostering the ability to convey the value and worth of graduate research to prospective employers and a general population.

INTRODUCTION

The global economy is in the midst of sweeping changes which bear immediate consequences on the nature of employment. For example, the increasing influences of globalization and computerization on virtually all kinds of labour has given rise to a workforce that is more rootless and flexible, more dependent on collaboration with diverse specialists from a range of fields on a kind of project-based or on-demand basis, and one that is ultimately reflective of the dynamic economy within which it operates. To adequately respond and adapt to these changes in both the economy and the nature of work, Canada’s system of higher education will need to evolve in order to leverage the intellectual power of their growing body of graduate students for a more prosperous economy and society. A greater responsiveness to the needs of employers on the part of graduate programs would also greatly benefit both graduates and students. Ultimately, Canada will need to implement changes in the kinds of ways that graduate students learn in order to prepare them for success in their academic or professional careers, and to secure the personal, professional, and productive wellbeing of its workforce.

By at least one measure, Canada is behind other OECD countries in being poised to implement these changes. According to the Conference Board of Canada, Canada produces fewer PhD graduates in comparison with other OECD countries. And while this stems from a variety of factors, including poor professional development in some programs, an entrenched academic culture in other programs, and a disparity between the knowledge and skills provided in academia and those required in the workforce, what is singularly apparent from this measure is the fact that Canada’s workforce lags in terms of the kind of higher level analytical thinking, innovation, and research-oriented approaches that could otherwise be benefiting all sectors of the job market and economy.

In addition, the challenges posed by these macro-level changes in the economy and job market to especially graduate students are daunting. Not only do graduate students face uncertain employment prospects, but they must also navigate a dynamic job market with little training on how to convey the value and marketability of their research skills and knowledge to prospective employers. Moreover, these students are being trained by professionals who have little experience in dealing with today’s job market, and who, in some fields, subscribe to a culture that maintains the pursuit of any career outside of academia is tantamount to professional failure.

And yet, Canada needs the kind of intellectual strength and dynamism that these graduates possess now more than ever. It needs the focus on sustained inquiry and critical reasoning that they have mastered. It needs their capacity for abstract thinking in order to inspire innovation and entrepreneurship. And it needs to secure these intellectual goods without introducing substantial new costs. Canada must first then identify the crucial needs that have to be addressed in terms of how and what graduate students learn if students, universities, the national economy, and Canada as a whole are to thrive. Therefore, the University of Toronto in conjunction with the Canadian Association for Graduate Studies and the Social Sciences and Humanities Research Council conducted their focus group with the aim of imagining new ways of learning that might be introduced that would help address today’s challenges.

METHODS

The University of Toronto’s School of Graduate Studies (SGS) began by drawing from its large body of graduate students from a variety of disciplines in order to ensure that the focus group benefited from a wide range of perspectives and experiences. Participants came from a healthy cross-section of fields from the humanities and social sciences to the medical sciences. After soliciting eighteen students, SGS hosted them in the Nexus Lounge of the Ontario Institute for Studies in Education for a four-hour intensive focus group where they were asked to address a series of questions pertaining to the larger CAGS/SSHRC Future Challenge Question. These questions were categorized under the three main need-areas that were identified by the focus group facilitators from SIDELab, a graduate student group lead by Keita Demming that explores the intersections between systems thinking, integrative thinking, design thinking, and evaluative thinking. These questions were printed on large poster board paper and were framed as “frictions” so that the focus group participants could plot their answers, using a sticker, along a gradient, or continuum. The poster boards were placed around the Nexus Lounge during the first half hour of the focus group, which allowed participants to wander around different areas of the room and plot their responses. In effect, this allowed for the group to visualize the variety of responses that its individual members generated to itself as a whole, which provided a compelling way for the group to self-reflect and measure the diversity of its opinions between programs and particular experiences. This also added to the overall visual and holistic approach of the focus group, which incorporated a visual facilitator, Patricia Kambitsch, who was able to capture the nuanced and multidirectional nature of the discussion in a visual format. This added a crucial level of depth, comprehensibility, and tangibility to a complex dialogue. Moreover, it helped begin to crystallize what are sure to be the germs of innovation in new ways of learning for higher education.

*Thrive, Environment, Knowledge and Skills*

Under the first need-area, “thrive”, the first question, or friction, was, “Canada needs more PhD candidates in order to thrive.” Participants then plotted the extent of their agreement or disagreement along a gradient using a sticker on the large poster board. The procedure was repeated for each of the second sub-question, “completion of the PhD helps people achieve a sense of personal well-being”, and for each of the other sub-questions under their respective need-areas.

The same format was used for “environment” and “knowledge and skills” with different spectrums for the current situation and the ideal situation:

* “Research acknowledges and helps shape the aspirations and expectations of diverse citizens across the globe.”
* “Research acknowledges and helps shape changes in industry and the remaking of the global landscape.”
* “The PhD is a public good.”
* “PhD programs contribute to society the necessary skills and knowledge for an evolving labour market and future innovation.”
* “PhD programs enable students to self-generate the necessary skills and knowledge for an evolving society and labour market.”

After taking the first half hour of the focus group session to plot their responses on the poster boards, the focus group participants then reconvened as a group in order to discuss the results of each question. During the discussion, the visual facilitator captured the discussion’s intricate and multi-directional nature in an intuitive format that allowed the group to view and reflect on the trajectory of its discussion. The discussion was punctuated by a brief half-hour break.

RESULTS

Upon assessing the plotted responses to each question within each of the individual need-areas, the results of the discussion were as follows:

*Thrive*

In response to the friction, “Canada needs more PhD graduates in order to thrive,” participants felt strongly that in order for higher education to be able to imagine new ways of learning that might prove beneficial, it was first important to define what is meant by “thriving.” Participants expressed a general feeling that there is an entire economics associated with graduate study, especially at the University of Toronto, which was recently underscored by the CUPE 3902 labour strike. A lack of accessibility/connection exists for both the PhD graduates seeking to enter the general workforce, and for employers who currently wish to employ more PhD graduates. It is widely acknowledged that more PhDs are needed in the general workforce (to varying degrees), but there are real economic, bureaucratic, and other barriers to PhDs entering the general workforce, including a lack of training in marketable and transferrable skills.

One possible contributing factor to the dearth of employed PhD graduates within Canada is that there are simply too many graduate students (and PhD graduates) and not enough jobs in this global economic climate. This creates a cyclical phenomenon, whereby the fewer jobs there are, the more people enrol in graduate programs, who then later compete for fewer jobs. Overall, the group expressed frustration that higher education is generating graduates with no discernible consideration for their professional status afterward.

At the same time, there is a great economic and professional opportunity for graduate students coming from a diverse range of fields. The group acknowledged that there are increasingly vocal and frequent calls from major employers, including many CEOs from Fortune-500 companies, wanting the kind of critical, analytical, abstract, and research-oriented approaches that higher education routinely produces in its graduates. Far more than technical-based training, graduate studies are, according to many of these individuals, what inspire entrepreneurial innovation. But one of the main problems, as articulated by one of the focus group’s participants, Jielai Zhang, is that,

*“Graduate school provides its students with lots of knowledge, but no skills.”*

– Jielai Zhang, Astrophysics, University of Toronto

Therefore, the real challenge for PhD graduates is to be able to better communicate the marketability and utility of the knowledge and skills that they possess, especially in terms of a “skill set.” However, it was acknowledged that being able to articulate a generalized and transferrable set of skills acquired from graduate studies would be difficult in the face of graduate programs that increasingly encourage hyper-specialization within particular fields.

Additionally, within the workforce, the necessity of PhD degrees in many fields was acknowledged as an inextricable part of “credentialism.” A lack of such a degree, therefore, is still prohibitive in many fields (archaeology was named as one such example). We might, therefore, consider redefining graduate studies to include “applied” aspects, which could be “skills,” that might, in turn, more immediately contribute to economic and other kinds of “thriving” or growth.

Developing such applied or skill-based aspects to graduate studies would, according to many in the focus group, help to counter a widespread, largely public assumption (which is still reinforced by the practices of many programs/departments) that PhD students are “solitary scholars” – ill-suited for the necessary collaborative environments of today’s workforce.

Collaboration, and the greater need for graduate studies to incorporate it into new ways of learning, formed a major theme of discussion for the focus group. As Adam Davidson, co-founder of National Public Radio’s “Planet Money” has argued recently in *The New York Times*, “our economy is in the midst of a grand shift toward [a model of labour] where ad hoc teams carry out projects that are large and complex, requiring many different people with complementary skills” (Davidson 2015). The focus group discussion certainly reflected a keen recognition of this throughout many of the discussion’s array of points and topics, and as Keita Demming observed:

*“We need programs and research to encourage more collaboration, especially in the humanities and social sciences. We must reconceive knowledge production as it is undertaken in higher education.”*

–Keita Demming

Specifically, in many fields of the humanities and social sciences, the current way in which knowledge is produced is as follows: isolated, individual research is first presented at a narrowly focused conference to a few experts, which then becomes published in highly concentrated journals, which are, in turn, only read by a handful of specialized scholars, etc. Research needs to be made more accessible, in every sense of the word, to the public, to employers, etc.

Of course, the discussion of this particular point made very clear that there are discrepancies between individuals and disciplines as to what the PhD should be “for.” Is the PhD about fostering critical thinking? Is it about knowledge production? How do we (and should we) distinguish between undergraduate and graduate education? A general consensus revealed that undergraduate study should be about critical thinking, while graduate study should be about producing new knowledge, and that knowledge production should be what makes PhD graduates so marketable to prospective employers.

In the midst of discussing the purpose of PhD study, the group entered into deliberation over the second sub-question, or friction, of “completion of the PhD helps people achieve a sense of personal wellbeing.”

In particular, the group considered whether or not a sense of wellbeing should be the “point” of a PhD, or a kind of side benefit? The group unanimously maintained that the appeal of a PhD for both students and employers is that doctoral research is rigorous, and that graduate students should never seek to relinquish that. At the same time, however, every student should be entitled to an overall wellbeing that includes physical and emotional health.

What became clear at this point in the discussion, however, is that there was a lack of consensus around the professional status of PhD students. For example, are PhD students apprentices or professionals in their fields? On the one hand, PhD students have not been certified as professionals in their discipline, but on the other hand, by comparison, private companies often pay their trainees like professionals even if they have not yet received professional accreditation. The group then engaged in debate over how this issue might be clarified within higher education. The notion of (and an argument for) professional and personal “dignity” might be one way of circumventing this quandary. Moving forward, the group concluded that it would be enormously beneficial for universities, faculty, and other parties of higher education to clarify this issue and to perhaps adjust funding for graduate students accordingly.

Some of this lack of clarity stems from the unfortunate assumption of many incoming graduate students that their degree will guarantee them, upon graduation, a tenure track position in their respective field. And yet, as the 2013 White Paper on the Future of the Humanities PhD produced by the Institute for the Public Life of Arts and Ideas in conjunction with McGill University and SSHRC, has argued, “an examination of recent studies leads to the conclusion that…only about 20%-30% [of PhD graduates] secure positions in colleges and universities. The evidence tells us that there is a systemic impossibility of achieving anything close to reasonable rates of permanent academic employment…[and] the situation has been exacerbated by a tendency toward greater casualization of labour in higher education” (1). Moreover, as the focus group duly noted, many universities demonstrate little follow-through after recruiting and enrolling their graduate students, in terms of making sure students are developing professionally toward a sustainable career. In essence, universities are not adequately following through on the investments they are making in their students.

*Environment*

As the discussion turned toward the second need-area, it began to digress from the prescribed format in terms of addressing the specific frictions, and instead moved on to broader concerns. Regarding the larger “environmental” concerns both within higher education and higher education’s role in Canadian society at large, the group contended that Canada essentially faces two extraordinary challenges pertaining to higher education. The first, is that in certain fields, the benefits and value of research being undertaken in Canadian universities and institutions is subsequently leaving Canada based on the way the system of higher education is structured. For example, existing bureaucratic practices and a lack of support for graduate students produce a situation whereby Canada educates especially international, but also domestic, students, but since there are no intuitive pathways to employment for them and no training in how to market themselves and their research to prospective employers, these graduates are taking their lucrative knowledge, skills, and research training elsewhere.

Compounding this phenomenon is the fact that, at the same time, the Canadian population will soon be entering a demographical aging crisis, and it is already becoming apparent that not enough people are receiving training in essential fields that will be needed to support this rapidly changing population. Consequently, the group agreed that it would be essential for higher education to begin to cultivate in its graduate students the essential knowledge and skills required for supporting a thriving Canadian society.

*Knowledge and Skills*

At this juncture in the focus group discussion, the group began to conceive of the particular knowledge and skills that PhD programs currently impart, but which should be better articulated to prospective employers, and those that should be imparted based on what today’s job market and employers are demanding.

*“‘Wisdom’ and ‘wonder’ should be the terms with which the PhD articulates its distinction from other degrees. We should abandon unhelpful terms like ‘useful’ versus ‘useless’ research and instead adopt a terminology that best captures the value inherent to doctoral research and teaching.”*

– Debra Kriger

In terms of imparting the time-honoured wisdom from ages past that many humanistic disciplines cultivate, and the cutting edge research into new realms of knowledge that other disciplines specialize in, “wisdom” and “wonder” represent useful terms with which graduate studies can begin to conceive of their marketable value and skill sets outside of academia. Virtually everyone in the focus group agreed that one of the most beneficial set of skills that graduate studies bestows is teaching and pedagogy, and the ability to consolidate and explain complex bodies of information to a general population.

Where disagreement arose, however, especially on the friction charts, was whether participants felt that the knowledge and skills they gleaned from their graduate studies were *self-generated*, that is, a function of the self-directed nature and practice of graduate research, or whether these skills and knowledge were specifically taught to them by faculty in a systematic manner. Undoubtedly, this discrepancy amongst the different participants reflected the fact that different programs and disciplines are structured differently.

One consequence, or perhaps cause, of this fact that the group articulated was that existing course and departmental structures are inhibitive, and stifle cross- and inter-disciplinary research and collaboration. The outmoded kinds of research in many programs reinforce this sense of disciplinary isolation. For example, in many humanities departments, the continuation of the solitary, book-length dissertation or thesis is designed to be undertaken as an isolated venture, which does not translate to employability afterwards, especially outside of academia.

The group then moved to discuss the several ways in which the dissertation represented an outmoded form of research, even within academia. The dissertation project does not foster the necessary skills and training for today’s job market. Since current funding, scholarship, fellowship, and other support structures reinforce and perpetuate this kind of research, they also inadvertently serve to perpetuate the outmodedness of academia (SSHRC grants were mentioned as one example). One way to address this would be for funding bodies like SSHRC to encourage more kinds of interdisciplinary collaboration between the sciences and humanities for shorter, article-length projects. Still, a significant portion of the focus group advocated for the value of sustained inquiry and the transferrable value in the kind of thinking and writing that the dissertation alone can cultivate.

*New Ways of Learning*

Given the increasingly unstructured nature of the focus group discussion, when the group finally arrived at the section of the discussion dedicated to imagining new ways of learning in higher education, the frictions had been cast aside in favour of a more free-flowing format. Fortunately, the visual facilitator was able to capture the finer points of the discussion, but the main characteristics of what new ways of learning in higher education should entail are as follows:

Collaboration: Increasingly collaborative research and projects should be encouraged and fostered in all disciplines, including (and perhaps especially) those still bound by professional and cultural “traditions” of inculcating the “lone scholar.”

Dispensing with bureaucracy and institutionalization: Students need to be freed from having to receive university approval or certification for launching events, workshops, start-ups, collaborative endeavours, etc. Enabling students to take the initiative in beginning these projects will be precisely what will encourage future innovation and entrepreneurship.

Producing from the beginning: Current research practices need to be altered and restructured so as to include “knowledge production” (which includes methodologies, approaches, technologies, etc.) as an integral part of the learning process. In programs where coursework is required, for example, these courses should foster, from the very onset of a graduate program, the active production of knowledge rather than passive learning.

Transferrable skills and professional development: Research, teaching, and scholarship should be incorporated into a graduate student training which fosters professional development (including outside academia) and which teaches graduate students how to communicate the value of what they do in terms of their diverse array of knowledge, and their transferrable, professional, marketable skills for employers.

Dispensing with course-based model of instruction: One suggestion for conceptualizing new ways of learning in higher education was dispensing altogether with a course-based model of instruction. Several Nordic schools in particular are already experimenting with this, which aims to do away with the structural boundaries (e.g. courses organized by disciplinary boundaries) that isolate bodies of knowledge from one another. This might be one way, at the graduate level, to encourage thinking and research that transcends the outmoded disciplinary-based model of learning and scholarship, and which encourages innovation across these boundaries.

No forced collaboration: For all the emphasis on collaboration in the discussion, the group did strongly express that in order to get the most out of new and collaborative forms of learning, we need to distinguish between collaboration v. co-production v. coordination v. cooperation, etc. In other words, collaboration should not be forced or coerced in any way. There is still, and perhaps always will be, a need for the kind of singularly focused research projects undertaken by individual scholars and researchers.

Experimentation v. Expressway: There needs to be, if not a consensus, than a clear articulation of what the PhD should be “for.” Should it be a degree that embodies and fosters experimentation, or should it be an expressway to a job? In response to this question, the group felt strongly that experimentation is the only way in which we truly produce and derive knowledge. The PhD entails cultivating a mindset that allows for a decentering of the self, and should also allow for the fostering of transferrable skills. We need to be putting these skills in employable and marketable terms beyond the academic arena. Experimentation and risk-taking, much like entrepreneurship, should be the key/operating words. Similarly, students should have a clear idea of what constitutes “value” in research. In implementing these changes, however, the PhD should never lose its academic rigour, nor should it ever cease to be a difficult journey. Ultimately, the degree should be methodically rigorous but flexible. The appropriate question to ask, then, is how do we rethink and create systems of higher education that support these new aims, and that re-measure how “success” in completing the degree is defined?

Acknowledgments: Higher education writ large, including academic bodies like SSHRC, CAGS, and universities need to openly acknowledge how society and labour markets are changing. There is simply not enough conversation happening about these changes and how they are profoundly affecting graduate studies and students. In the meantime, programs should strive to maintain “diversity” in their curricula and teach adaptable skills.

Mentorship & Entrepreneurialism: Moreover, funding bodies like CAGS and SSHRC should encourage research that promotes active mentorship. We need to be encouraging research that isn’t isolated from what happens at the undergraduate level and at the pedagogical level. Graduate students should be encouraged to be entrepreneurs. Graduate students and universities should conduct outreach to industries and sell values of PhDs and graduates. We need to be rewarding and incentivizing research that benefits Canada and encouraging the value of research and researchers to remain here.

The Humanistic Value of Research: By recommending certain changes to graduate studies that gear toward earning graduate students jobs, we do not mean to suggest that all research and study needs to be of a solely utilitarian or market-based value. Graduate research is inextricably tied to the identity of individual graduate students, and these students need to know who they are and know that what they are doing matters in more ways than in profitable terms. Therefore, higher education, including CAGS and SSHRC need to reaffirm and restate the humanistic value of all research and the profound personal attachments that drive research. Investments in research should be done on the basis of humanistic values and terms, not economic, financial, or return-on-investment ones.

Thinking about the Future: One suggestion to spur positive changes is for funding bodies like CAGS and SSHRC to anticipate and encourage research that deals directly with the future of higher education. In addition, SSHRC and CAGS should encourage, fund, and conduct more community-building and focus group exercises (like this one!). Students should have a greater voice in the debates concerning the future of higher education and these organizations need to solicit more feedback from students. Moreover, we need to dispel pressure to have definite, measurable research outcomes and benefits in the short term. When funding bodies like SSHRC and CAGS consider funding for research, they should take into consideration projects that have more variable, long-term payoffs… Public money is best for things that don’t matter now, but in the future.

DISCUSSION

While the focus group discussion generated a wealth of cogent dialogue and suggestions for new ways of learning in higher education, several limitations prevented the focus group from achieving its full potential. The first and most obvious limitation was time. Much of the four hours allotted for the discussion were spent merely venting on frustrations pertaining to graduate studies in a tangential sort of way; and, while this is certainly a necessary part of the brainstorming process, it nevertheless limited the amount of time needed to think through these frustrations and generate possible innovations in new ways of learning. In general, the focus group would have also benefited from a more rigid adherence to the structure originally outlined in by the frictions. Instead, and again, not altogether unproductively, the discussion was wont to veer into tangential topics, opinions, and frustrations pertaining to higher education or the PhD experience.

The overall timing of the discussion group at the end of the University of Toronto’s academic year also prohibited conducting what would have been a very valuable follow-up session. Had the group been allowed to reconvene after the initial meeting, discussion would have likely followed a much more concentrated and substantive trajectory. Members of the group exchanged contact information and have connected with each other for other personal, professional, or academic activities.

Despite these limitations, however, the group was able to generate meaningful dialogue that began to address the task of developing new ways of learning in higher education that would meet today’s pressing changes in society, the economy, and the job market. In particular, the group’s discussion coalesced around the notion that developing new ways of learning should specifically involve a greater emphasis on collaboration and collaborative projects, cultivating and communicating transferrable and marketable skills, and fostering the ability to convey the value and worth of graduate research to prospective employers and a general population. And while it will certainly prove challenging to navigate the different and competing autonomous structures currently in place in terms of provinces, universities, and individual departments, the fact remains that we will all benefit from the economy having access to the best possible trained workforce. Enabling graduate students to enter that workforce outside of the academy is an assured way to empower Canada itself.

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