**THESIS BY PUBLICATION**

**by Simon Moss**

Traditionally, in Australia, the PhD or Masters by Research thesis resembled a book—usually comprising a set of cohesive chapters. In the last decade or two, an alternative has become increasingly popular: the thesis by publication. At least in some universities, more than 50% of research candidates have chosen this option. This format is also common in Europe. If this alternative was not available, candidates could not publish papers without plagiarizing themselves in the final thesis.

**Key differences between traditional theses and theses by publication**

The content and format of traditional theses and theses by publication are similar, besides a few differences. This table specifies these differences.

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| A thesis by publication includes… | Prevalence  of this feature |
| at least one—but usually more—papers that have previously been published | All theses-by-publication |
| a list of these papers, often immediately after the table of contents. | All theses-by-publication |
| either after each of paper on the list or immediately before each paper appears in the thesis, a brief description of the roles that each co-author fulfilled | All theses-by-publication |
| one or more chapters that precede the papers, such as an introduction, literature review, overview of the aims, or justification of the methodology | Almost all theses-by-publication |
| one or more chapters that follow the papers, such as a general discussion | Almost all theses-by-publication |
| sections before or after the papers, designed to justify and integrate these papers—sometimes called bridging sections | The majority of theses-by-publication |

Theses by publication are comparable in length to traditional theses. Theses by publications sometimes comprise shorter literature reviews and general discussions—because some of this information might appear within the papers instead. Yet, traditional theses sometimes comprise less repetition than do theses by publications.

**Guidelines around theses by publications**

The precise features of theses-by-publications vary across nations, universities, disciplines, and individuals. In general, CDU adopts a flexible approach, granting candidates the right to decide on how many papers to include, which papers to include, and so forth. Nevertheless, this table offers some recommendations to guide candidates.

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| Question | Answer |
| **How many papers** should be included in a thesis by publication? | On average, at CDU, a PhD will comprise three to four papers, and a Masters by Research will comprise one two two publications.  Yet in some disciplines, or if other empirical chapters are included, theses may comprise fewer papers. In some disciplines, theses may comprise more papers.  Preferably however, a PhD thesis might comprise only two papers—but one of these papers is high in quality, potentially reporting more than one study for example. |
| Should candidates include only papers in which they are the **first author**. | Typically, at CDU, theses will include papers in which the candidate is the first author.  Although uncommon, in some instances, theses will include publications in which the candidate is not the first author In these instances, the candidates will thus need to include more additional work, such as other empirical chapters, to compensate. |
| Should candidates include only papers that had been **published or accepted**. | Candidates can include papers that had been published, accepted, submitted, or prepared but not submitted. |
| Can candidates include papers from any publication, regardless of **quality**? | Typically, at CDU, the papers should be published in journals ranked by ERA. Sometimes, the papers may be conference papers, book chapters, or monographs published by a Higher Education Research Data Collection recognized publisher.  Often, other publications, such as reports, will appear in an appendix. But, in principle, publications from any source can be included in the thesis—but these papers might tarnish the evaluations of examiners, unless the candidate includes other work to compensate. |
| Should candidates include the papers in the original format. | Typically, at CDU, candidates reformat the original publications; that is, all chapters utilize the same font, spacing, headings, and so forth.  However, candidates may choose to utilize the original format of papers in their thesis. In this instance, two page numbers would appear on each page—corresponding to the thesis page number and the publication page number. |
| **Which references** should appear in the reference list or bibiography. | Typically, at CDU, a reference list appears after each paper—as well as after the last chapter. Many candidates prefer to include every cited source in this last reference list. Some candidates, however, prefer to include only the sources cited before and after the papers. |
| Can candidates include papers they submitted before they enrolled—sometimes called thesis by **prior publication** | At CDU, if candidates would like to include publications they submitted before they enrolled, they need to receive approval from the Dean of Graduate Studies. The Dean needs to establish that suitable arrangements, such as appropriate supervision, had been organized. Otherwise, this prior work might violate the Higher Education Standards or other regulations. Furthermore, publications that are more than ten years old might be obsolete. |

As this table implies, everye thesis by publication is unique. Nevertheless, the main contents often include the:

* Title page
* Abstract
* Declaration
* Acknowledgements
* Table of contents
* List of tables, figures, and illustrations
* Introduction
* Literature review
* Overview of aims, methodology, and methods
* Paper 1
* Paper 2
* Unpublished thesis chapter—such as Study 3
* General discussion
* References
* Appendices

However, between the “Overview of aims, methodology, and methods” and the “General discussion” could be one to ten chapters.

**Benefits of thesis by publication**

This table enumerates the benefits of thesis by publication. However, this table also indicates how traditional theses can be modified to accrue these benefits.

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| Benefits of thesis by publication | Modifications to traditional theses  that can offset these benefits |
| **Motivation.** Thesis by publication increases motivation because candidates orient their attention to more immediate goals—such as the goal to submit a paper—than to prolonged goals—such as the goal to complete an entire thesis. Goals that feel closer in time tend to be especially motivating. | Obviously, candidates can divide the traditional thesis into subsections. But, each subsection must attract a specific reward to motivate candidates. For example, rather than submit a subsection to a journal, candidates could be encouraged to submit subsections to other stakeholders, such as relevant government agencies. |
| **Track record.** Thesis by publication enables candidates to develop a track record before they submit their thesis. This track record not only benefits their career but has been shown to foster a sense of commitment to their pursuit. | Candidates could be granted opportunities to contribute to other research programs—to advance their track record and to extend their skills concurrently. |
| **Transferrable skills.** When candidates attempt to publish a paper, they are exposed to key academic skills—such as how to position their paper effectively and respond to feedback | See above |
| **Diverse feedback**. Reviewers will often impart diverse feedback. Exposure to diverse perspectives may not only edify candidates but also tends to enhance creativity. | Candidates could submit their work to forums in which reviewers evaluate their work, such as Academic Karma or Rubriq |
| **Credibility to examiners.** Asresearch indicates, when candidates submit a thesis by publication, examiners are more likely to pass the thesis or pass with minor amendments. Nevertheless, this research did not assess whether the actual quality differs between theses by publication and traditional theses. |  |

**Drawbacks of thesis by publication**

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| Drawbacks of thesis by publication | Modifications to theses by publication  that can offset these drawbacks |
| **Delayed feedback**. Because reviews can be delayed, candidates might receive feedback that challenges a study they have already commenced. | Candidates can readily concede these limitations or complications within the thesis. |
| **Obligation to modify their plans**. After candidates read the reviews of examiners, they often feel obliged to modify their work. These modications might improve the thesis but demand additional time—such as more submissions to the ethics committee | Candidates need to appreciate these modifications diminish the likelihood the examiner will request a resubmission and, therefore, may ultimately save time |
| **Inability to modify published papers**. As their knowledge accrues, candidates might recognize the shortcomings or limitations of the papers they have already published. Even the literature review in these papers might become outdated before they submit their thesis. However, they are not permitted to modify these papers. | In the general discussion, or bridging sections, candidates can allude to these shortcomings as well as how these limitations could be circumvented. |
| **Concerns from examiners.** Occasionally, examiners feel the papers were inadequate. However, because these papers cannot be changed, they might invite the candidates to undertake additional work instead—such as conduct another study. |  |
| **Inability to publish non-significant results.** Few journals will accept papers in which all the results are non-significant. | Studies that generate non-significant results can still be reported in the thesis. |
| **Limited quality of publications.** The papers that candidates submit during their candidature are seldom as professional as the papers that candidates submit after their candidature. After their candidature, candidates have developed greater expertise. Furthermore, after their candidature, candidates can integrate the best features of their work to submit better papers. | During their candidature, candidates often submit papers that comprise only one study. Yet, candidates can submit papers that comprise more than one study—often increasing the quality of these publications. Furthermore, candidates can submit these papers only weeks or months before they plan to complete the thesis. |
| **Disjointed theses**. Theses by publications are often disjointed. The papers do not always cohere seamlessly, partly because they might be written to accommodate diverse journals. The papers are sometimes repetitive. | In the future, CDU will forewarn examiners of these possibilities to diminish the weight that is attached to these concerns. Furthermore, when theses are planned carefully and bridging sections are written thoughtfully, these problems can be minimized. |
| **Limited details**. Details about the method or results that are included in traditional theses—such as how the statistical assumptions were assessed—may be too lengthy to include in papers. | These details can be included elsewhere. Some candidates include these details in a methodology chapter that precedes the papers. Other candidates include these details in an appendix. |

So, should you plan to complete a thesis by publication or a traditional thesis? Besides skimming these benefits and drawbacks of thesis by publication, to reach this decision, consider these questions:

* Can you readily divide your thesis into distinct papers? For example, will your thesis comprise several distinct, but overlapping studies? Or, will your thesis present several distinct, but overlapping arguments? If not, thesis by publication might not be possible.
* Are you more inspired to complete several shorter tasks than one or two ongoing tasks? If so, thesis by publication could be helpful.
* Do most candidates in your field prefer theses by publication or traditional theses? In some fields, candidates, supervisors, and examiners prefer traditional theses.
* Are you willing to shift your plans iteratively? When completing a thesis by publication, changes to your plans are more likely.

**Recommendations to help candidates complete theses by publication**

Recently, several authors have recounted their experience in completing theses by publication. These authors have imparted many recommendations on how to achieve this task. This table outlines some of these recommendations

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| Recommendations to candidates who complete theses by publication |
| **Plans.** Candidates should be willing to work iteratively, perhaps starting to collect data before they have optimized the study. Perfectionism might delay the collection of data, perhaps impeding the capacity of candidates to complete a sequence of studies. |
| **Alternatives**. Candidates should always develop plans on how other methods they could use or studies they could undertake if some of the papers are rejected or other problems arise. |
| **Repetition.** The literature review before the papers and the literature reviews within each paper often overlap markedly. Plan these sections carefully so overlap is not extensive. Or change the emphasis or wording across these sections. |
| **Copyright:** Most publications will permit candidates to include their papers in their thesis. Nevertheless, you might want to seek guidance from the library about copyright or contact journals to seek approval. |

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| **Check the copyright of these publications** |

Either before or after you publish a paper, you should check the restrictions this journal imposes on authors. The vast majority of reputable journals will permit you to include this article in your thesis. Nevetheless, to check

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* if unsure, in the contacts list, identify the most suitable person to contact, and write the following

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| Subject: Clarifying whether I am permitted to include my work in a thesis by publication  Dear …  I am completing a PhD at Charles Darwin University. I am planning to submit a manuscript entitled “….” to your journal. I am enquiring as to whether I can include this paper, for an indefinite period, in an electronic version of my thesis—a thesis that would be stored in an open access digital archive at my university.  Kind Regards  … |

If you later discover that you are not permitted to include work you have already published in your thesis, seek an exception. That is, in the contacts list, identify the most suitable person to contact, and write the following:

|  |
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| Subject: Seeking permission to include my work in a thesis by publication  Dear …  I am completing a PhD at Charles Darwin University. My research thesis includes the paper entitled “….” that was published in this journal. I am enquiring as to whether I can include this paper, for an indefinite period, in an electronic version of my thesis—a thesis that would be stored in an open access digital archive at my university.  Otherwise, I would like to seek from you a limited, non-exclusive license, to include this work in an electronic version of my thesis. If you agree to this license, could you notify me in writing  Kind Regards  … |

Once you receive permission from the publisher to include these works in your thesis, you should refer to this permission in your thesis, often in a section called Declarations. You might write “I have received copyright permissions from the Journal of … and the Journal of … to include my publications in this thesis”. Alternatively, you could include this correspondence in an Appendix.

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| **Acknowledge the stipend** |

When submitting a manuscript, publishers will often prompt you to include a section called acknowledgements. In this section, authors tend to acknowledge

* individuals who helped you conduct the research but do not deserve authorship, such as laboratory technicians
* sources of funding

To illustrate, if you had received a stipend or scholarship, you might include the sentence “This research was supported by an Australian Government Research Training Program stipend from Charles Darwin University”.

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