PHD BY PROSPECTIVE PUBLICATION IN AUSTRALIAN BUSINESS SCHOOLS: PROVOCATIONS FROM A COLLABORATIVE AUTOETHNOGRAPHY

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ABSTRACT

Aim/Purpose	The goal of this essay is to critically reflect on the emerging trend for PhDs by Prospective Publication (PbPP) in Australian Business Schools and to explore its appropriateness for fledgling academics.
Background	The PbPP is a relatively new and increasingly popular alternative to traditional PhD by monograph (PbM). It is the idea that a doctorate can be completed by writing a series of papers that are published, or close to being published, as journal articles or book chapters. For students, it offers the chance to get a head-start on their publishing careers and helps them find their first academic jobs. For supervisors working in an academic environment increasingly characterized by 'publish or perish' dynamics, it guarantees meaningful rewards from doctoral supervision. However, despite the attractiveness of publishing during candidature, it is a very different way to complete a doctorate with many challenges for students, supervisors, and institutions.
Methodology	We adopted critical collaborative autoethnography. Through this method, we reflect on our experience supervising and administrating PbPP students and integrate our reflections with the literature on PbPPs to highlight policy concerns and our position on them.
Contribution	We argue that the primary goal of the PbPP is to produce students who can conduct research collaboratively after graduation, as opposed to people who can conduct independent research, although the two outcomes are not mutually exclusive. We also argue that assessment of PbPP should be significantly enhanced to determine the nature of the student's contribution to the thesis, their

understanding of research design, and their broader understanding of their subject. Finally, we argue that despite the attractiveness of PbPP, it can only be successfully attempted by students with elite levels of intellect, dedication, critical analytical skills, language skills, resilience, and patience and supervisors with expertise in the field of study, experience of publishing different types of paper, familiarity with the working of the journal publication process, and workload capacity.

Findings	PbPP theses should be examined by *viva voce*. *Viva voce* examinations of PbPP theses should determine (1) the nature of the doctoral candidates' contribution to the thesis, (2) whether it is sufficient for the award of a doctorate, (3) the contributions of the papers to advancing the field of research, and (4) the students' understanding of the theory in their field. *Viva voce* examinations of PbPP theses should seek to discover the student's ability to contribute to collaborative efforts of research teams. PbPP students should also sit an examination of their understanding of research philosophy, design, methodologies, and related topics. It should be externally set, administered, and marked by an independent examination board. PbPP candidates need to demonstrate excellent 'research English' language skills before commencing.
Recommendations for Practitioners	PbPP candidates need excellent intellectual skills – as a rough guide, probably in the top quartile of doctoral candidates. PbPP candidates need to be resilient and able to cope with failure, criticism, and rejection. PbPP candidates need high levels of patience. PbPP candidates should be encouraged to produce their first manuscript early in their candidature. PbPP supervision requires supervisors with advanced levels of subject knowledge, research skills, and publishing outputs. PbPP supervision requires expertise across various forms of research and types of output. Due to the wide range of skills and experience, PbPP supervision is likely to require a team approach.
Recommendations for Researchers	As the PbPP grows in popularity, it challenges educational researchers to explore this emerging phenomenon. Does it take a particular type of person to thrive through this process? Does it need supervisors with particular characteristics? How does the experience of PbPP supervisors differ to the experience of PbM supervisors? Do PbPP graduates differ in their abilities to PbM graduates?
Impact on Society	People graduating with PhDs typically enter influential and important jobs in society. It is vital that they have the knowledge, skills, and abilities that the qualification confers. In Australia, the PbPP challenges this credibility due to issues of co-authorship, selective study, and shallow assessment. These matters need to be understood and rectified to prevent a loss of credibility in Australia's Higher Education institutions and its graduates.
Future Research	Are there any differences in the knowledge, skills, and abilities of PbPP and PbM graduates? Studies are needed of the characteristics prospective PbPP students need to be successful taking this doctoral route. How does the nature of supervision differ between PbPP and PbM? What is the impact on the skills and abilities supervisors need and the implications for workload? What jobs do PbPP graduates go into and does this differ to PbM graduates? What resistance will the proposals made in this essay meet?
Keywords	PhD by Publication, PhD by Prospective Publication, PhD by Monograph, doctorate, PhD, doctoral education, doctoral supervision, co-authorship

INTRODUCTION

The PhD by Prospective Publication (PbPP) is a relatively new innovation in Australian business schools. It is the idea that someone can be awarded a doctorate by publishing a suite of papers during their candidature rather than by conducting a study which is presented as a monograph. The PbPP has become quite attractive to both students and supervisors in Australia given the contemporary academic culture in the country. The increasing commercialization of the higher education sector across Australia has created an output-driven mentality that belies the value of universities as international institutions of knowledge that exist to improve the world around us (Carnegie, 2022). Managerially focused executives, caught up in a measurement frenzy that privileges revenue targets, key performance indicators, and ranking success (Alexander & Davis, 2019; Carnegie et al., 2021), foster a research culture where 'publish or perish' is critical (Martin-Sardesai et al., 2020). Academic staff, especially those coming up the ranks, are drawn into this culture where journal rankings, metrics, indices, and the like are the name of the game (Aguinis et al., 2020; Fleming, 2021; Kwan, 2010; Martin-Sardesai et al., 2020). For those supervising PhD students, the PbPP route is an alluring prospect. A traditional PhD student might toil over a doctoral monograph for three (or more) years before even beginning to craft academic manuscripts for publication, or, worse, disappear to an 'industry' job without writing any (Evans et al., 2018). But with the PbPP, publications emerge during the candidature; an apparent win-win for students and their supervisors.

We contribute to the debate on the growing appeal of PbPPs by drawing lessons from our own experience as supervisors and administrators of students opting for the PbPP path. This is particularly pertinent given the "absence of guidelines and expectations" (Merga et al., 2020, p. 1252) surrounding PbPPs. Our own experience replicates the findings of Pretorius (2017) and suggests that, despite its attractiveness, the PbPP comes with many complications and difficulties. We extend these ideas as we critically engage with four contemporary discussions in the PbPP literature, namely, learning objectives, assessment, student suitability, and supervisor competence. Our goal is to further ignite discussion on how PbPPs should be designed, assessed, and supervised.

BACKGROUND: THE PHD BY PROSPECTIVE PUBLICATION

The PbPP is a relatively new and increasingly popular alternative to the traditional PhD by Manuscript (PbM) in Australian business schools (Chong, 2021; Merga et al., 2020; Solli & Nygaard, 2022). It is the idea that a doctorate can be completed by writing a series of papers that are published, close to being published, or under review at refereed journals, or as book chapters. The papers will typically be on a similar theme and the thesis will comprise of an introductory chapter justifying the suite of research, the papers, and a concluding exegesis that integrates the findings of the studies, shows how they advance the field, and sets out avenues for future research (Chong, 2021; Dowling et al., 2012; Mason & Merga, 2018a). Institutions vary in what counts as a 'publication', how many are needed, and how many need to be published. But typically, three, four, or five papers are required (Mason & Merga, 2018a, 2018b), at least one of which should have been published in a well-regarded refereed journal (Jackson, 2013; Mason & Merga, 2018b).

PbPP is also known as PhD by Compilation, especially in Sweden (A. Lee, 2010; Niedomysl et al., 2018), and it is a form of doctorate found around the globe. The PbPP to which we are directly referring should not be confused with PhD by Retrospective Publication (PbRP), which refers to gaining a doctorate through a body of *prior* publication (Badley, 2009; Brown, 2022; Davies & Rolfe, 2009; Merga et al., 2020; Peacock, 2017). The PbPP student, in contrast, typically constructs a corpus of work on their chosen field of doctoral study *during* their period of candidature, often beginning from a blank publication record. Solli and Nygaard (2022, p. 2) argue that "what makes [the PbPP] 'new' in the context of the changing doctorate, however, is the shift from this retrospective form to a prospective [theses by publication], where the articles are conceived as part of a single, coherent PhD project from the start (and must be completed, if not published, during candidature)."

Although new, the PbPP has a long history. Its roots are in the PbRP, which was introduced in 1966 at Cambridge University (Peacock, 2017). The PbRP was primarily designed to accredit academics who had published during their tenure, but who had entered the profession without a PhD (Badley, 2009). Such people are much rarer now that the PhD is a pre-requisite for most academic positions (Brennan, 2020; Jackson, 2013; Waaijer et al., 2018).

At the turn of the century, the PbPP became increasingly used as an alternative approach for people new to academia to gain a doctorate. The northern European countries were early adopters. Solli and Nygaard (2022) report that the PbPP has been the norm in Scandinavia since early in the 21st Century. In 2009, the Swedish National Agency for Higher Education reported that two-thirds of doctoral theses were of this form (A. Lee, 2010). By 2013, two-thirds of Australian universities were offering PbPP (Jackson, 2013) appropriate at the time the first doctorate, and, by the end of the decade, hundreds of students were graduating through the PbPP in Australian universities (Mason et al., 2020). Although Mason et al. (2020, p. 859) argue that the PbPP was still in an "emergent phase" in 2020, it had already become the preferred doctoral route at Macquarie University.

Amongst its many attractions, the PbPP aligns well with the pressures to publish in academic jobs (Jackson, 2013; Kwan, 2010; O'Keeffe, 2022). For such reasons, Paré (2017) argues that the traditional style of PhD by monograph (PbM) is out of date and even at odds with the nature of academic work for which doctoral students are supposedly preparing themselves. De Granda-Orive and Villena-Garrido (2018) succinctly summarize the purported benefits of PbPP:

> The advantage of [PbPPs] are that they promote a greater output and increase the impact and visibility, not only of the doctorate student, but also of the university. They generate greater experience in research methodologies, diffusion and collaboration. Moreover, independent feedback is received on the progress of the work, the chances of completing the project are higher, new ideas are more easily developed, and the chances of collaborating in the right groups are higher. (p. 56)

Scholars making similarly positive cases for PbPP include Francis et al. (2009), Freeman (2018), Huang (2020), and G. Lee et al. (2012). Evans et al. (2018) note that with PbM only about one-quarter of dissertations are published in peer-review journals, and those that do typically appear two to three years after completion of doctoral studies. PbPP as an alternative offers the prospect of better dissemination of research. Such figures certainly demonstrate the frustration of supervisors who may spend many years supporting PbM students without any tangible benefits.

As the benefits of this style of doctoral candidature became apparent to students, supervisors, and universities (de Granda-Orive & Villena-Garrido, 2018; Horta & Santos, 2016; Jowsey et al., 2020), the PbPP burgeoned across Australian business schools during the early 2000s (see Mason & Merga, 2018b; Merga, 2015). A survey of Australian universities indicates that most permit the submission of this style of PhD, even if some do not actively encourage it. Despite the apparent attractions, concerns are emerging about its feasibility. Mason (2018) and Mason and Merga (2018b) note that expectations for PbPP are advancing quicker than the development of administrative processes and procedures. There are concerns that students' motivation to opt for PbPP is unduly influenced by supervisors who see it as a route "to meet vocational, promotional and process goals" (Mason et al., 2020, p. 857). Pretorius (2017) notes that supervisors experimenting with this option view the experience quite negatively. In addition, he highlights the additional demands the approach places on the competency of supervisors and hints that only strong students might be able to cope.

METHODOLOGY

RESEARCH DESIGN

This paper began as a series of conversations between the two authors. We were finding that more than half of new students were choosing the PbPP route in our business school and their supervisors seemed to welcome the new development. However, it was throwing up many challenges as the doctoral system in the business school was designed for PbM students, and we were unable to find guidelines for the supervision and administration of PbPP students. Our conversations focused on what an ideal process to support and evaluate PbPP students would look like. In preparation for these conversations, we read the literature to bring us up to date on the latest thinking regarding PbPPs and to help us make sense of our reflections. In relating our own experiences to the literature, we found many points of divergence and areas where the extant literature did not resolve our concerns. To us, this suggested many policy matters that needed to be considered and resolved.

In this paper, we have adopted critical collaborative autoethnography (Bieler et al., 2021; Chang et al., 2013; Lassiter, 2005; May & Pattillo-McCoy, 2000; Rappaport, 2008) to report our discussions while integrating them with the literature on PbPPs. Lassiter (2005) defines collaborative autoethnography as

> an approach to ethnography that deliberately and explicitly emphasizes collaboration at every point in the ethnographic process, without veiling it—from project conceptualization, to fieldwork, and, especially, through the writing process. Collaborative ethnography invites commentary from our consultants and seeks to make that commentary overtly part of the ethnographic text as it develops. (p. 16)

Through this critically reflexive approach, our goal is to raise areas of concern and to outline the conclusions to which our discussions led us. The approach is especially useful because it tempers idiosyncratic opinion and through collaboration strengthens interpretative authority (Bieler et al., 2021). We are conscious that our reflections may be specific to our own business school, but we are aware that many Australian business schools are similarly transiting to greater numbers of PbPPs and, like us, do not have well-elaborated systems in place to manage them. Accordingly, we advance our conclusions as provocations that might trigger further discussions for the design of policy on PbPPs in Australian business schools.

THE RESEARCHERS

Being a collaborative autoethnography, it is important to provide a description of the researchers' experience with the subject matter. We both have doctorates gained by writing traditional PbM theses. The first author published one paper from his PhD four years after gaining his qualification in applied psychology. The second author published five papers from her PhD; the first, the year after gaining her qualification in accountancy.

The first author has 13 doctoral completions as a supervisor: two PbPP and 11 PbM. Four of his PbM students have not published anything from their theses, but the other nine have. The publications range from highly ranked journals such as *Academy of Management Journal* and *Journal of Organizational Behavior* down through more lowly ranked journals. All of these journals are peer-reviewed and appear in the usual rankings. At the time of writing, he was supervising eight doctoral students, one of whom had opted for the PbM route, six for PbPP, and one undecided. Of the six taking the PbPP route, two have had journal papers accepted and six other papers were under review.

The second author has supervised 10 doctoral students to completion, all of whom wrote a traditional monograph. Two of these students have not published from their PhD theses but the other eight have. So far, there have been 18 successful outcomes in peer-reviewed and ranked journals with

content drawn directly from their PhD theses. These journals include highly ranked journals such as *Accounting, Auditing and Accountability Journal*, *Critical Perspectives in Accounting*, and *Accounting History*. In addition to traditional academic and supervision roles, the second author has a long history of service in administration of PhD programs at School, Faculty, and University levels During this period of service, hundreds of PhD students have started, progressed, and completed their doctoral journeys. A small fraction of those theses had been completed according to the PhD by compilation style and those that have opted for this approach have been, in the main, from the economics and finance disciplines. Over the past three to four years, there have been an increasing number of inquiries from supervisors and students for information about how to do a PhD by compilation (i.e., PbPP).

LEARNING OBJECTIVES

Although there are many differences between PbPPs and PbMs, there is one difference that drives most of the others. Whereas doctoral candidates taking the PbM route are learning how to do independent research so that they can publish *after* finishing their training, PbPP candidates must produce publishable manuscripts *as* they are learning research skills. Moreover, the development of manuscripts is the main process through which research skills are learned. With the exception of a few elite students who are able to do this as independent scholars from the outset of their doctoral studies, most PbPP students have to work with others to make this accelerated learning process achievable. This inevitably leads to co-authorship of the emerging publications. Co-authorship of outputs is a feature of most PbPPs with the candidate and supervisors, and sometimes some external experts collaborating to make the publications happen (Henriksen, 2016; Jackson, 2013; Maher et al., 2013). Our experience is that co-authorship changes during the candidature. At the start, the supervisors are certainly equally involved in the actual drafting of papers whereas towards the end the goal is for the candidate to write the drafts with supervisors advising on the design of studies and honing drafts. In addition, once the expectation of co-authorship is established early in the candidature, it becomes likely that all outputs will have multiple authors.

Co-authorship in PbPP theses dramatically alters the terms and conditions by which students engage with the doctoral process. PbPP students are entering apprenticeships where they learn from working with experienced academics. Although PbPP students are likely to be taught classes on research methods, design, and philosophy, their theses are built through a process of "learning by doing" (Henriksen, 2016). Kamler (2008, p. 283) argues "that co-authorship with supervisors is a significant pedagogic practice that can enhance the robustness and know-how of emergent scholars as well as their publication output." Indeed, drawing on the expertise of supervisors is essential to prevent "premature publication" (Paré, 2010, p. 30; i.e., the rushed submission of papers to journals before they have been sufficiently developed and crafted) and publication in very lowly ranked journals (Carr & Hayes, 2017).

We have noticed a paradox associated with co-authorship: the better the teaching of how to publish, the better the mentorship of the process, and the better the supervisory team apprentice the student, the more entangled the co-authorship becomes and the more difficult it is to disentangle the student's contribution from the work of others. This is how it should be, but it makes assessment of students very problematic when just looking at the journal article outputs. During this PbPP process, this apprenticeship model is encouraging an appreciation of academic cultures, of collaborative working, and of continuous learning (Henriksen, 2016). The goal is to turn out academics able to work *with others* to initiate, implement, and write-up research projects. The goal is not to produce 'researchers able to work independently' (although it would be an admirable by-product), but instead is trying to produce 'researchers able to work collaboratively,' which represents a major change to the learning goals of the doctoral program.

> *Proposition 1: The PbPP learning process is an apprenticeship model with the apprentice being prepared for the research aspects of an academic career.*

Proposition 2: The primary learning objective of a PbPP is to produce researchers able to work collaboratively.

As an aside, we have not looked at the development of teaching skills during the PhD studentship. However, we note that the development of these skills is a growing concern (Homer, 2018; Marx et al., 2016) and we do not deny that for a rounded apprenticeship, the development of teaching skills should be a vital component of doctoral candidates' development.

ASSESSMENT OF PbPPS

These observations about the core difference between PbPPs and PbMs raise three major concerns related to the assessment of PbPP theses. First, how much of the work is that of the student? Despite requirements at most institutions for contributions from collaborators to be stated at the front of the thesis, the compilation model does offer a relatively more ready opportunity (both accidentally and deliberately) for a student to hide behind the contributions of the co-authors compared to the traditional monograph. Second, which aspects of the published work was produced by the student? Perhaps they became a subject expert or a methodologist but not a fully rounded researcher. And third, what are the learning objectives of the PbPP? Is it still to produce independent researchers? Or, perhaps, the change of format signals a change of purpose.

The fundamental principle of university assessment is assuring that the person submitting a piece of work and claiming credit for it is the person who produced it. This central concern is challenging the assessment of PbM given the revelation that plagiarism and contract cheating occurs in doctoral theses (Aitchison & Mowbray, 2016; Ertl, 2018). This is the fundamental reason why a *viva voce* examination is employed at the end of doctoral studies; if a person can defend the thesis from expert scrutiny, it provides some confidence that they have written it (Jackson & Tinkler, 2001; Park, 2005). It should be noted that a *viva voce* examination cannot guarantee that the doctoral candidate has written the thesis upon which they are being examined. Someone might take a thesis that has elements of co-authorship (PbPP or PbM), study the content, and successfully get through the viva voce. However, having to respond to in-depth questioning (almost) immediately, in-person, and without reference to information sources, should, with insightful questioning, provide as strong a test of the student's authorship as is practically possible. With a PbPP, a *viva voce* examination is particularly relevant due to the presence of co-authorship in most or all the components of the thesis (Jackson, 2013). In discussing the challenges of examining PbPPs, Sharmini et al. (2015, p. 89) concluded that "among the concerns of the examiners was the intellectual input of the candidate in any multi-authored publication, as well as the coherence of the thesis." It is inescapable that universities and examiners need to determine the extent of the student's contribution so they can assess whether it is sufficient to warrant the award of the doctorate.

For us, concerns about the contribution of the doctoral candidate to the thesis are exacerbated by the Australian context. Here, most doctoral theses are not examined by any form of *viva voce* (Kiley et al., 2018). Mason and Merga (2018b, p. 140) note that "unique to Australia and New Zealand is the absence of an oral defense, or viva, common in most other parts of the world." Instead, a thesis is sent to two or three examiners who review the manuscript and return comments and questions to which the student must respond (Dally et al., 2019). Mason and Merga (2018b, pp. 140-141) add, "This has meant that the awarding of a doctoral degree in Australia is a result of an assessment of the thesis, and not of the candidate, though this may change in the near future." This correspondence approach to thesis defense allows the student an "open book" opportunity to find responses. Moreover, it allows collaboration and consultation. A *viva voce* examination, on the other hand, requires an immediate and personal response. While it is still possible that PbM students might have prepared from a thesis partly written by someone else, requiring instant, unaided replies on any topic in the thesis can be a thorough examination that is difficult to fake.

This approach stems from a different generation when Australia's geographic isolation and large internal distances between major conurbations meant that travel to a single place for the examination was too problematic. With the heightened concerns stemming from co-authorship in PbPP theses, it seems too reckless and, dare we say, irresponsible to assess these theses without a *viva voce* component especially now that digital communication (e.g., Zoom, Facetime, Microsoft Teams) has evolved to make remote face-to-face examinations perfectly possible. Given the rapidly increasing occurrence of plagiarism, use of contract cheating, artificial intelligence engines, and essay mills, and the emergence of effective video telecommunications, we are astonished that most Australian universities have not yet switched to viva voce examinations for all of their doctoral examinations, PbM and PbPP. As Kiley (2009, p. 40) comments, "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."

> *Proposition 3: PbPP (and PbM) theses should be examined by viva voce.*
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> *Proposition 4: Viva voce examinations of PbPP theses should determine (1) the nature of the doctoral candidates' contribution to the thesis, (2) whether it is sufficient for the award of a doctorate, and (3) the contributions of the papers to advancing the field of research.*
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> *Proposition 5: Viva voce examinations of PbPP theses should seek to discover the student's ability to contribute to collaborative efforts of research teams.*

Journal articles tend to have very targeted literature reviews focusing on one line of argument whose purpose is to justify the research questions. This is quite a selective approach to the underlying theory that is unlikely to contain the depth traditionally associated with PbM students. To remedy this problem, we find ourselves contemplating a second stream of assessment, one that examines student's theoretical understanding of their field, which is examined by subject experts. Currently, this is conducted through the reading of the thesis, but, as explained, with PbPP theses containing a series of selective snapshots of the literature, which may have only been partially written by the candidate, stronger examination of their subject knowledge is required.

> *Proposition 6: Viva voce examinations should go beyond examination of the studies in the thesis and assess PbPP students' understanding of their field of study.*

In addition to their ability to work collaboratively in research teams and be experts in their field, doctoral candidates need to demonstrate advanced abilities in research philosophy, research design, and research methodologies. Typically, most journal articles are quite light on ontological and epistemological issues. Instead, they focus on the justification of research questions and a logical approach to answering them. Ontological and epistemological issues tend to be subsumed in the line of argument and only surface when the authors are doing something new or innovative. Consequently, PbPP students might have much less involvement with these aspects of research than students taking a PbM route. Therefore, developing a thorough understanding of research philosophy, ontology, epistemology, and associated research skills is unlikely to be a priority for PbPP students until journals insist on such content in their articles. As we believe that doctoral students should have a grounding in the philosophy of research, we find ourselves concluding that PbPPs should have more than one stream of assessment. In addition to the examination of the thesis containing the published, pre-published, or under review journal articles and book chapters, there is a need for a parallel stream of assessment in which students' understanding of research philosophy, design, methodology and related topics is tested.

The devil in us finds us gravitating towards independent assessment of these skills. Their nature is largely common across business disciplines and there seems no reason why a national curriculum

could not be developed with formal examinations set and marked by an independent body. This process would be similar to the French system which has national examinations (actually a competition) called the *concourt de agrégation* to become a professor, or the *habilitation à diriger des recherches* (HDR, accreditation to direct research) to supervise PhD students. Such external assessment of the research skills of PbPP students would greatly increase the credibility of those travelling this route. Interestingly, of course, why not extend this for PbM students as well? In an age when contract cheating ("outsourcing their assessments to third parties" Bretag et al., 2019, p. 1837), essay mills, artificial intelligence engines, and plagiarism are challenging the validity of university qualifications, as well as the pressures that come to bear through ignorance, nepotism, corruption, and negligence (Alexander & Davis, 2019), the added rigor such independent examinations would bring would strengthen the whole sector.

> *Proposition 7: PbPP students should sit an examination of their understanding of research philosophy, design, methodologies, and related topics.*

> *Proposition 8: It should be externally set, administered, and marked by an independent examination board.*

Given the strengthened assessment regime we are advocating, it seems inevitable that candidature periods for PbPP students need to lengthen, probably to four years or more. But the need for more rigorous assessments of PbPPs seems essential if they are to be credible. Talking about PhDs in general, Alexander and Davis (2019) comment,

> The greatest arguments for upholding standards are two. First, passing a substandard thesis is a disservice to the work of those students whose theses are good and excellent. It can devalue the PhD. Secondly, the doctorate seriously needs its standards if the scholars and scientists of the future are to benefit from insightful, inspired and rigorous training. So much ingenuity is required to solve society's problems that we cannot afford for the producers of those ideas to be mediocre thinkers. (p. 8)

CANDIDATE SUITABILITY

The PbPP process changes the way that students tackle a literature. The exigencies of writing a paper encourages them to focus on specific lines of argument rather than mastery of a whole field of study. It is a selective and piecemeal process as they construct the many self-contained paragraphs in a journal paper. Practicality can take over from thoroughness. Liardét and Thompson (2020, p. 12) look at language requirements and note that the majority of foreign students prefer PbPP (perhaps erroneously) because of the perception that "writing article(s) is easier than writing a full monograph." However, a monograph is a conversation between student and examiners where the students are attempting to explain their mastery to the examiner, whereas a journal article is a discussion between peers where the writer is expected to have mastery of the subject. Only the strongest PbPP candidates are able to rise above their student status and adopt the writing skills of an expert in the field. It requires considerable effort and dedication, strong research English skills (the reality is that most fields of research that are studied in Australian business schools are dominated by publications in English language journals; Kwan, 2010), an ability to read critically and in an informed way, and excellent intellectual abilities. Whereas co-authors can help students hone their writing skills (Catterall et al., 2011), reading is a solitary process. Consequently, PbPP students have to enter the doctoral process with advanced levels of reading, writing, and intellectual abilities.

> *Proposition 9: PbPP candidates need to demonstrate excellent 'research English' language skills before commencing.*

> *Proposition 10: PbPP candidates need excellent intellectual skills; as a rough guide, probably in the top quartile of doctoral candidates.*

It is well-established that studying for a doctoral degree of any type is a stressful venture. Barry et al. (2018, p. 468) describe the psychological distress prevalent for students studying for a doctoral degree. Their participants "reported higher levels of depression, anxiety and stress than age-matched general population normative data. Additionally, those who self-reported being behind or exceeding their study schedule had significantly higher scores for depression, anxiety and stress than those who reported they were meeting schedule." Studying for a PbPP requires an additional level of resilience. Peer-reviewed journals accept roughly between 5% and 15% of submissions meaning that the vast majority are rejected, which is likely to be worse for inexperienced researchers. Merga et al. (2019, p. 275) note, "the constant rejections hurt" and their PbPP respondents stressed that PbPP candidates needed the ability to "take criticism" and "develop a 'thick skin'." Further, Merga et al. (2019, p. 276) note that "Resilience is a strongly recurring theme across the responses, and is seen as necessary, particularly when dealing with the peer-review process, 'which can seem daunting, frustrating and harsh at times'." Their respondents commented that patience was also required given the delays, slow processing times, frustrations, revisions, and rejections associated with journal submission.

Our experience suggests that although these resilience and patience dynamics exist, they can be mitigated by the design of the program. If students can produce a manuscript in the first year, typically a bibliometric or systematic review which requires mastery of a process (not a literature) and moves students towards a deep understanding of a literature (Pickering et al., 2014), much of the pressure is released. If the thesis requires 'just' one published paper supplemented by completed and submitted manuscripts, it becomes a more manageable, realistic, and smooth process that lessens anxiety.

> *Proposition 11: PbPP candidates need to be resilient and able to cope with failure, criticism, and rejection.*

> *Proposition 12: PbPP candidates need high levels of patience.*

> *Proposition 13: PbPP candidates should be encouraged to produce their first manuscript early in their candidature.*

DEMANDS ON SUPERVISION AND SUPERVISORS

Reviewing the challenges associated with examining PhD theses, Alexander and Davis (2019, p. 7) note that "the first of the problems we identify is *ignorance*" [emphasis in original]. By this, they mean that they observe an increasing tendency for academics to take on supervision of doctoral studies in fields in which they are not expert. This problem is exacerbated with PbPPs where expertise across both a literature, methodologies, and publishing is required. Indeed, Francis et al. (2009, p. 100) note that a "lack of experience … can result in poor direction and result in lack of rigor and clear policy guidelines." Supervisors cannot just capitalize on co-authorship and need to agree upon an ethical approach from the outset (Robins & Kanowski, 2008). Instead, co-authorship requires active engagement with all elements of the development of research questions, research design, data gathering and analysis, writing-up, and navigating the publication process across multiple research forms (e.g., reviews, empirical studies, theory and conceptual work, methodological studies, and ideally essays and practitioner pieces). Supervisors need to able to mentor, teach, and work with their PbPP students across the various forms that might evolve during the process (Kamler, 2008). As such, PbPP supervisors need a wide range of advanced skills and demonstrable achievements; it is likely that the necessary wide range of skills and experience will require a team approach with a group of supervisors offering complementary abilities. As Paré (2010, p. 37) rhetorically asks, "can a pedagogy for publishing

be developed without instructors who have the ability to articulate the rhetorical practices that students are being asked to master?"

> *Proposition 14: PbPP supervision requires supervisors with advanced levels of subject knowledge, research skills, and publishing outputs.*

> *Proposition 15: PbPP supervision requires expertise across various forms of research and types of output.*

> *Proposition 16: Due to the wide range of skills and experience, PbPP supervision is likely to require a team approach.*

Commentators (e.g., Merga et al., 2020; Robins & Kanowski, 2008) have noted that PbPP greatly increases the workload on supervisors over PbM. Whereas PbM supervision tends to involve supervision meetings interspersed with the PbM students working alone on their theses, PbPP requires continual engagement with students as they draft manuscripts. Our experience has been that the process works best when PbPP students are asked to focus on subsections of papers one at a time. Hence, a paper might require the development of ten or more subsections, each of which will require multiple back-and-forths between student and supervisors as the particular knowledge and skills are learned and the manuscripts are crafted. This means that supervisors are continually reviewing drafts of sections of papers and the workload is spread throughout the candidature, not just backloaded as is typical with PbM (Robins & Kanowski, 2008). For these reasons, Merga et al. (2020, p. 1251) argue that "completing a [PbPP] may be a more demanding route for supervisors", something with which we would wholeheartedly agree.

> *Proposition 17: PbPP supervision is considerably more time-consuming than supervising PbM students.*

DISCUSSION

The PbPP is a professional doctorate for entry into an academic career. It teaches skills to do with academic publishing, collegiality, and networking. However, there are real dangers with the approach. It does not encourage the depth of knowledge and understanding on a particular subject that is equivalent to that produced through traditional PbM. Of course, there is a danger of romanticizing the strength of PbM graduates, but generally speaking, their depth of focus on one specific topic is deeper and different to the selective gaze of the PbPP student across multiple papers. The depth that PbM students have to develop means they have to consider multiple aspects of their study including theoretical foundations, philosophical underpinnings, methodological choice and operation, ethical considerations, analysis of data, and writing skills (although geared for a thesis rather than journal publication). PbPP students can skate over some of these issues depending on the arena they are working in (e.g., someone working in a field dominated by positivist underpinnings may never have to encounter philosophical matters in their papers) and rely on supervisors' expertise to tackle some of the more esoteric or challenging elements.

These characteristics of PbPP require revisions to the way PbPPs are examined. It is vital that the student's contribution to the individual papers is assessed and deemed to be worthy of a PhD. For this reason, we recommend that PbPP students sit a *viva voce* examination that explores their contribution to the thesis, whether it constitutes a sufficient contribution, how the thesis contributes to advancing knowledge in the field of research, and their understanding of their field of study. In addition, we advocate formal independent assessment of PbPP students' understanding of research philosophy, design, and methodology, which are topics often skated over when preparing articles. As this knowledge is generic, it might be possible to examine this aspect of PbPP students' learning nationally.

In addition, our experience tells us that the PbPP is for a rarefied few. For those doctoral students *and* supervisors, it is an extraordinary development with the potential for extraordinary benefits. But for most people, it is too extreme a way to tackle a PhD that many cannot realistically contemplate. As the PbPP route is a demanding route that requires students to publish earlier than most PbM students, we recommend that the PbPP route is reserved for students with elite levels of intellect, dedication, critical analytical skills, language skills, resilience, and patience.

Our experience supervising PbPP students tells us that supervisors have to be comfortable with a much wider range of literatures, research methods, analytical tools, and research philosophies than when supervising PbM students. This just stands to reason given that it involves supervising multiple research studies rather than just one. In addition, the PbPP supervisor has a more proactive engagement with the PbPP students, particularly early on. Whereas with PbM, a typical PbM student might read for many months before narrowing down on a research question, with PbPP the supervisor is likely to be more involved early on to help identify and design each of the studies. Hence, the PbPP supervisor has a heightened need to be able to identify and assess research questions and designs. Therefore, the PbPP supervisor's role is subtly different to the PbM supervisor's role and is more likely to draw broadly from their skill set. We find ourselves drawn to the conclusion that people who are effective as PbPP supervisors are likely to have an established publication record spanning many papers, multiple types of papers, and a range of methodologies. Hence, we recommend that potential PbPP supervisors need expertise in the field of study, experience of publishing different types of paper, familiarity with the working of the journal publication process, and considerable workload capacity. Given the broader range of knowledge and skills likely to be required by PbPP supervisors, it naturally promotes the idea that PbPP students might be best supervised by a team of supervisors.

The PbPP route is an attractive one especially to prospective doctoral students who are naïve to the misery of the journal submission process: long wait times, reviewers who seem to be reviewing a different paper or want you to rewrite your paper to say what they want to say, unfathomable decisions from editors, and so on. Moreover, it requires very able students, it may take longer than a PbM, and the workload is likely to be higher. It is obviously attractive to achieve publication during the candidature especially for those wanting to move into an academic career. But given the challenges with the PbPP approach, might it be possible to integrate some of the advantages of publishing early with a more traditional PbM route?

We have witnessed several strategies to try to encourage or provide a framework to make it more likely that PbM students might publish papers during their candidatures. One approach is to write each chapter of the thesis, particularly the literature review and methodology chapters, as standalone papers. One British university tried to make PbM students write their literature review chapter as a systematic review. This sat uncomfortably with many academics at the institution who thought the approach too limiting. However, there were many students who were successful in generating a systematic review journal article. Interestingly, we find that many PbPP students produce a review paper as their first journal submission. It is useful as this type of paper helps students find and read their literatures. We find that systematic reviews are less common for PbPP students than bibliometric and narrative reviews as systematic reviews require a thorough understanding of the field of interest whereas bibliometric and narrative reviews have a more exploratory nature. Another approach we have witnessed is to get a group of PbM students to collaborate in producing a systematic review. This was an unmitigated failure because the systematic review would typically only speak to one of the students' theses, or worse still, to none at all, and this was seen as very unfair and a waste of time. The Australian university that introduced this novelty in their doctoral training program quickly abandoned its compulsory nature.

As mentioned earlier, one of the problems with trying to publish material from a PbM thesis is that the voice is different from the voice used to write a journal article. Many journal editors recommend rewriting doctoral material into the language of journals (e.g., Stadtlander, 2022). In a PbM thesis, the

student writes to demonstrate the learning that has taken place, whereas, in a journal paper, the student must write as an expert writing for peers. Doing the rewriting of material during a PbM candidature can delay the completion of the thesis and throw the student off-track. Moreover, they have to conquer two writing voices. Consequently, for many PbM students, learning this journal voice is a postdoctoral activity. In short, while we can see that there might be benefits in producing journal articles during PbM registration, we believe it is important to recognize that PbPP and PbM are different beasts with different foci, different approaches to learning, and different objectives. PbM students might serendipitously produce journal articles during their candidatures, but efforts to force students to do so jeopardizes the concept of the PbM.

In addition to noting that supervisors (or supervisory teams) need to draw upon a broader range of knowledge and skills to support PbPP students and the students themselves need to have high levels of intellect, dedication, critical analytical skills, language skills, resilience, and patience, our primary recommendation relates to the examination of PbPP theses. We strongly recommend examining PbPP students with a *viva voce* examination. This is the major difference to existing practice in Australian business schools, which examines theses through a correspondence, open book, approach. The existing form of examination is unique to Australia and New Zealand. It is anachronistic, a relic of an isolated past, that is massively vulnerable to fraud and cheating, and offers little examination of the students' contribution, knowledge, or skills. In writing these words, we cannot escape implications for the assessment of PbMs in Australia. They are examined in the same way as PbPPs and have all the same vulnerabilities. With modern technology, Australia is no longer isolated, and there is absolutely no reason why *viva voce* examinations cannot be introduced. These would greatly increase confidence in the quality of Australian doctoral graduates and bring the country in line with the rest of the world. *Viva voce* examinations should be introduced for both PbPP and PbM students with immediate effect.

To recap, the isolation reason for not having *viva voce* examinations no longer holds with the arrival of stable video conferencing through applications like Zoom. The arrival of artificial intelligence engines like ChatGPT has made academic integrity a critical issue. Australian business school doctoral examinations are out of step with the rest of the world and the solution seems clear. So, why is there no momentum for efforts to rethink doctoral examinations in Australian business schools? The increasing popularity of the PbPP route, with its co-authorship and contribution concerns, creates even further pressure to change. If our proposal to introduce *viva voce* examinations to PbPPs is to have any chance of bringing about policy change, it is important to understand the structural resistance to oral examinations. This has implications for future research. Why is the correspondence approach to doctoral examination so resistant to change? Why is it so embedded? Why have universities not reacted to the threat to the legitimacy of its graduates and awards? What are the vested interests and the factors resisting change?

We are not the first to ask these questions. Kiley (2009, p.32), for example, argued that the Australian PhD examination "process does not fully align with the aims of the current doctorate and that modest changes could remedy this situation." The changes she suggests include the addition of external experts to the examination panel, the separation of supervisors from assessments, and an oral component to the examination, all of which chime with our own recommendations. Kiley et al. (2018) explores the issues related to the introduction of an oral element to doctoral examinations. They consider a "spectrum [that] span the preparation for, conduct, and aftermath, of the oral component in thesis examination and address such issues as nomenclature, student preparation, sequence, access to examiner comments, who attends, participant roles, costs, organization." Their conclusion is that none of these are insurmountable. Lovat et al. (2022) asked Australian supervisors, Deans, and Directors of Graduate Research about their views on the introduction of an oral component to doctoral examinations. They found that only two out of 39 institutions participating in their study had introduced end-of-process *viva voce* examinations. "All of the Deans and Directors were united in their agreement about the formative value of oral defense and dialogue, however, they were evenly

divided as to what might be the best mechanism for providing this forum" (Lovat et al., 2022, p. 852). The supervisors were less supportive of including a *viva voce* component to doctoral examinations primarily because of the increased stress and anxiety it would cause students. Overall, "Deans (46%) were more likely than supervisors (30%) to favor that a viva should form part of the formal examination process" (Lovat et al., 2022, p. 857).

Commentaries such as these on the process of doctoral examination in Australia have been few and far between. Our suspicion is that the current system is a comfortable one for all concerned. Students fear oral examinations because it puts them on the spot and can expose their weaknesses (Pearce & Lee, 2009). Supervisors have concerns that their weaker students will fail and fear for the increased anxiety the impending *viva voce* will create for students. Institutions are happy with this relatively inexpensive way to assess their graduands. Institutions might also fear 'first-mover disadvantage' as the introduction of a *viva voce* element to the examination will make their doctoral programs unattractive to prospective students. However, we would counter by arguing that the reputation gains for all parties from adopting a more rigorous assessment process far outweigh these interests and concerns.

LIMITATIONS

A natural criticism of our proposals is that they are based on recent experience in one university, albeit coming from supervisors and an administrator who have successfully graduated doctoral students across the globe and across different formats. To counter this criticism, we would encourage readers to think of our insights as reflections on well-known problems with the PbPP. Our insights were guided by the literature on PbPP and we found ourselves able to take a broad, strategic, and comprehensive view on these issues influenced by our own experience. Our insights were less about bringing new data to the topic and more about developing fresh perspectives guided by the issues highlighted by previous scholars. Previous scholarship on PbPP allowed us to stand back from the minutiae of our day-to-day supervision and to think about the strategic issues and policies within which our students and our supervision was operating.

CONCLUSION

We want to reassert that we see the PbPP as a positive and exciting innovation in doctoral studies. It can prepare graduates well for an academic career. However, it is only for a rarified few as it demands that students achieve mastery of their topics much earlier in their candidatures than with the PbM. From a policy perspective, we are particularly concerned about the assessment of PbPP theses. The Australian correspondence approach to doctoral examinations shines a light on the thesis, not the student, and does little to assess the students' learning, contribution, knowledge, and skills. There are no practical reasons why Australian business schools cannot come into line with practice in most of the rest of the world where *viva voce* examinations are used to assess students. We believe that *viva voce* examinations should be introduced to assess PbPP graduands. By extension, we cannot see any reasons why *viva voce* examinations are not also introduced for other forms of doctorates in Australian business schools. Doing so, will protect Australian business schools' academic reputation as a location supplying world-class business learning.

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