

# Rethinking the Australian doctoral examination process

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This paper suggests rethinking the doctoral examination process in Australia to enable a closer alignment with the aims of the learning programme. The doctoral examination processes generally aim to assess the candidate's research capability, the quality and originality of the candidate's contribution to knowledge, and to authenticate that the work undertaken is in fact that of the candidate. However, based on a review of the Australian system for examining it is clear that the process does not fully align with the aims of the current doctorate and that modest changes could remedy this situation. The paper concludes with some suggestions for change which might enhance the assessment process of Australia's highest academic award and issues which need to be considered.

## Introduction

The doctoral examination process is critical in that it is the culmination of at least three to four years of full-time, or six to eight years part-time, work of a candidate, supervisor(s) and colleagues. Furthermore, of all the higher education awards, it could be argued that the doctorate is the most portable and widely recognised. As Lovitts (2007, p. 23) suggests, 'Unlike other levels of education that have been struggling to specify what students should know and be able to do as a result of their educational experience and devise authentic or true tests of that knowledge and those skills, doctoral education has a true test—the dissertation'.

Yet the examination systems for the doctorate vary widely between countries (Hartley, 2000). Perhaps the two extremes are the USA where examination is generally a fully 'internal' matter, that is, with the candidate's dissertation committee and host department making the decision regarding the quality and acceptability of the dissertation, and Australia, where the examination

of the doctorate is very explicitly an 'external' matter with recommendations regarding quality made outside the institution. Regardless of the system, ensuring that the process addresses all the main issues involved in the doctoral experience is an important educational, as well as organisational, responsibility.

For the purposes of this paper a curriculum, rather than policy perspective is adopted in the discussion of a number of key issues related to the examination of the doctorate. Using 'curriculum' in its broadest sense as a way of examining the issues provides a way of viewing the candidate, the supervisor, the learning, and the assessment process within the context of the discipline, the institutions and global structures. The paper begins with a necessarily brief description of the Australian examination system which produces a 'Dr' comparable with any other 'Dr' worldwide and then builds on the growing research in the field of research education to discuss the following:

- What is the purpose of the doctorate?
- What is the object of assessment?

- Who should assess the final product and what form should that assessment take?
- Do we need to have the same model for all disciplines and universities within the one country?
- Can the assessment be a more meaningful and useful learning experience for the candidate, supervisor, examiner and institution?

## Background

An often-quoted adage in higher education goes along the lines of: 'Assessment drives learning', or, put another way: 'If you want students to learn something then you need to assess it'. Perhaps with a more positive spin one could say: 'If it is important enough to teach then it is important enough to assess'. However it is expressed, assessment is considered an integral part of learning and, it is argued, should be aligned with what the proposed learning outcomes are for students (Biggs, 1999; Toohey, 1999). In addition to the 'assessment drives learning' concept is the idea that assessment should be a meaningful part of learning (Biggs, 1997; Boud, 2003). Therefore, this paper takes as its underlying principles that the final assessment processes for doctoral education should be aligned with the proposed learning outcomes and should, in some way, contribute to the learner's development and understanding of being a researcher.

Of course, to articulate the learning outcomes of the doctorate adequately is far from easy, even at the broadest level. Perhaps because of the complex nature of doctoral education most universities have settled for a list of graduate attributes, with a high level of consistency across universities with the following as an example: working in teams, time and project management, effective use of information and communications technology, critical thinking, analytical abilities, problem solving, and ethical approaches to research (Kiley, 2006).

Traditionally the examination of doctoral theses in Australia, while varying slightly between universities and disciplines, is similar to the following. Early in candidature, candidates present a proposal seminar on which formative feedback is provided. In some universities, this proposal seminar is also considered in a summative fashion with candidates being asked to exit the programme if their work to date is judged to be less than ideal. Supervisors and advisors also provide ongoing formative feedback on work as it develops and on the candidate's progress. In many universities

there is some form of mid-term presentation in which candidates receive feedback from supervisors and the wider department. The written dissertation, usually a maximum of 100,000 words, is the single final item of examination except in the Performing and Fine Arts, where the performance or exhibition and an exegesis provide the basis for examination; and in a Professional Doctorate, where coursework in the first year is assessed, and then the written dissertation is assessed as per the PhD (see Council of Deans and Directors of Graduate Studies in Australia, 2005).

The final written dissertation is sent to two (or three) external examiners with 'external' meaning external to the university. Approximately 50 per cent of all Australian theses are examined outside Australia and approximately 50 per cent of universities use three examiners (Bourke, 2005). In most universities the names of examiners are not initially disclosed to candidates or to the other examiners, although candidates are usually involved in discussing a list of potential examiners. Each examiner, without contact with co-examiners, prepares a written report (on average 3-4 pages) providing formative feedback to the candidate, supervisor and/or university. Each examiner also provides a recommendation to the university's higher degrees committee (or similar) as to whether the dissertation should be 'accepted as is', 'accepted with minor editorial, or with more substantial editorial changes', 're-submitted for examination after substantial change', or 'considered unacceptable'. Some universities allow the examiner the option of suggesting that the student be awarded a Masters degree in lieu of the PhD. Most universities allow examiners to request an oral examination of the candidate (and in some cases the candidate can request this), although this is not common practice. The university's relevant committees discuss the examiners' recommendations, and then make the final decision as to the outcome of the examination process.

Taking an historical perspective on doctoral education it is easy to understand why it is that in Australia external assessment practices for doctoral theses were adopted. The first doctorate in Australia was offered in 1946 and it is not surprising that it was considered essential to have such work examined externally (at that stage it was taken to mean overseas) as that is where many of the 'experts' of the time were researching (Pearson, 2005). This practice was also, no doubt, exacerbated by Australia's colonial ties with Britain. Furthermore, given Australia's distance from the sources

of such examiners, bringing external examiners to engage in an oral examination was out of the question, hence the assessment process relied on a written dissertation and written examiners' reports. Of course the context has changed substantially in Australia since 1946, including the concentration of a substantial number of highly qualified and skilled researchers within Australia, outstanding developments in international travel, and enhanced communication technologies. In recent years, a number of Australian universities have been recognised as being among the best in the world with three Australian universities in the top 100 universities listed on the Shanghai Jiao Tong Index, a further three in the top 100-200 and three more in the top 200-300 meaning that at least nine of Australia's 37 publicly funded universities can be considered as good as, if not better than, those to which these might have been sent in the past (Institute of Higher Education of the Shanghai Jiao Tong University, 2008). Furthermore, Australia is acknowledged as a world leader in doctoral education and research (Taylor & Beasley, 2005, p. 218). It could be argued, therefore, that the current dissertation examination system within Australia is not based on current educational practice, but rather historical circumstances. Despite that, there are several observable benefits of the existing system, including:

- External, and generally international, validation of candidates' work (Bourke et al. 2004).
- A level of objectivity with the examiners being unknown to the candidate, and to one another (Kiley & Mullins, 2004; Mullins & Kiley, 2002).
- The argument that the system produces reliable results regarding the quality of the thesis (Bourke et al. 2006).
- The provision of written reports from the examiners which are often extensive and generally of considerable value in terms of contributing to the further refinement and development of the research (Johnston, 1997).

As with any curriculum, however, the issues related to doctoral assessment are: What is the purpose of the particular form of education? What is it that we want the graduate to know, to be able to do, and to 'be'? Through answering these questions we can then ask: How can we appropriately assess this? The argument for reviewing and possibly amending a doctoral examination system relates to aligning the assessment with the learning and research experiences of the contemporary doctoral candidate, an argument which is expanded below.

## Purpose of the doctorate

A topic of frequent discussion among those involved in research education is 'What is the purpose of the doctorate?' and more specifically 'What is the purpose of the dissertation?' A particular insight into the contemporary purpose of the doctorate is the substantial increase in the focus on developing research and employability skills within the doctorate demonstrated through an original contribution to knowledge. For example, in addressing the changing roles of the doctorate in Japan, Yamamoto (2008) states:

Globalisation and changes in industrial structure are leading to changes in the demands for professionally and academically trained workers. One national problem is that existing graduate programmes do not fully respond to those needs...In Japan, outside of academia, PhDs are still regarded as a special kind of people who are difficult to manage...Overcoming this belief and giving PhDs important roles, I think, are the solutions that will respond to globalization. (p. 215)

Referring to Germany, Enders (2005) argues:

PhD graduates have a significant career advantage [outside higher education] in comparison with their graduate peers from the same discipline without a PhD. Furthermore, the PhD provides an entrance ticket especially for elite positions—consider, for example, that 50 per cent of the members of the board of the 200 biggest German companies have a PhD. (2005, p. 122)

From her extensive study of US academics engaged in doctoral education Lovitts (2007) suggests that they saw the purpose of the dissertation being both process and product. The process included research training and the demonstration of the mastery of research skills, and the product included the credentialling of the candidate and their contribution.

In Australia, the idea of the doctorate being mainly about completing a substantial body of original work was challenged with the introduction of time limitations when the Australian Government brought in the Research Training Scheme (RTS) in the late 1990s. This scheme provides funding to universities for a maximum of four years for the education of doctoral candidates. The majority of the funds are provided on student completion, not on enrolment (Gordon, 2000; Neumann, 2007).

A more recent Australian Government development which indicates even more strongly the shift to seeing the doctorate as 'training future researchers' is

the new reporting mechanisms for Australian universities with regard to Higher Degree by Research (HDR) programmes. Previously reporting to the Department of Education, Science and Training (DEST), universities now report on this aspect of their education provision to the Department of Innovation, Industry, Science and Research (DIISR 2008). This Government department's website states 'DIISR strives as a key priority to encourage the sustainable growth of Australian industries by developing a national innovation system driving knowledge creation, cutting edge science and research, international competitiveness and greater productivity'. This move suggests that the Government clearly sees doctoral education as contributing to Australia's innovation agenda.

Such a view has implications for doctoral pedagogy and curriculum, including assessment. One change of focus is argued by Chambaz (2008, p. 19) where he suggests that any focus on research training should not imply that research graduates are merely practising to be researchers, but rather they are engaging in 'real' research:

The European Union...established a Charter of European Researchers which says that, 'Doctoral candidates should be considered as early stage researchers, and so recognised as professionals with commensurate rights and duties'. And the definition of the 'early stage researchers' is the first year of practising research including the thesis. It's really that doctoral candidates are considered at the European level as 'early stage researchers'.

Furthermore, recent developments suggest that the focus has shifted somewhat from the 'original' contribution to knowledge towards rather a significant contribution to knowledge. From her study of US academics Lovitts (2007) suggests that what constitutes 'contribution' is interesting with the question; is a significant contribution sufficient or does it need to be an original contribution? This was an area of debate among her respondents. But what do examiners look for? Isaac, Quinlan and Walker (1992) suggest that some examiners look for a demonstration of the candidate's research skills, whereas others look for the training of such skills, and others seek a contribution to knowledge. Their work further suggests that academics working in laboratory settings are more likely

to look for 'training' whereas those in individualistic research environments will more likely look for the 'demonstration' of skills.

Certainly work by Mullins and Kiley (2002) indicated that experienced examiners are aware of their own views as to whether they are examining the dissertation as a 'polished and cohesive piece of writing that provides an original contribution to knowledge' or whether they are judging if the candidate has demonstrated that she/he is 'capable of undertaking independent research'.

We received two distinctly different answers, reflecting, we believe, two quite different views of what they were examining. One view was that it is the thesis, as a complete and comprehensive document that will remain on the library shelf, that is being examined,

the other argument put forward was that it is the student as a potential researcher who is being examined. (p. 382)

Assuming that, in Australia at least, the belief is that the purpose of the

doctorate is to both make an original contribution to knowledge and as a foundation in research training, then the following comments by Chubb (2000) are apposite:

The issue of what constitutes a PhD or other higher degree by research is something that perhaps should be discussed system-wide. No university could shift from present expectations on its own—given that our staff examine each other's students—without potentially disadvantaging our students. If something were to be done, if expectations about the quantum of work were to be modified, it would need to be done by most of our universities. Now, I am not suggesting that the requirement for originality, intellectual rigour and so on would change, or that the body of work should be other than substantial—and obviously I am not proposing to change the requirement for external examination of PhD theses. I am talking about how much a student needs to do to prepare them for their role as the next generation of researcher. I suspect that close examination could reveal that the expectations are now too high. (p. 19)

Accepting that there is both a role for an original contribution to knowledge, and for research education within the doctoral programme, this leads us to ask: What is the object of assessment?

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## The object of assessment

Based on the argument above a slightly different way of defining the purpose of the doctorate is to suggest that it aims to educate future researchers by having them undertake a substantial, supervised, research project which makes a contribution to knowledge. In many, but by no means all cases these researchers will become the next generation of academics (Neumann, et al. 2008). Whether the graduate goes into an academic career at some stage or not, in the final assessment of the doctoral candidate we are considering:

- The skill development of the candidate.
- The candidate's demonstrated potential to undertake research, and
- The quality and originality of the contribution to knowledge that the candidate has made throughout the research project.

While most universities provide programmes and support for candidate skills development, not all universities explicitly acknowledge that many research candidates commence their degree with highly advanced professional employability skills (e.g. the mature-age professional undertaking a part-time research degree, or the candidate who commences a doctorate having undertaken a well structured research learning experience in their Honours or Research Masters programme). Despite the entry criteria and level of knowledge and skill, in curriculum terms, at the doctoral examination stage, we are considering the outcomes, not necessarily the inputs, of the programme given that the examiners do not know the candidate, and unlike academics in Lovitts' (2007) study, are unable to make judgments regarding the development or otherwise of such skills prior to, or during candidature.

As the work of Ryland (2007) and the University of Queensland Social Research Centre (2007) propose, the transfer of skills that have been developed through employment to the research education experience was common. Hence, skill development, it is argued, is by no means a one-way process from the research education experience to the workplace or society.

Being able to present an argument and to answer questions on one's area of expertise are generally considered to be skills of a research graduate. Clearly in many cases the assessment of such skills can only occur in an authentic setting where the candidate presents her/his work to an audience. On these grounds, the argument for some sort of oral assessment toward the

end of candidature is quite compelling. As Kiley (2006, p. 166) suggests:

These skills, on the whole, are not formally assessed, other than through the examination of the thesis, which in Australia rarely includes an oral exam. Leaving aside the question of whether the attributes that universities have identified are the most appropriate, the question arises, should universities even attempt to assess such skills? If so, how might they be assessed so that they lead to doctoral student learning, not simply assessment for its own sake?

With regard to the second area of assessment, that is the candidate's capability for undertaking research, some of the examiners in the Kiley & Mullins (2004) and Mullins & Kiley (2002) studies suggested that they were able to identify a candidate's research capability through the way that she/he presented their findings. However, others suggested that this was quite difficult, particularly in disciplines where there was considerable teamwork and multiple authors on publications. Being able to authenticate the candidate's contribution to the research was one of the main benefits of an oral examination proposed by interviewees in the study by Tinkler & Jackson (2004, p. 18).

With regard to the third area of assessment, that is, the quality and originality of the research, it is likely that a sound argument can be made to support the idea that assessment can be effectively managed through examination of the dissertation itself. Whether the expectation is a substantial contribution to knowledge as Lovitts (2007) suggests from some of her informants, or the three different types of 'originality': the topic, the process and the outcomes outlined by Tinkler & Jackson (2004)—most examiners report that they are able to identify such a contribution to knowledge, even if this is just 'A spark of inspiration as well as perspiration' as Winter et al. (2000, p. 35) amusingly define originality.

## Assessment decisions: How and by whom?

The issue of the form of assessment is perhaps the most vexed for Australian universities. Candidates tend not to be supportive of orals as they have either heard the 'horror stories' that surround the viva voce or defence process and/or they have not appreciated the range and variety of oral examination processes that exist. Many administrators are not overly supportive of oral examination, particularly if they have not thought through the options of tele/videoconferencing as they

generally consider the cost to be exorbitant and organization across time zones a logistical nightmare. This is despite Australia's near neighbour, New Zealand, having an oral examination where the overseas external examiner, on completion of a thorough reading of the thesis, discusses her/his views and comments with a 'local' examiner. The 'local' examiner then puts forward the overseas examiner's comments and questions as well as his/her own at the face-to-face oral. This process supports the use of overseas examiners while at the same time encouraging oral examination in a country quite distant from where many of the possible examiners are located (Fraser & Rowarth, 2007).

The argument remains open: internal or external and in what proportions? If internals and externals, do they all have the same voting rights? If most institutions select experienced examiners then how might inexperienced academics gain doctoral assessment skills? Is there room for a representative of industry, the professions or the community on the examination panel given the focus on life-long and employability skill development during doctoral education?

In many higher education systems there is the involvement of an internal examiner to a greater or lesser extent. In some cases, the 'internal' is the candidate's supervisor; in other cases it is someone from within the department or from a cognate discipline. Furthermore, within the range of types of internal examiners there is also a range of roles. In some systems the role of the internal examiner is to arrange and oversee the oral assessment, for example, briefing the assessors, chairing the session and coordinating the preparation of the final result and report. In others, the supervisor is involved in the process but is not an assessor but rather explicitly involved as a proponent for the candidate and their research (Hartley, 2000).

The practice of not using the supervisor as an assessor, but perhaps as a proponent or chair, fits with the principle that it is difficult to effectively be both advisor/supporter and assessor. One of the reported strengths of the current Australian system is that it does not include an internal assessor, leading to external, and generally international, scrutiny of quality and standards. Furthermore, with the Australian Government's funding model which funds on doctoral candidate completions, the possibility of universities being perceived to 'soft mark' their own candidates based on financial rather than educational criteria is avoided through the sole use of external examiners. This also helps to avoid the ethical dilemmas alluded

to by Lovitts (2007) with regard to conflict of interest between internal examiners, candidates and institutions. Another consideration related to the use of internal and external examiners is the weighting given to the various views. For example, does the chair of the panel have a vote, or maybe only a deciding vote? Is the external examiner's view weighted more heavily than the internal examiner's? Determining the various weightings and considerations is almost as important as determining the number of internal and external examiners to be involved.

The issue does not just stop with the 'internal/external' consideration, but as research has shown (Buckridge, 2003; Kiley & Mullins, 2004; Trafford, 2003; Mullins & Kiley, 2002) there are discernible differences between experienced and inexperienced examiners and the way in which they approach examination. Generally inexperienced examiners tend to focus more on the 'parts' than on the whole, and the technical detail than the coherent argument, compared with their more experienced colleagues. These results have now led a number of UK universities to require that between them the two doctoral examiners must have examined a minimum of four doctoral theses (S. Taylor, personal communication, December 7, 2006).

There is little evidence to suggest that the examination process itself is better if it involves examiners from outside the country. Although, in terms of prestige, the 'marketing' of outstanding candidates to potential 'employers', and the general 'international seal of approval', most Australian universities seek to include at least one overseas examiner where appropriate. The 'marketing' of particularly talented graduates is a practice that appears to be well known within the academy (Mullins & Kiley, 2002). This is especially the case in Australia where a supervisor will often recommend that a dissertation be sent to someone in a research group who will (a) appreciate the quality of the work; and (b) consider offering the graduating student a post-doctoral position or reference for future positions based on the quality of the dissertation.

If we are considering the doctorate as a means of contributing to a country's research and development capacity, as well as being a personal and social contribution, would it be reasonable to suggest that at least one of the assessors be from outside the academy? At the moment, at least in Australia, caution is exercised in using examiners from outside the academy as they are

generally considered tougher in their recommendations. For example, arising from the Mullins and Kiley (2002) study:

I spent the first 10 years of my career in [a research institute] and I had examined theses before I became a supervisor...Coming from the pure research environment you judge much more against scientific papers because that is your benchmark because of course what I had done before being a PhD examiner was to be a reviewer of papers so you take very much your benchmark from that [and so they are] judging against their peers, someone who has been publishing for 20 years. (Sc/Female/24)

Yet, if we wish to align the assessment with the aims of the programme, then might not this be a reasonable consideration?

### **Should all universities and disciplines follow the same method of assessment?**

While there is already considerable variation across the academy in the way that doctoral theses are assessed, and mindful of the exhortation from Chubb (2000) that no one Australian university would be wise to change its system without regard to the impact of such a change, the question remains, do all Australian universities and even disciplines have to adopt the same system? Certainly there is considerable discipline variation already and it might well be that some of the professional disciplines might prefer to 'agree to differ'. However, this would be wise only when the variation mirrored that which is occurring internationally. The issue of multi-disciplinary/cross-disciplinary theses and their examination would need careful consideration in these circumstances.

Having suggested that different disciplines might like to approach the examination of doctoral theses in discipline-specific ways is not as strange as it might sound. Work by Bourke et al. (2004) and Mullins and Kiley (2002) suggest that while different disciplines have their own particular ways of training and developing their researchers, when it comes to examination it is often difficult to detect any disciplinary differences, other than with technical language, in the reports and the ways in which examiners have gone about the process. Lovitts (2007) reports a similar phenomenon in that US academics in different disciplines 'often used the same words and phrases to describe dissertations and components of dissertations at the different quality levels' (p xiii) and yet the training process can be significantly different.

Another form of variation that might be taken into account in assessment might be the candidate's purpose in undertaking a doctorate. For example, could a candidate aspiring to be an academic undergo a different examination process from someone who plans to work within government or private enterprise? The notion of alignment would suggest that different forms of assessment might be appropriate if candidates engaged in different learning experiences through their programme and that there were different aims for the programme outcomes. Consideration of this form of variation is particularly pertinent with the increased focus on the explicit inclusion of generic/employability skills within doctoral programmes.

More complex is the issue of whether all universities within the one country need to follow a similar assessment method at the doctoral level or is there room for variation? Certainly, some universities could argue that the quality of their staff and their research reputation is such that they could consider adopting a system of assessment that involved some use of internal examination in the final decision. Furthermore, some of these universities are likely to have funding and collaborative research arrangements that make international travel for assessment purposes more viable. Australia's Group of Eight universities (Go8), which collectively graduate well over 50 per cent of all Australia's doctoral candidates, might be in such a position. This is not to imply that others could not, or that these universities would only examine one another's doctoral candidates. Suffice to say that thought could be given to the idea of different university groupings adopting alternative strategies for assessing doctoral theses.

Having suggested that there might be reasons that justify variability, one might also argue along the lines of the Bologna Agreement (Bologna Declaration, 1999). One of the main reasons for the Agreement was to enable greater mobility of learners and graduates with transferable and internationally recognized awards. The question is then, to what extent does variability across institutions and countries militate against transferability and mobility of arguably the academy's most globally recognized award?

### **Making assessment meaningful**

With regard to making the assessment process a more meaningful learning process for students, the issue of timing is important. For example, what would be the ramifications of introducing one of the external asses-

sors to the candidate's supervisory panel prior to final submission? In other words, might the external assessor be more involved in giving formative advice to the candidate prior to finalizing the dissertation? This could be either an Australian/New Zealand external or an overseas external who is visiting or via teleconference. There are obvious advantages in this model in terms of greater use of expert feedback while the candidate is still involved in the development of the research.

On the other hand, one perceived disadvantage might be the 'contamination' of the final result where objectivity is considered a hallmark of the assessment system. Perhaps a third option, the introduction of an assessment panel or committee could be considered. Taking from the US model, and based on practices in some Australian universities, departments and schools could consider establishing a committee or panel, separate from the supervisors, who would be involved in assessing the thesis proposal at the six to 12 month milestone, a mid-term review where such practices are in place, and a pre-submission oral presentation as outlined below.

This model would maintain the current objectivity of the external examiners while providing formal, formative (and even summative) feedback from staff in addition to the supervisors.

Another aspect of timing is when a final oral presentation might be most appropriately made. In systems that currently involve an oral examination e.g. the viva voce in the UK, the oral assessment comes after the examiners have read the dissertation and prepared their reports. In the Canadian system, if the written reports prior to the oral assessment suggest that the student may not be successful then generally the oral is postponed until the candidate has been able to undertake more work (Hall, 2006). In light of international practices, what would it mean in terms of student learning if the oral presentation were conducted prior to submission as an 'approval to submit' process?

Based on a modification of the purposes for an oral assessment outlined by Tinkler & Jackson (2004, pp. 17-22) it is possible to provide assessors with aims for the pre-submission oral presentation, which include:

- Authenticate that the work being presented is indeed the candidate's.

- Determine if the candidate can locate her/his research within a broader context.
- Invite the candidate to defend her/his thesis.
- Assess oral and presentation skills.
- Clarify areas of weakness and ambiguity.
- Determine whether the candidate's work is of sufficient quality to be finalised and submitted for external examination.

One benefit of the oral examination not included in the Tinkler & Jackson (2004) list is the provision of advice to the candidate on what is required to develop and refine the final 'product' for examination. Furthermore, one purpose outlined in their work and not noted in this paper is to make a final decision on borderline work; this, in the Australian system would be left to the external examiners.

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If a candidate is able to articulate a well-researched argument and demonstrate other high level knowledge and attributes, then the assessors are in an excellent position to assess the student's learning through the project. Whether this 'presentation for approval to submit' is private i.e.

involving the candidate, assessment panel and administrative support only, or opened more widely to other staff and candidates, is a matter for discussion. However, it is proposed by those universities seeking to implement, or having recently implemented such a process that it might lead to fewer borderline examination cases per institution than currently is the case. The reasons put forward for this are that having their work exposed to a critical audience, other than the supervisors, and having to articulate an argument, or in the case of Europe and the USA 'defend their thesis' candidates might be assisted in refining their thesis prior to submission. Such a pre-submission oral presentation could play a particularly useful role where regular, external presentations by doctoral candidates at national and international conferences and meetings are not the norm

Following the assessment process outlined above the candidate (for all cases other than 'revise and resubmit') could revise the dissertation in light of the formative comments made by the assessment panel. This might take up to three months or even longer if the research assessed were deemed under-developed.

The candidate is not 'just fixing up a few bits and pieces here and there' nor has she/he left the university (and even the country) upon submission of the dissertation for examination, as is often the current situation in Australia, but is using the formative feedback as a means of (perhaps substantially) developing and refining the work. There are several clear advantages to involving the supervisor/ supervisory panel or committee in the oral assessment. For example, it ensures that the supervisors have read the dissertation and have engaged with the candidate in determining the appropriate time for its submission. A further benefit is that it allows opportunities for inexperienced supervisors/assessors to learn through being involved in the process with more experienced colleagues.

When the candidate, in conjunction with the supervisory panel, believes that she/he has revised the dissertation in light of the comments made by the assessment panel, the dissertation would be submitted to two external assessors. As an additional benefit to learning, candidates would be asked to prepare a response to the assessment panel's comments akin to the response one makes regarding changes made in light of reviewers' comments on journal manuscripts. This response could accompany the revised dissertation when submitted for final examination.

## Conclusion

This paper has outlined the issues that need to be considered regarding possible changes to the current assessment practices for Australian doctoral candidates. It has also outlined some modest changes, which, it is argued, will enable the assessment process to be more closely integrated with learning for the candidate, supervisors, examiners and the institution. It is suggested that the current system in Australia was appropriate at the time the first doctorate was introduced into Australia in 1946, but developments over the past 60 years require rethinking of current curriculum practices.

The suggestion has been made that there are benefits to candidates, supervisors, examiners and institutions in terms of their learning with the use of oral assessment. Furthermore, by careful timing of the oral assessment it might be possible to enable formative feedback to be a stronger outcome of the assessment process compared with the current system where examiners' comments often come too late for meaningful learning.

The argument for considering changes to a system that in many ways works well is based on the valuable learning outcome for candidates, supervisors, examiners and institutions in ways that align the assessment strategies with the aims of the project.

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