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THE GRADUATE SCHOOL

**A COMPARISON OF AUSTRALIAN AND
NORTH AMERICAN PhDs**

**(How Does the Australian PhD Stack up Against
the North American PhD?)**

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Introduction

Thank you for your invitation to present some information and opinions dealing with a comparison of Australian and North American PhDs. The hospitality and support provided by Ray Spear and Margot Pearson (CEDAM) is greatly appreciated. I was last at ANU in 1992 soon after beginning a large research project on the organization and administration of graduate programs, especially in Australia, Canada, and Britain. At that time, many were very helpful in addition to Ray and Margot: Gail Craswell, Brigid Ballard, Angela Delves, Don Anderson, and David Cullen come readily to mind. I continue to be impressed by the procedures used by The Graduate School in providing assistance to students and their supervisors.

The Question

The question posed by Ray Spear, which is presented in parenthesis after my re-worded title, is difficult to answer. When I was doing my PhD in the late 1960s, a member of my supervisory committee—a psychologist—emphasized that researchers in the social sciences don't answer questions, they address them. I have never forgotten that admonition! So I will address rather than answer the question as to how the Australian PhD stacks up against the North American PhD by concisely presenting some data and opinions and leaving maximum time for discussion.

Degree Linkages

Initially the linkage of bachelor's-master's-doctoral programs on the two continents should be described, especially with respect to requirements to enter a PhD program. Some students progress directly from a bachelor's program to a PhD program, others will first begin a master's program and then bypass completion in order to begin the PhD, while some will complete the master's before commencing the PhD.

Australia

The Higher Education Council of the National Board of Employment, Education and Training (NBEET; 1990) made these general comments concerning PhD education in Australia:

Admission to a PhD program normally follows a four-year honours degree of a high standard, or equivalent, or a masters degree. Candidates may also enter by transferring from an unfinished masters degree program to a PhD program.

While the [PhD] course duration is normally at least three years, in practice the majority of candidates take longer to complete, with the average completion time being around four years.

Masters degrees by research are normally of one year's duration, although some disciplines offer two-year programs. Entry to the masters degree by research is normally through an honours bachelor degree. While students with a first class honours degree are usually accepted directly into a PhD, those with second class honours are more likely to enrol for a masters degree, some completing that degree and others converting to a PhD without taking out the masters degree. (p. 37)

The Council supports this degree [PhD] remaining as the route for thorough research training in the various fields of study. The Council considers that its duration should be about three calendar years of full-time study, following a four-year undergraduate program which itself included research preparation through the completion of a project, investigation or small thesis, usually in the final year.

In some areas of study it is acknowledged that the PhD degree extends into and perhaps through much of a fourth year where factors such as weather and seasons control data collection or where, for example, the building of necessary equipment, the undertaking of preliminary advanced level coursework, or the learning of another language necessitates additional time. (p. 50)

The Council also supports flexibility in [PhD] entry routes for students whose first qualification is a three-year degree and who wish to prepare for advanced research training, such as by undertaking an honours year, an appropriate graduate diploma, a 'Masters Qualifying' or 'Masters Preliminary' program, or where relevant experience has been gained through employment such further preparation as may be required to meet entry standards. (p. 51)

North America

Gumport (1993) has described the basic model for U.S. doctoral education in this way:

Retaining the initial Humboldtian imprint from over a century ago, graduate programs reflect a widespread belief, internalized by faculty, administrators, and research sponsors alike, that linking graduate education and organized research produces excellence in both. Accordingly, the basic model for doctoral education has been distinctive: a few years of prescribed course work, followed by examinations for advancement to candidacy, culminating in a dissertation that reflects original research done by the student under the guidance of a faculty committee. Common across fields is an apprenticeship experience intended to integrate teaching and research training. (p. 226)

Although the majority of PhD recipients (over 80 percent) hold master's degrees, increasingly the latter is taken as a terminal degree earned. Master's degrees in the professions account for 85 percent; the other 15 percent are in liberal arts. Many of these master's programs, which are the highest degrees given in certain fields, do not fit into a linear sequence with undergraduate or doctoral programs. (p. 239)

In the past decade, across the disciplines, doctoral students are taking longer to complete their programs, averaging 6.8 registered years, with humanities taking about eight years and engineering less than six years.

During the PhD program, across all fields, students and faculty establish some kind of apprenticeship relationship that is often formalized and tied to a form of financial support. (pp. 239-240)

The Canadian universities' approaches to PhD education are generally the same as occurs in the U.S. Information presented by the Canadian Association for Graduate Studies (1994) showed that doctoral graduates averaged the following number of months to complete their programs: Natural and Applied Sciences 53.9; Biological Sciences 55.1; Social Sciences 60.3; and Humanities 62.2.

When comparing aspects of Australian and North American graduate education, readers should also be aware of the differences in governing structures. The U.S. and Canada have no organizations equivalent to the Australian NBEET. Any control or coordination tends to be at the state or provincial levels, such as through the Ontario Council for Graduate Studies which periodically accredits all graduate programs in Ontario universities. Grants for operating expenditures are also made mostly at the state or provincial levels. Some indirect control over graduate education in North America is exercised through regulations of national councils which provide research grants or scholarships used to provide financial support for graduate students.

Definitions

In accordance with good research practice, relevant terms are initially defined and/or described. The term "PhD" has several key components, of which these four are readily identifiable—students, students' activities, research conducted, and the thesis. Two characteristics of "students" are especially relevant to the question: skills in research, group processes, oral communication, and written communication (articles, reports, grant applications, and conference proposals); and knowledge of relevant content—breadth and

depth. “Students’ activities” includes all of those activities that graduate students undertake which are relevant to completion of their PhD programs—research, courses, publishing, teaching, etc. “Research conducted” relates to the topic, complexity/scope, originality, and methods used. Relevant aspects of the “thesis itself” involve overall presentation, literature review, presentation of results, contribution to knowledge, quality of writing, and readability.

The terms “Australian PhD” and “North American PhD” do not describe single entities. They each include a wide range of the components identified in the previous paragraph, with the North American range probably being wider than the Australian. Variations obviously occur within and between universities and departments.

“To stack up” or “compare” involves a judgment about the relative value of students, students’ activities, research conducted, and the thesis, using selected criteria and benchmarks. For example, contribution to knowledge can be selected as a criterion: benchmarks for this criterion could be “minor,” “moderate,” and “major.” In order to perform the comparative evaluation, selected universities on each continent that have the best students, the best student activities, the best research, and the best theses should be included.

Supervision and Completion

The research that I conducted with Claude Deblois and Ian Winchester on the organization and administration of graduate programs from 1991-1994 obtained a great deal of information from documents, interviews, and questionnaires. (Ray Spear has copies of our final report and published articles.) You may wish to consider whether the Canadian findings in Tables 1-3 are similar to those that would be obtained in Australia.

Information was obtained from 37 of 38 Canadian universities which belonged to the Canadian Association for Graduate Studies and which had substantial graduate enrolments. Questionnaires containing information and opinions were completed by 582 (65% return rate) coordinators of graduate programs which enrolled at least 20 students. Table 1 lists the frequency of mentions by these coordinators of up to three factors that they considered were the most influential for successful completion of graduate programs (*master’s and doctoral combined*). Proper supervision, motivation of students, and continuing financing were the three most frequently mentioned. Conversely, Table 2 lists the frequency of mentions of inhibiting factors—lack of financial support, lack of motivation, taking a job, poor supervision, and personal problems were all mentioned by over 10% of the supervisors.

These graduate program coordinators provided the names of 1,065 experienced graduate supervisors in their departments/faculties. Questionnaires were completed by 69% of these supervisors. Table 3 shows the extent to which they considered that individual aspects of supervision were influential in successful completion of *doctoral* programs in an appropriate time frame. (Some aspects which were included in the study questionnaire have been excluded from Table 3 to simplify presentation.) The highest means were obtained for “provide balance between supervisor’s direction and student’s independence” (4.34), “help students revise research design if unforeseen problems require such revision” (4.28), and “ensure that the thesis does not grow excessively” (4.26). Means for the eight discipline areas shows substantial variability, probably reflecting differences in beliefs and/or practice. For example, “involve one or two other faculty members in the student’s research throughout the thesis project” obtained a mean of 3.19 for “Engineering” and 3.96 for “Biology,” while “set deadlines for submission of particular parts of thesis” had 3.24 for “Physical Sciences” and 4.06 for “Business.”

Such data emphasize the need to be aware of differences across disciplines and point out that “graduate studies” is not a homogeneous activity.

They consequently remind us of the need to take disciplines into account whenever we are undertaking comparisons of graduate programs, as this paper attempts. Inasmuch as successful completion is an indicator of program quality, we should assess those supervisory practices which are considered to lead to completion as identified above, and not just the completion rates themselves. Variables shown in Table 2 can impede completion, even though sound supervisory practices are exercised.

Other Inputs and Outputs

Besides successful completion of the program and obtaining a doctorate, other inputs and outputs are important, as Atkins (1996) stated in an ANU workshop on graduate supervision. These include publications in refereed journals; presentations at conferences; obtaining of teaching competence at the tertiary level; acquiring of skills, knowledge, and reputation; and establishing contacts. Such outputs are consequences of program activities which may or may not be directly related to conduct of the thesis research. The relationship between these activities and outputs are depicted in Figure 1.

This figure emphasizes the primary activities and goal as being related to the research and thesis. The secondary activities are frequently essential parts of doctoral programs even though they may not contribute directly to completion of the thesis. (An exception would be where the thesis requirement may be met by submitting a “paper-format” thesis in which the traditional research chapters are replaced by a set of related published articles dealing with a common research theme.)

North American doctoral programs commonly include mandatory courses (“core courses”) and a number of optional courses. The numbers of such courses varies by program and to some extent by the student’s background. Programs in which students are changing fields of study or specializations tend to have more required courses. Bowen and Rudenstine (1992) advocated that courses should support the thesis research rather than being unrelated activities.

Many doctoral students are also involved in teaching activities of various types, e.g., having complete teaching responsibility for a class; providing assistance to a university instructor; conducting or assisting in tutorials or seminars; and conducting or assisting in laboratory classes. Commonly in Canada such teaching assistantships are an important source of financial support for all or part of a student’s doctoral program. University teaching experience, particularly when coupled with seminars about effective teaching practices, can lead to development of teaching competence which is increasingly being emphasized in selecting new university faculty members. The need to include development of teaching competence as part of doctoral programs, especially for aspiring lecturers, has been highlighted by Bowen and Rudenstine (1992), Smith (1991), and Wilkinson (1995). Currently the University of Alberta is considering implementation of a Postsecondary Teaching Diploma for graduate students interested in a career in postsecondary teaching. This Diploma, if adopted, would take two years while the student is registered in a graduate program. It would involve mentoring, a practicum, seminars, workshops, microteaching, and a teaching dossier.

The other secondary activities identified in Figure 1--publishing, preparing conference proposals/papers, and preparing research proposals--are also important in the development of potential academics. These are essential activities at the beginning of an academic career, so being involved in them during a doctoral program is eminently sensible. In fact, some university departments and/or individual supervisors expect that doctoral students will publish articles and present papers at conferences during their

programs. Also, some universities take publishing by graduate students into account when program quality is being assessed.

A Canadian PhD Program

In order to provide some perspective about North American doctoral programs, selected aspects of the PhD program in educational administration at the University of Alberta, Edmonton, Canada are included below:

- *Minimum number of courses:* 10.
- *Core courses:* 4 in administrative behavior, organizational theory, and research (2).
- *Thesis requirement:* original, scholarly, substantial contribution to knowledge; about 60,000 words of text.
- *Supervision:* primary supervisor and two faculty members form the supervisory committee; the supervisory committee approves the thesis proposal.
- *Candidacy Examination:* based on thesis proposal; involves five faculty members with at least one from another department. The purpose is to assess the student's capability to conduct the proposed research.
- *Final Oral Examination--*involves five faculty members; is based on the thesis. The purposes are to assess the thesis and the student's responses to questions about the thesis and related issues. An evaluation is always obtained from an External Reader who usually does not attend the examination.
- *Selection of thesis topic:* usually done by student, although suggestions are frequently made by faculty members.
- *Financial support:* a mixture of scholarships, teaching and research assistantships, sabbatical leaves, student loans, and personal assets.
- *Full-time requirement:* two winter sessions, September-April.
- *Schedule:* typically course work and thesis proposal are completed in the first 12 months. The majority of students complete their program in three years.
- *Secondary activities:* optional courses are mostly in the field of educational administration; about half of the students are involved in teaching; about half submit a paper or papers for publication during their programs; smaller proportions prepare conference proposals/papers, and very few prepare research proposals.
- *Background of students:* mostly educators with administrative experience; some from other occupations, e.g., nursing, public administration; most have an MEd in educational administration, or equivalent.

Doctoral programs such as this in North America differ substantially from many equivalent programs in Australia in several ways, especially with respect to the amount of required coursework, the full-time requirement, supervisory arrangements, and examinations.

Comparison

I have seen and examined excellent PhD theses in educational administration and related fields in both Australia and North America. The Australian theses with which I am familiar are as good or better than many produced in North American departments. Experts in other disciplines would have to make comparative assessments for those disciplines. But to focus merely on the quality of the thesis is, as I pointed out above, to ignore the important secondary activities which serve to enrich the PhD experience and provide the doctoral graduate with the skills, knowledge, scholarly output, reputation, and contacts which can assist in obtaining employment and furthering a career.

I do not have data which would allow me to make a valid comparison about other aspects, but my highly subjective impression is that North American PhD students generally tend to be more involved in the secondary activities identified above than are their Australian counterparts. This may reflect differences in academic cultures, supervisory practices, and proportion of time spent in full-time studies. It could also be a function of the pressure to complete a PhD program within a specified time period, dictated to some extent by maximum time periods for which doctoral scholarships may be held. Such time restrictions can force students to concentrate on the thesis research and completion of the thesis. Less time is then available for the secondary activities such as improving teaching competence, publishing articles, and being involved in conferences.

An Evaluation Schema

In order to evaluate a doctoral program, some type of schema is essential. One which I have found useful is the traditional systems approach involving inputs, processes, and outputs, as shown in Figure 2. This elaborates upon terms identified under “The Question” above. Each aspect of those three phases is evaluated using a perceptual screen based on variables such as personal values, research, and experience. These individual evaluations are then integrated in an idiosyncratic manner, using variable weightings for each individual aspect, into an overall evaluation. Different evaluators will differentially value the importance of individual aspects vis-a-vis the importance of the evaluation of the overall program. Therefore, when programs in one geographic area are compared with programs in another geographic area (Australia cf. North America), a decision must be made about whether the comparison will be based on evaluation of individual aspects and/or evaluation of the overall programs.

Concluding Comment

Comparative analysis of Australian and North American “PhDs”—students, students’ activities, research conducted, and the thesis—is a valuable activity. Even with the Internet and increased academic exchange, knowledge of the programs in the other geographical area remains limited. Australian academics and their doctoral students have much to gain from an increased awareness of the activities of North American PhD students and evaluations of these activities.

One of the important messages that I have attempted to convey is that to focus merely on the thesis in this comparison is to ignore some of the major questions that should be addressed: What are the purposes of the PhD? What experiences should be included during a PhD? What procedures, criteria, and benchmarks should be included in evaluation of the PhD?

As stated initially, I have not definitively answered the question posed in the alternative question. I have instead recommended several conceptual approaches to these questions and hope that you will find these useful.

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Table 1

Factors Considered by Graduate Coordinators to Have Been the Most Influential for Students' Successful Completion of Graduate Programs
(1,374 responses)

Factor	f	%f
1. Proper supervision	336	24.5
2. Motivation of student	224	16.3
3. Continuing financing	203	14.8
4. Quality of student	118	8.6
5. Scope of research goals	89	6.5
6. Well organized program	71	5.2
7. Good background	65	4.7
8. Able to be full-time	49	3.6

Table 2

Factors Considered by Graduate Coordinators to Have Been the Most Influential in Preventing Capable Students From Completing Programs in Reasonable Time
(1,266 responses)

Factor	f	%f
1. Lack of financial support	242	19.1
2. Lack of motivation	157	12.4
3. Taking a job	147	11.6
4. Poor supervision	146	11.5
5. Personal problems	138	10.9
6. Poor research topic	73	5.8
7. Poor background	51	4.0
8. Student-supervisor relations	37	2.9

Table 3

Means of Responses of Experienced Canadian Supervisors About the Importance of Aspects of Supervision in Assisting Doctoral Students to Complete Programs in an Appropriate Period of Time

Aspect of Supervision	Mean	Range of means
Assign supervisors at the beginning of students' programs	4.00	3.19 (Bus) -- 4.44 (Biol)
Assign supervisors who are expert in the students' specific research fields	4.30	4.11 (Soc) -- 4.45 (Biol)
Involve one or two other faculty members in the student's research throughout the thesis project	3.64	3.19 (Eng) -- 3.96 (Biol)
Provide settings in which students can present progress reports to faculty members and other graduate students for feedback	4.16	3.90 (Hum) -- 4.48 (Biol)
Provide balance between supervisor's direction and student's independence	4.35	4.16 (Eng) -- 4.46 (Biol)
Ensure that students continually make progress	4.16	3.97 (Soc) -- 4.38 (Biol)
Motivate the students continually	3.45	3.13 (Ed) -- 3.86 (Biol) (Soc)
Ensure that the thesis project does not grow excessively	4.26	4.04 (Phys) -- 4.60 (Hum)
Help students revise research design if unforeseen problems require such revision	4.28	4.00 (Soc) -- 4.49 (Biol)
Hold regular progress report meetings with students	4.34	4.15 (Soc) -- 4.56 (Bus)
Set deadlines for submission of particular parts of thesis	3.65	3.24 (Phys) -- 4.06 (Bus)

- Notes:
- The response categories were 1 = *None*; 2 = *A little*; 3 = *Some*; 4 = *Considerable*; and 5 = *Great*. (Not Applicable and No Opinion were also provided.)
 - "Biol" = biology, agriculture, forestry, and veterinary science
"Bus" = business and public administration
"Ed" = education, physical education, and recreation
"Eng" = engineering and architecture
"Health" = medicine, dentistry, nursing, pharmacy, and rehab-medicine
"Hum" - humanities, law, and library science
"Phys" = physical sciences, mathematics, and computing science
"Soc" = Social sciences including psychology, and home economics

