

POST-GRADUATE DEGREES: HOW LONG DO THEY REALLY TAKE?

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ABSTRACT

This paper summarises some of the recent studies from both Britain and Australia which look at the time taken to complete higher degree studies. Data are then presented from a survey of postgraduate students enrolled at the University of New South Wales which looked at expected duration of enrolment and factors associated with the attenuation of studies beyond minimum registration times. The findings are discussed with respect to research degree requirements and some suggestions are made which might improve the current situation. Attention is drawn to the lack of comprehensive nationally based survey and statistical information.

1. INTRODUCTION

In 1982 the report of the Swinnerton-Dyer Committee on postgraduate education in U.K. was tabled in the House of Commons. This report puts forward the view that much more attention should be paid to completion of the research investigation for doctoral study within three years, and that the doctoral thesis should be presented at the latest one year afterwards.

After reviewing survey information which they had commissioned, the report drew the following conclusion with respect to doctoral study in the U.K.:

Bearing in mind that a course of research training is meant to last only three years, we regard both the present completion rate and the average time to complete as wholly unsatisfactory.

We have been forced to the conclusion that completion rate depends primarily on the ethos of the university - or rather on the relevant part of the university, for there is no indication that completion rates in natural science and in social science within the same university are at all related. We think the blame must fall primarily on the universities rather than on the Research Councils. (p.79)

With respect to the duration of research higher degrees there has never been in Australia an enquiry of the kind undertaken by the Swinnerton-Dyer Committee. This year, however, the Commonwealth Department of Education and Youth Affairs published a report on the Commonwealth Postgraduate Awards Scheme. This report provides statistics on completion rates and duration of study for recipients of Commonwealth Postgraduate Awards (CPGA's). The picture which emerges suggests that the situation in Australia is worse than that criticised in the U.K. by the Swinnerton-Dyer Committee.

Our own interest in the question of duration of research degree studies in Australia arose from a survey undertaken by the Tertiary Education Research Centre in 1982. The information from the survey was based on replies from 628 students currently enrolled in Ph.D. or Research Masters programs at the University of New South Wales. The survey had been designed to provide information on student characteristics, expectations and aspirations, and perceptions of the research degree experience. In this last area the survey focused on sources of student concern.

It was found that a major source of dissatisfaction related to academic progress: Almost two thirds (62%) of the respondents expressed dissatisfaction with their own progress in their research degree studies, and only 42% of all respondents were of the opinion that the research topic was manageable in the 'normal period of candidature'.

Also, in 1982 the University of New South Wales compiled a statistical analysis of the duration of research higher degree enrolments terminating in the period 1979-81. This indicated that full-time doctoral candidates successfully completing the degree had taken on average 10.3 sessions (i.e. 5.2 years), and full-time research masters candidates had taken on average 7.2 sessions (3.6 years). Although account needs to be taken of the time which elapses between submission and subsequent notification of approval, it is apparent that the majority of students are submitting theses well after the minimum registration period.

These considerations suggested to us that there is an urgent need to address the issue of duration of research degree study. In this paper three questions are examined:

- (i) How long does it take to complete research higher degrees in Australia?
- (ii) What factors cause delay in the completion of research degrees?

- (iii) What, if anything, should be done to reduce the average time taken to complete research degrees?

2. DURATION OF RESEARCH DEGREE CANDIDATURE

The short answer to the question of how long research degrees take to complete is that 'we do not know'. A nationally based compilation and analysis of statistics relating to duration of higher degree candidature has never been undertaken. The 1983 survey by the Commonwealth Department of Education and Youth Affairs is the best accessible information to date, but their survey is essentially confined to CPGA recipients (together with a small sample of non-CPGA students who have been 'matched' to the CPGA group). The Commonwealth Report therefore applies to a select group of post-graduate students - a group which cannot be considered to be representative of all postgraduate research students.

Doctoral study

Table 1 provides information on the progress status of CPGA recipients approximately six years after commencement of studies. (The Commonwealth survey uses as its population CPGA recipients who had commenced study in 1974 and 1975, with progress status determined as at June 1980 - a period of between five and one half and six and one half years later.) Also included in this table is information on the progress status of doctoral candidates at the University of New South Wales (UNSW) six years after commencing full-time studies.

TABLE 1: PROGRESS OF PH.D. CANDIDATES SIX YEARS AFTER COMMENCEMENT OF STUDIES

	Full-time throughout		Transferred from full-time to part-time	
	CPGA (n=686) %	UNSW (n=160) %	CPGA (n=303) %	UNSW (n=65) %
Awarded Ph.D.	53	58	36	29
Continuing	22	13	56	62
Terminating	21	29	8	9
Other (status unknown, awarded Masters)	5	-	1	-

Sources: CPGA: Department of Education and Youth Affairs, Research Report No. 8 (1983) based on table A5.6

UNSW: Report on Duration of Research Enrolments, U.N.S.W. (1982) based on table 1A1.99.

Although only approximately half of the students at UNSW hold Commonwealth or University awards, the profile of progress status is broadly similar to that obtaining nationally for CPGA recipients.

Table 2 sets out information relating to the time taken to submit Ph.D. theses for all students initially enrolled full-time. Also included in this table is information contained in a national survey commissioned by the Swinnerton-Dyer Committee in the U.K. It should be cautioned that the three data sets in table 2 are not strictly comparable. The differences in the three data set criteria were:

- (i) The CPGA statistics use as a criterion the period from commencement of study to the date of submission of the doctoral thesis.
- (ii) The UNSW statistics use as its criterion the period from commencement to notification of the approval of the award.
- (iii) The U.K. data refer to time taken to the submission of theses and is restricted to those departments in U.K. universities which receive Science Research grants. This includes social science departments, but excludes Arts.

In producing table 2 from the relevant sources (Commonwealth and UNSW), the following adjustments have been made:

- (i) From table A5.1 of the Commonwealth Report, thesis submissions which were rejected for Ph.D. consideration (those resulting in termination without an award, or with a masters award) were excluded from the analysis.
- (ii) For the UNSW statistics, the time taken from initial enrolment to submission was interpreted as one session earlier than the time taken from commencement to

notification of approval. In the normal course of events, approval for the award of Ph.D. would occur no earlier than the session following submission. Thus in table 2 'submission within three years' for UNSW enrolments actually refers to theses which had been approved for the doctorate within seven sessions from commencement.

TABLE 2: TIME TAKEN TO SUBMIT PH.D. THESIS: AS A PROPORTION OF ALL INITIAL FULL-TIME ENROLMENTS

	CPGA (n=989) cum. %	UNSW (n=225) cum. %	U.K. (n.a.) cum. %
Three years or less	6	5	24
Four years or less	28	21	52
Five years or less	47	39	n.a.
Six years or less	60	52	n.a.

Sources: CPGA: DEYA Research Report No. 8, based on table A5.1

UNSW: 'Duration of Research Enrolments', based on table 1A1.99

U.K.: Whalley (1982), table IV.2

In table 3 a similar analysis is carried out, except that the cumulative percentages are expressed as a proportion of all theses which had been submitted for the doctoral award by the end of the sixth year of candidature.

TABLE 3: TIME TAKEN TO SUBMIT PH.D. THESIS: CUMULATIVE PERCENTAGES EXPRESSED AS A PROPORTION OF ALL THESES SUBMITTED

	CPGA (n=592) cum. %	UNSW (n=110) cum. %	U.K. (n=600) cum. %
Three years or less	10	10	29
Four years or less	47	40	66
Five years or less	79	71	n.a.

It is again stressed that these comparisons need to be considered with caution because of the differing criteria employed in the data sources. However, the following observations can be made from the tables:

- (i) The duration of doctoral study is longer in Australia than in the U.K. From table 2 it can be seen that whereas only 28% of CPGA holders had submitted a thesis by the end of their fourth year of registration, in the U.K. 52% had done so. When the analysis is restricted to those students who had actually submitted theses by the end of six years of study, 47% of Australian CPGA recipients had submitted in four years or less compared with 66% in the U.K.
- (ii) There is a similarity of profile for UNSW and CPGA duration of study data - although the UNSW figures indicate that a smaller proportion are completing within a four year or five year period. This may be expected considering that the UNSW population is 'less select' in the sense that many of the Ph.D. candidates who are undertaking full-time study were not able to achieve a CPGA or similar award. In this sense, too, it may well be that the UNSW profile is more representative of the whole of the doctoral candidature in Australia than that obtaining from the national statistics on CPGA recipients. For example, the average time taken to complete doctoral study, from commencement to award approval is 10.3 sessions (5.2 years) for UNSW students enrolled full-time throughout. At the University of Queensland a recent study has reported that average time to complete for full-time doctoral candidates was also 5.2 years (Moses, 1981, p.12).

Research Masters candidature

Table 4 provides information on the progress status of CPGA recipients in Australia together with comparable information from UNSW candidates who had commenced full-time study in research masters degrees. The table provides comparisons of progress status six years after commencement. Information for research masters students in the U.K. is not provided in the

recent Swinnerton-Dyer Report.

TABLE 4: PROGRESS STATUS SIX YEARS AFTER COMMENCEMENT OF FULL-TIME RESEARCH MASTERS ENROLMENT

	Full-time throughout		Transferred from full-time to part-time	
	CPGA (n=311) %	UNSW (n=69) %	CPGA (n=144) %	UNSW (n=24) %
Awarded Masters	47	67	45	54
Continuing	9	3	27	17
Terminated	41	31	27	29
Other (status unknown etc.)	3	-	1	-

Sources: CPGA: DEYA Research Report No. 8, based on table A5.6

UNSW: 'Duration of Research Enrolments', based on table 1A2.99

The results from the Commonwealth survey reflect a similar situation to that obtaining for doctoral award holders - that is, approximately half of the recipients had received their degree within six years of commencement of candidature. It would appear from the above table that the completion rate for the UNSW is much better than for CPGA holders, but a major source of the difference in completion rates is explainable in terms of differences across fields of study in completion rates. Of the 455 CPGA recipients, 160 were studying in Arts or Fine Arts. In these two fields only 25% had received their research masters degree within six years. At the UNSW however, only 6% of the research masters candidature enrolling full-time are in the Faculty of Arts.

In table 5 comparisons are made between CPGA recipients and UNSW research masters candidates with respect to duration of study. In the first set of comparisons the time taken to submit is expressed as a cumulative proportion of all students who had commenced full-time study. In the second set the time taken to submit is expressed as a proportion of all these actually submitted within six years.

It is again stressed that for the UNSW data, the time taken to submit was interpreted as one session earlier than time from commencement to actual award approval.

TABLE 5: TIME TAKEN TO SUBMIT RESEARCH MASTERS THESIS: CUMULATIVE PERCENTAGES

	As a proportion of all initial full-time enrolments		As a proportion of all these submitted for degree in six years	
	CPGA (n=455) cum. %	UNSW (n=93) cum. %	CPGA (n=214) cum. %	UNSW (n=62) cum. %
Two years or less	15	13	32	19
Three years or less	32	39	68	58
Four years or less	39	52	84	78

Both for the CPGA recipients and UNSW candidates, only small proportions of the candidature had submitted theses within two years. When the analysis is restricted to those who had submitted within a six year period, fewer than one third had submitted within this two year period. Even for successful full-time research masters candidates, the 'norm' for submission time is well in excess of two years.

Field of study

Table 6 sets out information on completion rates by field of study for Ph.D. and research masters students initially enrolling full-time. The first column in each data set indicates the number receiving the award in the particular field of study, and the second column expresses this number as a percentage of the initial full-time enrolment.

Because of the much smaller numbers the percentages for UNSW are not as 'reliable' as those for the national survey. A consistent finding throughout, however, is that the completion rates in the Arts and social sciences are much lower than those for the other fields of study. Also, when taken within a six year period, completion rates for research masters are generally similar to those for Ph.D. candidature.

TABLE 6: COMPLETION RATES BY FIELD OF STUDY: NUMBER OF DEGREES AWARDED AND COMPLETION RATES SIX YEARS AFTER COMMENCEMENT OF FULL-TIME STUDY

	PH.D.				RESEARCH MASTERS			
	CPGA		UNSW		CPGA		UNSW	
	n	%	n	%	n	%	n	%
Humanities (Arts)	46	27	8	38	39	27	2	* (small n)
Social/Behav. Sciences	22	33	-	-	9	31	-	-
Commerce	17	34	7	58	11	44	7	64
Eng./Technologies	31	40	19	42	50	66	6	50
Natural/Applied Sciences	298	59	67	59	69	59	32	71

Sources: CPGA: DEYA Research Report No. 8, based on tables A4.5 & A4.6

UNSW: 'Duration of Research Enrolments', based on tables in categories 1A1 & 1A2.

Although the Commonwealth survey does not include information on the duration of study by field, there is some evidence from the UNSW that full-time doctoral study within the Faculty of Arts takes longer to complete than in other fields. Of 12 students who had successfully completed their doctorates within the Faculty of Arts, the mean duration of study to approval was 12.8 full-time equivalent sessions. For other fields of study the mean duration length ranges from 10.0 sessions for Applied Science to 11.3 for Engineering.

Part-time study

The focus of the analysis has been on full-time study. For a number of reasons it is not possible to provide a meaningful review of the academic progress and duration of study for part-time students. First, there are no national figures relating to candidates who are part-time students. Second, at the UNSW many of the candidates who initially enrol part-time are members of the university staff. It is not known to what extent the whole of the research training and investigation is embodied within the registration period of candidature. At the UNSW, the average registration time from commencement to approval for part-time doctoral candidates is 6.3 years. This compares with an average time of 5.2 years for doctoral candidates enrolled full-time throughout.

3. REASONS FOR DELAY

In 1982 we surveyed postgraduate research students at the University of New South Wales (n=1121) seeking information on a number of issues which included students' expectations of the time it would take them to complete their studies. The response rate to our questionnaire was 56% (Barrett, Magin and Smith; 1983). Data show that most students do not expect to complete their studies in minimum time and that many see 'normal' time for full-time Ph.Ds. as four rather than the three years set down in the University's degree regulations. Other students are resigned to taking even longer. Table 7 gives expected time for completion for full-time students.

TABLE 7: FULL-TIME RESEARCH STUDENTS - EXPECTED TIME FOR COMPLETION

	Ph.D. (n=222) %	Masters (n=44) %
One year	-	5
1½ - 2 years	1	43
2½ - 3 "	18	36
3½ - 4 "	45	14
5 or more years	35	2

Care must be taken in interpreting this table because initial year of enrolment will influence the estimation of time required for completion. Many of those expecting to take five or more years will already have been enrolled for a number of years.

When we asked "From your experiences so far, how manageable is your research topic?" over 40% said that their topic would be manageable in 'normal' time. Table 8 gives this information.

TABLE 8: FULL-TIME RESEARCH STUDENTS - MANAGEABILITY OF TOPIC IN NORMAL TIME

	Ph.D. (n=222) %	Masters (n=41) %
Completely manageable in the normal time	45	41
The research will require longer than normal time period	40	44
The research topic has been changed or substantially modified to make it manageable	11	15
The research topic seems unmanageable and I intend to change or substantially modify it	3	-

So it appears that for full-time Ph.D. students 'normal' time exceeds the three-year minimum period stipulated by higher degree regulations as 45% expect to take 'normal' time but only 19% expect to complete in three years. If 'normal' time for research masters is two years (i.e. the duration of Commonwealth Scholarship Awards for research masters) then it could be said that these students are more realistic in their expectations. However, many students enrolling in a research masters at this University have an Honours degree at a suitable level and regulations set the minimum registration period for these students as one-year full time or its equivalent. Almost half the masters students expect to complete in two years but 36% expect to take three years - a period which corresponds to the minimum registration time required for a full-time Ph.D. Student comments illustrate expectations regarding the time necessary for completion of research studies.

While the Ph.D. course may consist of three years full-time study, in practice it invariably exceeds this simply because students are expected to produce a definitive piece of work starting entirely from scratch. The expectations of supervisors and examining bodies often necessitate students carrying out exhaustive trials bearing little relevance to their own interests.

In..(subject).. completing a Ph.D. in three years full-time is completely out of the question. In fact, I am hard put to think of anyone who has completed a research masters in three years.

Although our research students seemed resigned to taking longer to complete their studies they were not happy about this. We asked how satisfied they were with their own progress. Only 37% said they were satisfied: 54% expressed some dissatisfaction while 9% were completely dissatisfied.

We also asked students about their level of satisfaction with other aspects of higher degree study. Their answers to these questions, together with general comments, throw some light on reasons for delay. Table 9 gives details.

TABLE 9: SATISFACTION WITH CERTAIN ASPECTS OF HIGHER DEGREE STUDY

	(n=628)		
	Satisfied %	Some dissatisfaction %	Completely dissatisfied %
Choice of topic	76	23	2
Guidance and advice in topic selection	62	29	8
Research equipment/facilities	51	35	13
Technical assistance from support staff	56	29	14

Although three-quarters of the students say they are satisfied with their choice of research topic it should be a matter for concern that 25% express dissatisfaction. How can students be expected to maintain a high level of motivation for three, four, or even five years while researching topics about which they have reservations. One-third also express dissatisfaction about 'guidance and advice in topic selection'. This of course may be either too little or too much guidance although from comments it seems more likely to be the former. Student comments are again illustrative.

Without doubt the most worry has been in deciding on a topic. While there are an unlimited number of possible topics, which people enjoy suggesting, it is difficult to know if any will be suitable i.e. significant, complex enough to require three years. I foresaw this situation more than a year ago and feel to some extent that the department should not have accepted me without my having a fairly firm idea and an acceptable topic in their terms. I feel now in a vicious circle where I dabble momentarily in numerous possibilities, unable to give any a proper sounding and all the time running out of time.

Students are often thrown into a topic with little apparent thought on the part of supervisors (and other academic staff) on the magnitude, feasibility, or content of the projects. There is little thought given to the resources available or the need to cope with new students before they are enrolled.

A number of students say they have had to modify their goals so as to reduce the time necessary for completion. Others talk about the need for early and effective guidance in defining topics so that they do not spend long periods trying to research areas which are too broad.

Many cite problems relating to the lack of suitable research equipment and/or facilities.

Time and again I have found that research equipment/facilities are not adequate. If the equipment is available in the school/university it can't be borrowed since either it has been booked to the undergraduate experimental set-ups or it is totally out of order.

Progress has been delayed because research facilities had to be constructed, school equipment repaired before use and/or new equipment purchased.

One student even commented that he had suspended his registration for a year because of the time it took to order and receive materials from overseas. Table 9 shows that almost half the students who answered this question expressed dissatisfaction.

A similar level of dissatisfaction is expressed about the amount of technical assistance from support staff. There are also comments about the role of support staff. Students query whether or not such staff are expected to assist postgraduates or employed for the sole benefit of academic staff.

Technical support staff were never keen to assist. Any assistance was begrudging and the result of diplomatic lobbying. They were never keen to do other than the minimum requirements for their jobs. In my opinion they often fell below these requirements.

Lack of enough technical staff, lack of enough funds to get required materials and accessories have caused me mental headaches. I find that I have to waste more than 30 to 50% of my time either waiting for equipment or staff to assist me in my work.

Other areas of concern were identified in the comments made by students. We asked about the importance of specific reasons for initial enrolment in higher degree studies. Almost half the students rated the statement "The qualification was seen as useful to improving career prospects" as 'Very important', with another 40% considering it as 'Of some importance'. We then asked to what extent they had changed their views since commencing their studies and to comment on those changes. Comments suggest that students now attach less value to higher degree studies as a means of improving job prospects.

Employment opportunities which pay a salary commensurate with a higher degree have declined with the economic down-turn.

In particular a number of students said that they now realised it would be almost impossible to obtain an academic position.

There is an element of farce associated with spending my time studying a topic in great depth, which is only sensible in terms of its benefit to my future research in this area, when it is not very clear that there is any likelihood of academic positions being available in the near future.

Not only are employment prospects less favourable but some even see the Ph.D. now as a positive disadvantage.

If anything a Ph.D. is a severe liability in an industry of 'practical men'. It may also prevent me from professional advancement if I complete it. I shall now keep the degree under wraps when I receive it.

I would almost regard Ph.D. qualifications as a handicap to employment because (i) people do not trust 'boffins' and (ii) it requires a minimum of four years (four of your most productive years) in which you are out of the workforce.

Others refer to the lack of use made by both government and industry of Ph.D. recipients.

The future holds no guarantee regarding employment. This move has to do with government funding rather than the nature of the Ph.D. programme. However, in a course designed to produce research physicists there seems a strange discontinuity in the use made of a

student's skills at the time the thesis is finished. I suppose I'm referring to the 'Brain Drain' concept.

Comments also suggest another very important factor which may well influence the time taken to complete higher degree studies. Although we did not ask students about 'standards' this is obviously of considerable concern. As one student put it

... that research projects would, in fact, be sufficient for admission to the Ph.D. i.e. in a novel area of research, it is difficult to estimate whether or not one will satisfy the nebulous criterion of "significant contribution to knowledge".

Students may work consistently and conscientiously for several years without any sound basis for making judgements as to the worth of their research. Being unsure about the final outcome of their studies is just another factor influencing level of motivation. The following quote says it all.

At this stage I am not satisfied with my own progress and yet I do not feel that I have been negligent or derelict at any stage. My topic has remained unchanged and yet I feel I may have spent 4-5 years, not to mention lost career opportunities and still, quite conceivably, have nothing to show for it, when I ultimately submit my thesis.

4. WHAT CAN BE DONE?

It is clear that research degree study takes much longer to complete in Australia than in the U.K. The low productivity of our universities, in terms of completion rates and time to complete studies, needs to be addressed urgently with the full force and authority of a commissioned national enquiry. Further, there is some evidence that the situation in Australia has become worse in recent years. In the Report from the Commonwealth Department of Education and Youth Affairs only one comparison is made between the 1982 survey data and an earlier similar survey conducted in 1976. Here they mention that for the two periods 1976 and 1982, the proportion of CPGA recipients terminating without an award had increased from 11% to 17% for Ph.D. candidates, and from 22% to 37% for research masters candidates (p.31).

National enquiry

Although further evaluative studies relating to the Postgraduate Research Awards Scheme are in the process of preparation, we have come to the conclusion that the Commonwealth Tertiary Education Commission should give priority to undertaking an enquiry into postgraduate research training in Australian universities. Specifically, we suggest that:

The CTEC commission a national enquiry into research degree provisions and structures, their funding and resource needs. As part of this enquiry a comprehensive statistical survey of completion rates and duration of study should be undertaken. The recommendations arising from this enquiry should be directed towards reducing the time required to submit research theses.

On the basis of the information which we have been able to review, the directions for reform can only be put forward as suggestions. We anticipate, however, that the following suggestions, together with brief references to supporting studies, should provide useful indications of some of the areas which should be addressed in a national enquiry.

Expectations for duration of study

One of the problems in postgraduate research training is that the minimum registration periods are no longer regarded as 'normal'. It is clear that most students regard four years full-time study as 'normal' for a Ph.D., and two years full-time for the research masters. Even so, the reality is that most students do not complete within these 'normal' periods of study. In this respect it is salutary to reflect on the view put out by a committee of the Science and Engineering Research Council in the U.K.

We think it should be normal practice for a student to complete his Ph.D., including the presentation of a thesis, within three years. (SERC, 1983, p.5)

We see no good reason why Australian postgraduate research degree training should be viewed as necessarily requiring longer periods of study than that applying in the U.K. We suggest that:

Appropriate academic bodies within individual universities should undertake critical reviews of research degree productivity within their institutions with the view to identifying departments with poor records in postgraduate research completion rates and protraction of study, and instituting procedures and developing policies designed to accelerate completion time.

Antecedent to reform must be a recognition within the academic staff that in many departments the present duration time for completion of research degrees is unsatisfactory, and that the

university itself has an obligation to initiate reforms to redress this situation. In this respect a finding from a research study from the University of Sydney is illuminating:

Only 13% of (Ph.D.) respondents claimed to be under any pressure from their supervisors to finish, and only a quarter ... said their supervisors had in any way accelerated their progress towards their degree. (Ibrahim et al, 1980)

EFTS funding

It is not necessarily the case that students who procrastinate in completing their thesis 'write up' incur extra resource costs on the department because of this delay. Also, as a matter of equity, schools or departments which have a record of long registration periods for their research degree students should not thereby receive more EFTS funding per student than those schools which have typically shorter registration periods. We suggest that:

EFTS funding should continue for a maximum of four years (equivalent full-time) for Ph.D. candidates, and for two years for research masters candidates.

Given that at present average duration of study is much longer than this, there would need to be upwards adjustment of the EFTS weighting for research postgraduates to maintain present funding levels.

In the Swinnerton-Dyer Committee's report, a more radical proposal is made which recommends that within particular fields those departments which have a history of low productivity should be excluded from receipt of Research Council Award students. In the absence of information in Australia on possible variations between universities in completion and duration rates in specific disciplines, we are not in a position to suggest whether such a radical proposal could be applied to the location of tenure of CPGA awards. The issue, however, should be explored in a national enquiry.

Degree structures

Research higher degrees were once seen as providing training primarily directed towards producing academic or research staff for universities or research institutions. Few of our research students see career opportunities in these areas today. Partly in recognition of this change there has been a number of studies and enquiries which have concluded that higher degree provisions need to be re-structured. In the U.K. for example, the Swann Committee (Committee on Manpower Resources for Science and Technology, 1968) came to the conclusion that the universities should examine the nature and purposes of the Ph.D. from first principles. In particular they recommended that 'the move from research to selected advanced coursework should be accelerated'. In Australia, similar support for introducing coursework components in research degrees has been advocated by Hill and others (1974), Stranks (1979).

Although a number of studies have made various recommendations for reform of higher degree structures, our own focus has been directed towards reduction of average duration of study. From the evidence reviewed for this paper, two suggestions for reform are put forward.

First: We believe that serious consideration should be given to the abolition of the masters degree by research only. For virtually all CPGA recipients, and for the majority of students at UNSW enrolling in full-time research masters study, candidates have completed theses or projects in honours programs, or have equivalent experience. Yet few submit their theses within two years. To maintain that for students with these qualifications the research masters embodies one year of full time research training is to maintain a fiction. We can see no distinctive purpose served by this degree: as academic career preparation, it cannot function in itself as an 'entree' to the profession; it is dubious that it would provide a better preparation for professional careers than would a coursework masters; and, as a 'stepping stone' to doctoral study, it presents a very large, and wasteful, step. Indeed it is a common observation that many masters theses embody a scope of research effort scarcely discernable from that obtained from doctoral theses.

Second: A large majority of students who commence part-time candidature in Ph.D. programs are members of the university staff. Many have considerable research experience and publications prior to enrolment. According to the U.K. Committee of Vice-Chancellors and Principals, the aim of the Ph.D. course is 'to give students a training which makes them capable subsequently of assuming the role of independent scholars and research workers' (Committee of Vice-Chancellors and Principals, 1975).

For university staff experienced in research but undertaking part-time doctoral study,

the above rationale and the traditional form of Ph.D. training seem most bizarre. There is an irony in such staff spending six years of part-time study to achieve an accreditation which proclaims their status as an 'independent scholar and research worker' when their previous work has in all likelihood provided testimony to this capability. We believe there should be changes to the Ph.D. provisions to accommodate this situation through, for example, alternate provisions which recognize for accreditation for the award, documentation of sustained research and research publications within a disciplinary field at a standard deemed to meet the criterion of an 'independent scholar and research worker'. Most universities do have provisions for higher doctorates on the basis of demonstrated contributions to the appropriate discipline, but these reach well beyond what is expected for 'academic apprenticeship', and are not appropriate substitutes. We therefore suggest that:

- (i) *Serious consideration be given to the abolition of masters programs by research only, with subsequent strengthening of masters programs incorporating advanced coursework, with or without 'projects'.*
- (ii) *Ph.D. regulations for part-time study should provide an alternate route to the award through provisions for accrediting research experience and published academic work which in its scope, scholarship and contribution to the discipline is at least equivalent to that expected from traditional Ph.D. training.*

Standards

The Vice-Chancellor at the University of Adelaide has stated the view:

I further believe that the amount of work demanded in Australian theses is often exorbitant and that Australian theses should be reduced in scope. I still examine overseas theses and I am impressed with the fact that the Australian theses are very much more substantial and perhaps oversubstantial. This may have arisen because we had a latent inferiority complex and felt we should do things rather better than, say, Europeans. (Stranks, 1979, p.38)

The Australian concern with maintaining standards at the highest international level is illustrated in the guidelines for the Ph.D. at the A.N.U., which states, in part, that "Examiners are invited to judge a thesis at the highest contemporary standard for European and North American Universities". From our own study, and from surveys and reviews by Ibrahim and others (1980), Lovas (1980), Montgomery (1980), Stranks (1979), two consistent themes emerge with respect to standards required for research theses: (i) the scope of work required to meet thesis submission requirements is often too substantial to be realistically met within regulation time, and (ii) uncertainty and lack of clarity about whether the work being undertaken is sufficiently 'substantial' to meet examiner requirements - especially with respect to 'international standards' - are likely to produce protraction of registration periods. With respect to the latter, two studies (Lovas, 1980; Montgomery, 1980) identify the need to review regulations relating to examiners, with suggestions for involving examiners at earlier stages of the research program. We suggest that:

Any national enquiry into research postgraduate training should include a review of practices relating to the examination of theses. Such a review should identify issues relating to communications between the candidate, supervisor and examiners.

Training support

Our own survey revealed that the major source of concern expressed by students related to worries about their own rate of progress. Aspects of supervision are often mentioned with respect to progress, and student difficulties associated with personal experiences of supervision have been the subject of a number of studies, both in Australia and the U.K. (e.g. County & Thiele, 1983; Ibrahim et al, 1980; Hill et al, 1974; Moses, 1981; Rudd, 1975). Apart from drawing attention to these studies and our own findings (Barrett et al, 1983), relating to personal aspects of supervision, we believe that more emphasis should be given to aspects of a more structural nature with respect to training support - resources, support services and problems of isolation of research work. The most frequently mentioned sources of difficulty with respect to progress is that of lack of availability of resources for research, delays with acquiring and setting up equipment, lack of technical assistance and isolation of the student's research program within the department. It is obvious that there is insufficient resource support being allocated to postgraduate research training, primarily because of the shrinkage of research funds available to universities. This is illustrated by Professor Strank's

observation that "we are expecting Australian research in universities to be accomplished with about half of the resources as were applied in 1966" (1979, p.34).

Compounded to this is the difficulty experienced by a number of students where their research investigation is isolated from the mainstream of the research work of the department, supervisor or other students.

In recent years a number of Australian universities have undertaken investigations of postgraduate supervision, often resulting in recommendations and the construction of guidelines for supervision practice. In addition to these developments, we suggest that:

Institutions undertake investigations of the resource support needs of postgraduate research training. If sufficient government funding is not forthcoming, such reviews may indicate the need to reduce the numbers of postgraduate research students in departments unable to provide sufficient resource support.

5. CONCLUSION

The Swinnerton-Dyer Committee's report to the House of Commons concluded that the completion rates and duration of doctoral study in U.K. universities was 'wholly unsatisfactory', and saw the blame as falling primarily on the universities. From our own overview, the situation in Australia appears much worse. In the absence of a national enquiry, and indeed in the absence of published national statistics to provide a comprehensive data base, the apportioning of blame is perhaps premature.

A comprehensive national enquiry into postgraduate research training is long overdue, and we believe that such an enquiry should have as its main concern the recommendation of actions to overcome the endemic problem of protraction of research degree study.

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