

Defining Excellence in Graduate Studies

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Abstract

This article provides an analysis of definitions of excellence in graduate study provided by Master's degree and doctoral candidates, identified by their department as "excellent," and by chairs of graduate programs (n = 43) at two western Canadian universities. Faculty members' definitions tended to focus primarily on external markers of success rather than on personal characteristics of graduate students. Both graduate faculty respondents (n = 20) and graduate student interview participants (n = 23) mentioned the importance of visibility in the department and the community. The graduate student participants made infrequent mention of external indicators, such as grades and ability to garner funding, and attributed their identification as excellent to their own actions and internal attributes. External factors frequently mentioned by graduate students were the cutting edge nature of their research and the importance of the supervisory relationship. Further exploration is needed to develop a working definition of "excellence" in graduate study and explore the factors involved in its attainment. This paper offers a rudimentary framework for how excellence in graduate study is currently defined, makes preliminary recommendations, and discusses possible directions for future research into excellence in graduate studies.

Overview of the Study

The purpose of this study was to investigate how graduate student excellence is defined, both by faculty members and by “excellent” students. As the first step in this multi-phased study, a questionnaire was mailed to each graduate program group of every faculty at two western Canadian universities. Each program group was asked to provide a prose statement of what constitutes excellence in their department and to cite examples of the kind of achievements made by their graduate students. In the second part of the study, graduate students, identified by their departments as “excellent”, were asked to describe why they would be designated as “excellent” and what factors they believed to have facilitated that excellence. This information provides empirical data to augment the scant research available on graduate education in Canada and provides a foundation from which further studies on graduate students and their studies can ensue. More pertinently, the findings provide insights for university faculty members and administrators into the experiences of excellent graduate students and what facilitates and hinders their success. These insights could inform possible changes and improvements to graduate programs. The findings are also of value to other graduate students in that they provide a description of how excellence is defined by faculty in their program areas, which could improve their understanding of what is expected.

Background Information

Facilitating excellence in graduate study is important since highly trained specialists are needed in many fields of study. According to Berkowitz (2003, p.8),

Canadian employers are competing for a finite pool of highly qualified personnel. Since 1991, job for people with master’s and PhD degrees have grown 50 percent (almost 300,00 new full-time jobs, according to Statistics Canada). But the number of graduate degrees awarded in Canada levelled off in the mid-90s, making it hard for governments and industry, not to mention universities, to meet their needs for these highly and variously skilled graduates. The competition will likely intensify over the next decade.

It has been estimated that Canadian universities will face hiring needs of 2,500 to 3,000 faculty per year for the next decade while others suggest a total hiring need of as many as 32,000 new faculty by the year 2010 (Giroux, 2000). At present, there are only approximately 38,000 full-time faculty positions (Mercer, 2001). Fifty percent more Ph.D. graduates need to be produced in Canada to meet the labour market needs (Giroux, 2000). To meet these demands, it is necessary to attract more individuals to not only pursue graduate studies but to achieve excellence so that society can reap the benefits from new understandings uncovered by research of high caliber (Madsen, 1992). It is also crucial to encourage graduates to remain in academia.

As early as 1990, it was noted that more than half of Ph.D. graduates were choosing careers in government, industry, and other sectors (Ziolkowski, 1990).

In Canada, relatively little is known about the nature of graduate students (Sabatini, Carlson Berg, & Corbin Dwyer, 2001; Dwyer, Mohr, & Sabatini, 1997; Lussier, 1995; Sabatini, Dwyer, & Mohr, 1999) and indeed the graduate programs in which they are engaged (Holdaway, 1994; Smith, 1991). Researchers who have explored length of study and completion rates amongst Canadian doctoral students considered contributing factors such as gender, age, citizenship, registration status, and field of study (Gonzalez, 1996; Lussier, 1995; Pyke, 1997). While such studies are helpful in understanding completion rates, they do not provide specific information as to what is considered “excellent” in each field and the factors that contribute to this success.

In the United States, however, there is a growing body of information about graduate programs (Haworth & Conrad, 1996), the doctoral dissertation process (Katz, 1997), and factors contributing to graduate students’ success (Goodchild, Green, Katz, Kluever, 1997). By and large, the focus of American higher education seems to have been directed towards undergraduate education. “It appears that the recent assessment movement has ignored not only the most expensive component of our nation’s higher education system, but also the most influential in terms of its contributions to the advancement of knowledge and the development of future leaders” (Haworth, 1996, p. 89). The reality of completion rates and time-to-completion of doctoral studies was summarized by Katz (1997). Katz cites Bowen and Rudenstine’s 1992 finding that less than fifty percent of students entering Ph.D. programs actually finish them. For those who do complete, the time-to-degree varies from a median of six years in the physical sciences to a median of more than twelve years in Education faculties. Significant allocations of time and resources are expended by the students, the university, and governments. It is wasteful for all parties if the student does not complete. The urgent need for faculty cannot be met by augmenting the completion rates alone, but by also ensuring the level of quality or excellence of graduates in higher education. As Ziolkowski (1990) noted:

...it is also in the urgent interest of the nation at large to see that the universities recruit and retain graduate students of excellence in every field, from Assyriology to astrophysics, and train them within a reasonable time to assume an appropriate place in a college or university...If we do not have the best students with the finest minds in our universities, the institution itself can rapidly decline...[and] undergraduates...will be taught in a dizzying downward spiral by second- and third-rate Ph.D.’s...

Ziolkowski’s concern regarding the impact on graduate student excellence on undergraduate education is noteworthy, especially since the fastest growing occupations in

Canada require the most education (Giroux, 2000). Katz recommends collaborative efforts among the stakeholders of graduate programs to address the issues facing graduate education. “The universities should provide...clearly defined expectations for graduate students” (Katz, 1997, p.14) and the supports necessary for achieving excellence under these standards.

From examination of the websites of various Canadian universities, it appears that the goal of excellence is considered to be an inherent component in the pursuit of graduate study. Excellence is more frequently talked about in referencing research and graduate studies and it is embedded in the mission statements of many Canadian universities. For example, “A major objective of the Faculty is to provide leadership and support for excellence in graduate education and research.” This is accomplished by administering financial awards for graduate study and ensuring that the programs have established degree requirements, approved supervisors and examiners, and meet high national and international standards (University of Calgary, 2003). Other faculty of graduate studies’ websites stated the following: “Our mission is to advance graduate education and research, to encourage and to support excellence in graduate program, [and] to attract the best graduate students into those programs” (University of Alberta, 2003) and “Ensuring excellence for our graduate students and postdoctoral scholars is a top priority of this university” (McGill University, 2003). Excellence is a popular term that has not been well defined in the literature or in practice as it pertains to graduate student contributions. It remains vague and difficult to evaluate.

The present study reflects the challenges faced in articulating a definition of excellence in graduate studies. Initially, faculty from the graduate programs at one university were asked to identify the excellent contributions and achievements of graduate students. They reported examples of excellence, e.g., publications, presentations, and sources of funding (awards and research grants). These examples of excellent contributions provided a limited understanding for defining excellence in graduate research and study. It was necessary to send out a follow-up memo asking for a prose explanation. Similarly, when the graduate students were asked about their excellence in graduate research and study, they reported being unsure about what it meant to have this reference applied to them. They expressed a distinct interest in knowing how their department defines excellence. As one respondent put it, “There is no clear criterion in the department”. In general, both faculty and graduate student respondents seemed to have difficulty articulating the concept of excellence (Sabatini, Carlson Berg, & Corbin Dwyer, 2001). This paper provides a synthesis of their responses in an attempt to define excellence in graduate studies.

Methods

Our multi-phased study obtained data from two western Canadian universities. In the

first phase, faculty who were graduate program coordinators were asked to complete a questionnaire asking them to provide a prose statement of what constitutes excellence in their program as well as examples of excellent contributions made by students. They were also asked to distribute “letters of invitation” to a maximum of five students, enrolled in their department during the 1999-2000 year, who they considered to be “excellent”, inviting them to participate in the second phase of the study. It should be noted that no criteria for “excellence” were given to faculty members. The second phase of the study consisted of individual interviews with each of the twenty-three students who responded to the letter of invitation. During each interview, graduate students were asked to describe what makes them an “excellent” graduate student and to identify factors that contributed to that excellence, including support from sources such as academic, personal, financial, and social.

All responses from faculty and graduate students were coded and aggregated for analysis. Most faculties who responded to the first phase of the study had at least one student who participated in the second phase of the study. The students who were interviewed were from the following faculties: Education, Engineering, Fine Arts, Humanities, Law, Nursing, Science, and Social Science. The highlighting approach (van Manen, 1990) was used to isolate themes in the text and assist with reflective analysis of the graduate student interview data. Interview transcriptions were read several times to distil “particularly essential or revealing [elements] about the phenomenon or experience”(van Manen, 1990, p. 93). During the reading and re-reading of the data, the researchers endeavoured to identify the recurring words, phrases, and topics (Maykut & Morehouse, 1994). The highlighted statements in the transcript data were grouped into working themes, which were revisited several times to identify the properties and dimensions of each theme and the relationships between themes (Strauss & Corbin, 1998).

This paper discusses definitions of excellence from both the “excellent” graduate students themselves and the faculty who nominated them. Key factors that graduate students identified as having contributed to their excellence are then described. Finally, recommendations are included on how universities can best foster the pursuit of excellence by their graduate students.

Definitions of Excellence

Faculty

A total of twenty faculty responses were received, including eleven of fifty-one contacted at one university, representing Education, Engineering, Environmental Design, Fine Arts, Humanities, Law, Medicine, Nursing, Science, and Social Sciences (Sabatini, Carlson Berg, & Corbin Dwyer, 2001). At the second university, responses were received from nine of twenty-eight graduate coordinators, including Education, Fine Arts, Humanities, Science, and Social Sciences faculties. A review of the responses from both universities indicated that both faculty

and graduate students reported that formal criteria for excellence do not exist. One faculty respondent stated, “The definition of ‘excellence in graduate study’ in this department may depend upon the person responding,” and another began, “In my opinion...”

A variety of responses were given by the faculty respondents to the question, “Please explain what is meant by *excellence* in graduate study in your department?” To interpret and analyze the definitions made by graduate faculty, each characteristic of excellence stated in the written definition was noted and a frequency count was made of the number of respondents who mentioned that characteristic.

The graduate faculty members at both universities made most frequent mention of the traditional markers of excellence, specifically refereed publications, scholarships, awards, conference papers, research grants, research allowances for travel and training, teaching assistantships, and grades. For both universities, the graduate study faculty definitions of excellence mentioned refereed publications and grades most frequently. At one of the universities, equally frequent mention was given to innovation in research. The ability to communicate the results of one’s research and learning to the larger community was also important.

Non-traditional markers of excellence were also mentioned by various faculty respondents. These included prior accomplishments in the field, research experiences and skills (e.g., critical thinking and communication), teamwork, interdisciplinary nature of research, and obtaining graduate funding from corporate sources. The ability to garner funding ranked second, in frequency of mention, at one university and received infrequent mention at the other. Another distinguishing feature of excellence in graduate study involved the visibility of graduate students’ contributions to their field and to the community. Visibility included serving on department or professional committees, applying knowledge and research through consulting, transferring technology, developing materials and software, and applying or conducting research in the community.

Many of the faculty respondents appeared to recognize that excellence has “A number of indicators [that] are helpful in evaluating excellence, but do not in themselves constitute excellence.” In contrast to the criteria for excellence readily provided by some faculty and students, there were a few responses from faculty resisting to provide a definition. For example, one respondent stated that, “Excellence in our department is not defined - nor should it ever be.” Another faculty respondent stated that, “given the broad scope of research conducted...it is not practical to assess the achievements of students in terms of excellence...”. Details pertaining to these isolated findings were not further explored in this study.

Graduate Students

At the outset of the interviews, each participant was told that they were one of a maximum of five people that their department considered to have achieved excellence as a graduate student. It is noteworthy that, when we asked them “What makes you an excellent graduate student?” surprise and difficulty characterized their initial responses: “a little surprised”; “don’t know”; “hard question”. Nonetheless, their responses to the questions revealed that they attributed the success to their own actions and internal attributes. Very few mentioned external factors or characteristics, such as “meeting a certain grade requirement”. The graduate students’ personal viewpoint of what distinguished them as “excellent” included being doers with initiative, passion for learning, and a high profile. A common characteristic was also the cutting edge nature and popularity of their topic of research. A few mentioned their analytical skills and one student responded that the only thing that would set him apart would be his ability to garner funding for departmental research projects.

Initiative. The students made numerous statements related to taking initiative, both in their academic work and student leadership within their program. One of the participants summed up her statement on initiative by saying, “always really involved, being a student is more than just reading a few books and passing a few exams and in fact you have to get involved and become a participant in the university that’s your community.” To achieve excellence, the participants indicated that it is necessary to be both dedicated to and actively engaged in your area of study. In Katz, Green, Kluever, Lenz, and Miller’s 1995 study, American ABD (All But Dissertation) graduate students in Education indicated that “the university should be responsible for re-connecting with and supporting doctoral students until graduation” (as cited in Katz, 1997, p.9). In contrast, Lenz (1996, as cited in Katz, 1997) found that within a group of graduate students, those who had successfully completed their dissertation accepted responsibility for their thesis work and did not expect the university initiate contact and provide support for them to complete. In other words, the completers demonstrated personal initiative.

The participants in our study described actively seeking out mentors as well as opportunities to present and publish. Several participants mentioned having high expectations for one’s self. One participant explained that her expectations were higher than those she perceived as the expectations of her department: “you’re by no means expected to have the same expertise as any one of them [the professors] in their own specialty...It’s not expected that I do but I expected that I do...I wanted to know everything”. Most of the doctoral students in Lenz’s study (1996, as cited in Katz, 1997) had perfectionistic tendencies but those who had completed their program had been able to move beyond the roadblocks of perfection, such as always wanting to add more or setting unrealistic goals.

Developing a High Profile. Participants also stressed that their visibility and profile

within their program contributed to them being identified as excellent. Some examples of their comments are: “as far as being excellent, it could just be that I have a high profile and everyone seems to know me in the department. I’d been there for four months and people are asking me when I was going to finish my degree because I’d been there so long, just because I had the exposure”. Demonstrating initiative, working hard, and developing a profile were seen as related. In the words of one student, high profile included both “the exposure and buckling down and doing it”. One student’s comments linked communication skills and development of a high profile in that one’s ability to communicate well would lead to successful presentation at departmental seminars and conferences. They indicated that they saw benefits of their high profile not only to them but also for their university. For example, one Master’s student who had a high profile in the professional community and was doing innovative applied research said:

As a graduate student, I think they see potential in me as somebody who might be a good person to have an ongoing linkage to the university. They have a research unit called the [name], and I think they’ve seen me as someone who might potentially direct people to them...which furthers the reputation of the university.

Passion for learning. Many spoke of the passion for and energy they put into their studies and research. This emphasis on passion is consistent with the responses of doctoral students in an American study by Katz et al. (as cited in Katz, 1997) who indicated that remaining focussed and passionate about their thesis topic helped them to successfully complete their dissertation. In our study, some of the students’ comments were: “I just have a natural love for it”; “You have to have that passion...I’m not only passionate about it, but I do something about it”. The action component of the passion was key for them. One student summed up her passion with the following light bulb analogy:

Well, I tend to do everything straight away, so someone says, ‘Go and fix that light bulb,’ I’ll go and get the light bulb and fix it, whereas someone else might sort of think about it and then a week later go buy the light bulb and maybe get around to it sometime. So I like to just get things done.

This passion appeared linked to a high time commitment to their studies and a staggering number of publications and presentations, and amount of teaching and other academic work. For example, one participant said that he had double the number of publications and presentations that his peers had. Another one commented, “I’ve got ten projects on the go at the moment”. Many also indicated that they had presented internationally at prestigious conferences: “only fifty papers were accepted out of 350 or so, something like that. It was about 15 or 20 percent”. A number of the participants were editing or co-authoring books: “Oh, I’m writing a book at the moment, too” and “I’m the sole editor”. The passion for the subject of study and research also

permeated their waking and sleeping hours, as stated by one participant:

When [projects] interest me, I'll work on them all the time...I find even in my dreams I'm still working...I come up with answers in my dreams. I wake up and I have the answer, it's great. So if I have a real problem, I just lie there in bed at night, and I think of the problem over and over and over again and then it's in my dream and then I come up with the answer and I wake up and I have the answer. Get your subconscious to do the work.

Another explained that excellence is related to the "ability to cover a wide range of activities...the technical and the thesis...also management within the laboratory, management between our group and other national and international groups, that kind of thing". An example of the many and various activities is revealed in this student's comment: "I'm always really involved. So, I was president of the [name of department] Graduate Student Society, I organized a lot of the [name of department] outreach programs, always organize a lot of [name of department] student lunches, softball games. I try and get people involved...Last year I organized the Friday afternoon talk series".

Nature of research. Participants also highlighted the cutting edge nature of their research, "That's one of the reasons I agreed to switch to a Ph.D., it's because my Master's, even as a Master's, was leading edge scientific [name of subject] knowledge. It's the hot topic"; "the type of research that I did was quite unique". In her work, Katz (1997) reported that one of the major problems that graduate students can encounter in the doctoral dissertation process is around making the right choice of topic. The respondents in our study confirmed the importance of the topic being not only cutting-edge but also popular in one's field.

Summary

Given the need for highly trained specialists in many fields and the critical shortage of graduates to fulfil the needs of universities in North America (Berkowitz, 2003; Giroux, 2000; Katz, 1997; Mercer, 2001), it is crucial to attract more individuals to graduate study and to ensure that the majority complete their programs with a level of excellence conducive to serving societal needs. The findings from this study provide a rudimentary framework for how excellence in graduate study is currently defined, both by graduate faculty and by the individuals they identify as "excellent" graduate students.

To summarize, faculty members' definitions tended to focus primarily on external markers of success rather than on personal characteristics of graduate students. These markers of success included publications, conference papers, scholarships, awards, research grants, and grades. One of the two universities placed equal weight on innovation in research. The ability to

communicate one's learning to the community was also deemed important. Some specific skills of graduate students were mentioned, including critical thinking and communication. Both graduate faculty respondents and graduate student interview participants mentioned the importance of visibility in the department and the community.

The graduate student participants made infrequent mention of external indicators, such as grades. Some mentioned the ability to garner funding as a factor that may have led to them being identified as excellent by their department. Most attributed their identification as excellent to their own actions and internal attributes, such as initiative, passion for learning, and other personal attributes mainly related to self-motivation. One external factor they did frequently mention was the cutting edge nature of their research or the popularity of their topic of research. The graduate students acknowledged academic and social supports but described them as secondary in the degree of influence to personal qualities and skills. The graduate students also identified factors that slowed their pursuit of excellence, such as degree of expertise the supervisor possessed in the particular area the student was researching, lack of certainty of funding, the structure of the program, and the working environment.

Recommendations and Directions for Future Research

This study provides preliminary data on how excellence is defined by graduate faculty and students. The findings can serve as a base from which further investigations into excellence in graduate study can proceed. The results also provide information and insight from the perspectives of two of the primary stakeholders directly involved in striving for excellence in graduate studies. Further exploration is needed before consensus is reached on a working definition of "excellence" in graduate study and the factors involved in its attainment can be appropriately addressed within any graduate program.

The one-to-one interviews conducted with a relatively small number of participants permitted the researchers to explore in depth with each participant. Nonetheless, further research is necessary to determine whether factors deemed important by the participants are indeed representative of other programs within the two universities and of other Canadian universities. Still, based on the preliminary findings, the following are recommended:

- ⌚ Facilitate dialogue between faculty and graduate students so that a shared understanding can develop between supervisors and students of the expectations for excellence and how excellence can be achieved.
- ⌚ Communicate to students what personal attributes other graduates students have found helpful in pursuing excellence. This exchange could empower graduate students to develop their own personal strengths. The participants in our study found their inner resources to be

the greatest determining factor in their pursuit of excellence.

- ⌚ Communicate to students and supervisors information about what supports facilitated excellence so that these supports can be explored, fostered, and utilized.
- ⌚ Encourage graduate educators and universities to put supports in place for the duration of graduate studies, including the research and dissertation writing process.

Stakeholders in graduate programs (students, supervisors, universities, and society) need to build shared understandings of excellence. What is needed are not simply ways of speeding up the completion process to increase the number of graduates but indeed a manner of ensuring that graduates are of excellent quality to meet the needs of both academe and society. Graduate students may need to take a more active role in facilitating their achievement of excellence in their own studies and research.

Katz (1997) advised universities to provide graduate students with financial aid, opportunities to conduct and present independent research, skill-based coursework, and faculty advisors who model and facilitate the various academic, professional, and personal roles involved in academic studies. Our study supports Katz's recommendations. However, a larger scale study is needed to explore these questions further and to determine how representative these current findings are. Future research could not only follow-up the present research on a larger scale but also ask faculty about factors they believe to facilitate and hinder the achievement of the external markers they stated as characteristic of excellence. Faculty could also be asked if there are personal attributes that they encourage in their graduate students to foster excellence. Future findings may have implications on the graduate student selection process.

The graduate students in this study were at various stages of their program. Some of the students had already completed but most had not completed their program and were at different stages in the research and dissertation writing process. A comparative study could be undertaken to compare the responses of those who completed and those who did not. A follow-up study could be conducted with the same group of graduate students at a later point in time to see who has and has not completed and how they might view excellence at that point. A survey of both students and faculty could be undertaken to rate the degree of importance of each factor identified by this study as contributing to excellence. Further interviews with these and other participants could explore each factor in greater detail. Measures could be developed to assess each characteristic (e.g., initiative).

Undoubtedly, the achievement of excellence in graduate study will require more extensive dialogue and an examination of responsibilities by the stakeholders, especially the graduate

students and faculty. More comprehensive investigations are needed to further existing research, which has targeted fragmented aspects of the graduate student experience. Given pressing societal needs (Giroux, 2000; Mercer, 2001; Ziolkowski, 1990), particularly in Canadian academe for new faculty, further research into how excellence can be identified and achieved in graduate study remains crucial.

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