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Understanding the PhD by Publication

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Abstract: *This case study refers to the submission of prior research for the award of PhD by Publication, and compares and contrasts this with best practice in conventional PhDs. Unlike a conventional PhD, which is usually taken at the beginning of a researcher's career, the PhD by Publication may be taken after a lifetime of research. The regulations governing such awards vary across institutions, but the award is often granted to very experienced research practitioners who have a track record of significant publication in their area of specialism, indeed they may already be leading authorities in their subject. There are several aspects of this relatively new award which are different to a conventional PhD. This case study details the approach taken by a candidate and his supervisor, and discusses the problems and opportunities that arise from this qualification.*

Keywords: *PhD by Publication, doctorates, training*

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Introduction

This is a case study of a PhD by Publication awarded by a UK university, and compares and contrasts this with best practice in conventional PhDs. Unlike a conventional PhD, which is usually taken at the beginning of a researcher's career, the PhD by Publication may be taken after a lifetime of research. The regulations governing such awards vary across institutions, but the award is often granted to very experienced research practitioners who have a track record of significant publication in their area of specialism, indeed they may already be leading authorities in their subject. Often the award is restricted to teaching staff of the institution, though this is not always the case. There is usually no requirement to undergo classes or training in methods and study skills, and there are several other aspects of this new award which are different to a conventional PhD. The publications which are the focus of the award are often bound into a thesis or portfolio which includes a newly written statement that sets the work in context. This case study details the approach taken by the candidate and supervisor, the principles that underpinned the decisions made, and discusses the problems and opportunities that may arise from this qualification.

Doctorates

Doctorates (in the UK) have been awarded for several centuries. Today there is a wide range of doctoral awards with different purposes and nomenclature. In recent years traditional forms of doctorate such as the PhD have been supplemented by equivalent awards at doctoral level such as professional doctorates which are often workplace-based related to the candidate's everyday work, and undertaken by part-time study. Similarly in art/design there has been growth in what are known as practice-based doctorates which may be the result of high level professional practice where designing or the candidate's own artefacts form a significant point of reference for the investigation (Durling et al, 2003). All these awards have an element of systematic inquiry which may lead to the award of PhD or ProfDoc, DArts and several more award titles.

The different types of doctorate have been summarised as:

PhD

Taught Doctorate

Doctor of Medicine

Higher Doctorates

Professional Doctorate

Practice-Based Doctorate

PhD by Publication

(taken from Green and Powell 2005: 47)

Even within PhD awards there are distinct differences of approach to being admitted to the programme: the coursework involved; examinations that have to be passed; as well as the kinds of methodological structures that are acceptable within that particular university culture. Some programmes appear to be more heavily taught, for example the model of PhD in the USA is predicated on taught methods classes which are taken prior to submission of the research proposal. Evidence from conference and journal papers suggests that more doctoral researchers across Asia develop their expertise in a specific design science mode than their counterparts in

Europe. Design departments in older UK research intensive universities perhaps have more prescribed process and outcomes than the traditional art schools which now sit largely within the new post-1992 universities.

This paper comprises a case study of best practice in the process leading to the award of PhD by Publication by an experienced designer. It is therefore not the purpose of this paper to compare and contrast each type of doctoral award, nor the differences between these programmes. However, before discussing the PhD by Publication it will be helpful to contextualise the more conventional PhD study in relation to this rather different and newer award.

PhD

The modern PhD is typically seen as demonstrating command over a narrow area of inquiry and, through persisting in rigorous research, to make an original contribution to knowledge. The PhD is primarily a training in how to conduct research. The period of study is usually accompanied by the informed guidance of one or more supervisors, some training in relevant methodology, and the acquisition of advanced study skills. A programme of research is proposed by the candidate and agreed formally by the host university, before the main study is undertaken. The outcome is usually a bound thesis which is examined by one or more external examiners, and subsequently by an oral examination of the doctoral researcher.

Over the past couple of decades, in the design sector there have been many debates, symposia, conferences, and journal papers dealing with the award of the PhD (Rust 2003)

Broadly, for the UK art/design sector and cognate departments, the award of PhD is a relatively recent phenomenon, arising partly from the growth of research following funding changes and the establishment of the new universities from the previous polytechnics, starting from about 1992. It should not be surprising that in a newly developing research domain, at the outset there will be few qualified supervisors themselves holding the PhD, and the nature of this new award might be debated in the context of traditional PhDs long awarded in older disciplines. Sometimes innovation has been hotly contested. The Jiscmail discussion forum 'phd-design' has been a major venue for such debates (phd-design) among a particular group of academics, as well as various conferences and doctoral workshops. National bodies have responded to such issues by publishing guidelines or regulations relating to the research student experience (for example AHRC; Vitae).

The new universities have responded largely by implementing formal doctoral training within design departments, for example by formal research training leading to a PGCert qualification for research students, and consortia arrangements to raise the quality and relevance of training (DART) among others. It is recognised that developments in technology, perhaps especially through digital media and communications, have opened opportunities for different kinds of doctoral processes and outcomes (IoE).

So, a typical PhD researcher may experience: a problem or question that they want to investigate and answer; will be given some training in study and research methods appropriate to their field of study; will undertake a prolonged literature search and review to establish prior and current art in the field; will propose and implement a research design and analyse its findings; and finally will demonstrate their process and original contribution to knowledge through a thesis which is substantially in written

form, and defend their position through viva voce (Durling, 2002). Typically, this process takes at least three years of full-time study, or 5-6 years of part-time study, guided all the while by one or more expert supervisors. There may be other checks and balances such as annual reviews or assignments that must be passed satisfactorily for the candidate to remain registered on the programme. There is therefore a formal training element to the study, though the extent to which the programme is taught varies considerably across the cultures of individual institutions and nations.

PhD by Publication

It is not uncommon among UK universities to offer another kind of PhD often known as PhD by Publication (or known by a number of other titles including PhD by Published Work(s) and PhD by Portfolio). This award has been linked with an aspiration on the part of institutions to recognise members of existing teaching staff who, for whatever reason, have not previously gained a research degree, yet have had extensive experience of practicing good quality research over a period of years. One justification for this approach is that in the more practice-based subjects such as design, it is common for practitioners to hold a studio masters degree but not a PhD, yet they may have learned research 'on the job' and have an extensive record of publication. In a few cases, individuals are recognised authorities in their subjects and hold professorships. Unlike a conventional PhD where a study is planned in advance, the PhD by Publication route is more akin to an APEL process (accreditation of prior and experiential learning) where the contribution to knowledge has already been made, and simply needs to be brought into a form that may be assessed (OCA).

Arising from the debates mentioned above, a body of literature has been published on the nature and standards of the conventional PhD. Conversely, relatively little has been published on the PhD by Publication. Given the large number of academics who will have entered the academy from a position of design practice rather than research practice, coupled with a university's need to accredit its research professionals, such a model of PhD appears timely and helpful to the sector in giving recognition to good quality research in whatever way it has been learned.

While the actual wording varies from place to place, a review of awards of PhD by Publication across UK Higher Education institutions showed a common set of expectations:

- the award is claimed to be equivalent to a conventional PhD by thesis
- the candidate must already have a substantial body of work in the public domain, often around a sustained theme or study over some time.
- the work must show originality arising from the application of independent critical power.
- there should be an identifiable contribution to knowledge.
- a written statement will be provided that sets the works in context.
- the whole (publications and contextual statement) will be brought together into a single work that is deposited in the university library.
- the bound work will be assessed by at least one independent external examiner, often two.
- the work will be assessed within one year (sometimes six months) of the date of first registering for the award.

There are however some significant variations in the regulations, for example:

- whereas some universities restrict the award to their own staff or those having strong connections with the institution, others will also accept external applicants.
- work in non-written form may be allowed, so long as it is capable of being assessed.
- some awards are conducted in collaboration with other institutions, with a variety of arrangements for supervision and attendance in the UK and overseas.
- some supervisors are named as such with a record of successful completions, whereas some are termed mentors which suggests perhaps a more light-touch advisory role.

Following enrolment for PhD by Publication, given that there is no requirement to undertake any training courses or further studies - it being presumed that the published work is already the product of someone of doctoral standing – it begs the question what is it that the PhD is being awarded *for*?

Compiling the Thesis

Beyond the particular regulations and institutional cultural differences, in advising a candidate there are challenges beyond those expected of a conventional PhD.

For example, a conventional PhD thesis can demonstrate the entire recorded process of study from proposal, through research design and analysis, to the final outcomes, and can be explicit about the original contribution to knowledge as well as strengths or weaknesses in the work, and give pointers to any subsequent future work yet to be done. Indeed, this explicitness may be seen as a model of best practice that is expected in many PhD programmes (Durling, 2002) Similarly, though non-written work (designed artefacts for example) might form a significant point of reference in a conventional PhD, in the interests of explicitness such work might be accompanied by a

meta-narrative detailing the research component and its outcomes. The research design may be purposely formed around providing evidence for such a narrative making explicit the investigative process and what was found. However, evidence of these aspects of the study may not be readily available through previously published works which may have arisen over many years around a diffuse theme or themes, and may not be the product of such a narrow well focused study.

It would seem therefore that the contextual statement, rather than simply introducing the work and setting it in context, is crucial in demonstrating the originality in what may be a loose collection of publications around a general theme, or an otherwise undocumented investigative approach that the researcher has undertaken over some time, possibly a lifetime.

Regulations are often vague about the contextual statement. For example, the then current regulations governing the award which is the subject of the case study below, make the following points. The whole submission is made up from the candidate's publications "...and a context statement undertaken... under supervision." The context statement should be between 10-30,000 words. There is a requirement that the publications and the context statement "...together are of the requisite standard...". The duties of the supervisor are to consist in "...assisting the candidate in selecting the publications or other public domain works for the degree, in formulating the scheme and rationale of the context statement, and in advising on any further reading."

In balancing the variables inherent in these regulations, perhaps particularly in respect of whatever it is that is equal to a conventional PhD, the interpretation of regulations made by the supervisor becomes crucial to the candidate undertaking the right amount of work on the contextual statement in order to introduce the publications and explicate the theme of the PhD. But compared with a conventional PhD, the supervisor may be dealing with a new qualification with few established exemplars of best practice, and regulations that can be ambiguous or opaque.

It follows that there are also as yet relatively few examiners with experience of PhD by Publication.

Against this background, in the case study below, we introduce the actors and their expertise, demonstrate the principles adopted, and outline the results. The full illustrated 'thesis' which was completed in 2008 is also online and may be examined in full (Wade, 2008)

The candidate

The candidate was at the time approaching normal retirement age as a very experienced lecturer in a post-1992 university department of art and design. He originally trained as a scientific illustrator, and for many years had undertaken illustrations of snakes which led to a fascination for the taxonomy of certain North African snakes with fieldwork centred largely in Algeria. Illustrative techniques and the visual recording of data captured aspects of the visual characteristics of snakes such as the shape, colour and distribution of scales. This experience led to an appreciation and deeper understanding of herpetological taxonomy at a time when he had increasing contact with established scientific researchers in the field, and a close association with the Natural History Museum in London. His observations and understanding led to the resolution of certain taxonomic problems, and he was able to make contributions to herpetology in which drawing was an integral part of the process.

This acquisition of a rich understanding of the general field of natural history, exemplified by long experience in the study of reptiles, led to development of a unique systematic method for processing scalation and other visible features, together with the development of a new method of reconstruction and analysis of dessicated and partial samples often obtained as road kill. This resulted in several published papers, two of which he was sole author in which a new species was discovered, and four which he co-authored in which another species was described.

The candidate's work has shown the value to science of an aspect of graphic art used as an analytical tool. The artistic output moved from descriptive recording to innovative mixed methods which have promoted novel conclusions.

The supervisor

The supervisor was at the time experienced in supervising and examining a number of successful completions of conventional PhDs and a professional doctorate, as well as advising previously on a mildly problematic PhD by Publication. He held practice-based graduate and postgraduate degrees as well as a conventional PhD undertaken in a leading design research department. He had a particular interest in doctoral training and supervision, and had initiated or been part of several debates at national and international level. However, he came to the supervision with no prior knowledge of herpetology or related disciplines.

The proposal

Initial discussions established a broad focus for the work that would be presented. It was clear that there were a good number of published journal papers from which a suitable selection could be made. There was never doubt about the quality or significance of the work: many of the candidate's collaborators and co-authors were among the top herpetological authorities in the world. Discreet enquiries by the supervisor confirmed that the candidate was one of possibly only a handful of persons working at that level in this topic anywhere in the world.

Initially, careful scrutiny was made of the university's regulations for the award of PhD by Publication. Several problems immediately presented themselves.

- there was limited guidance on what is appropriate. For example there were clear word limits for the contextual statement, but little indication of the required content of the statement.
- the claim was made that the award is equivalent to a conventional PhD by thesis, but it was not clear how that might be demonstrated. Given the often contested aspects of the PhD form in the art/design sector, equivalence is not certain.
- do the prior publications speak for themselves or is some commentary on the texts required, and if so how much?
- as the subject matter is at the intersection of graphic art and taxonomy science, there was a question as to the 'voice' that would be used, and for which audience? This of course is not unusual in interdisciplinary studies. It seemed that the thesis content might be of interest to both herpetologists and illustrators, but they approach the subject from very different angles and interests.

- there was a personal story to be told of the candidate's transition from observation through drawing to analysis, via what might be termed systematic drawing, and subsequent contributions to herpetology.
- the systematic method that the candidate had developed - predicated on intimate knowledge of herpetology as well as illustration - possibly needed explication beyond the published papers.
- the thesis would probably benefit from being rich in illustrations both as evidence and as a significant part of the narrative. This might also impact upon the 'voice' of the thesis and the relevance to its readers.

Finally, there was a steep learning curve on the part of the supervisor in acquiring sufficient knowledge of the scientific aspects of the study...

The approach

In comparing this work with a conventional PhD, a decision was taken to try to adopt best practice from the conventional PhD and bring this to the new award.

A well received basic model of conventional PhD study seemed to be exemplified in Perry's five chapter model which it is claimed is helpful in removing "much of the opacity and unnecessary complexity that disguises theoretical, epistemological and ontological inconsistencies in many PhD theses" (Love 2001). It is reported that this model has met with success in aiding doctoral completions in good time, and is thought to be clear and transferable to design research generally (ibid.). In brief, Perry's model may be mapped as follows:

- Ch 1 - Introduction (an executive summary of the research, outlining the research problem, the methods used, findings and their implications, and the boundaries of the investigation)
- Ch 2 - Literature Review (establish prior art in the field through discussing all relevant past and current work that may impact on the study)
- Ch 3 - Theoretical Perspective (sets out the methods chosen and how they were used)
- Ch 4 - Report of Data Collection (demonstration and analysis of what was found)
- Ch 5 - Conclusions & Implications (describes how the research questions have been answered, and sets out the contribution to knowledge, limitations of the work, and pointers to any future work.)
- References (full citations of the literature referred to throughout the thesis)
- Appendices (captures all the data collected, which might include a wide range of modalities)

It was therefore decided that, as far as possible and within the constraints of a thesis comprising minimally a single context statement plus some published papers, the intended content of the five chapter model would be covered. In other words, there would be an attempt to capture the salient points that would be present in a high quality conventional PhD thesis, and to demonstrate as far as possible the kinds of process/findings that might be found in such a thesis thus establishing exemplary practice in a PhD by Publication. These points were identified initially as follows:

- in setting the context to the collected works, detail the background to how the work started.
- be explicit about the contribution to knowledge.
- tell the story of the methods that have been developed in terms of graphic analysis as well as reconstructive methods.
- finally, introduce the publications and offer reflections on their significance.

The thesis

After careful consideration, seven published papers were chosen as representing the candidate's contributions to herpetology, as well as providing a pathway for explaining the development of his systematic methods. The publication dates of these papers ranged from 1976 to 2004.

It was decided that the contextual statement should cover the bases of the Perry five chapter model as appropriate and stated succinctly in summary. There was however considerable work in pulling together the narrative and in seeking out evidence of the research through illustrations used in the published papers. As the illustrations were a significant point of reference, it was important to trace them all, find originals, and be in a position to explain their contribution in detail.

All of this took a great deal of time, and the expectation implicit in the regulations that submission might take place within a few months of enrolment was not met. The entire process took nearer two years in total. This was not an easy option.

Much time was spent in compiling, reading and modifying drafts. This was important to get the right voice that would be understood by diverse audiences, and to make the writing succinct. The candidate naturally writes a terse form of English, so exceeding the word count was not an issue, but rather how to make it credible to scientific readers and readable to non-scientific audiences. The final word count for what became an introductory chapter was around 13,000 words therefore at the low end of the scale, though this fact masks the considerable efforts made to make the narrative as simple and clear as possible. Eventually this was distilled to just four main sections:

1. context statement (background)
2. contribution to knowledge (value of art to herpetology)
3. methodology (graphic analysis + reconstructive methods)
4. the published works (factors which led to the publications + reflections on the publications)

There were also extensive references and appendices including a carefully constructed glossary, and some pointers to future work.

Though the host university had a requirement for depositing a paper based bound thesis in its library, it was seen to be important to establish a digital version in order to make the work widely available. The detail and subtleties of the original illustrations warranted scanning at high resolution, but this produces large file sizes. The thesis was produced as a paper printed version for examination and deposition in the university library, and also produced in a compressed digital version for permanent archiving in the university's e-prints repository (Wade, 2008)

The examination

Under the host university's regulations, as the candidate was a member of academic staff examination of the thesis and the subsequent viva voce was to be conducted by two external examiners. It was preferred that one examiner should cover the design aspects of the thesis, while the other covered the more scientific aspects. The thesis had to be credible in both spheres. Two experts were required who would be rigorous, yet comfortable with the interdisciplinary nature of the work. Choosing examiners presented difficulties. The candidate was a well known authority, so it was difficult to find a scientist with appropriate qualifications and experience who had either not worked with him at some point, or who did not know of his work. Similarly, there were difficulties in finding a designer with a graphics research background and suitable qualifications. A search for examiners with previous experience of examining a PhD by Publication proved fruitless.

Following the viva voce helpful suggestions by the examiners, some restructuring and re-wording of the written text was made, especially to clarify what was being claimed as an original contribution to knowledge, and particularly to strengthen the candidate's claim to having developed a unique graphical analytic method. These improvements were made, and the revised thesis was approved and the PhD awarded.

Conclusions

Some findings arising from a brief review of regulations for the PhD by Publication have been given, and some ambiguities have been highlighted. It is possible to find a generic model of best practice in the conventional PhD, this has been declared through discussion of the Perry five chapter model, and the adoption of its principles mapped on to the purposes and content of the thesis described here.

Time and evidence were perhaps the greatest factors. The effort involved in pulling together a suitable narrative at this level, and providing evidence of work completed over a long period of time, is not trivial. The standard of research submitted for an award of this kind should be high, however this is influenced heavily by several factors including the advice provided by supervisors, the position taken by examiners, as well as the requirements of specific regulations.

In this particular submission for PhD by Publication, there was an attempt to produce an exemplary thesis, unambiguously of doctoral standing, and to set out some principles for the interpretation of regulations and supervision of such awards. The extent to which these aims have been achieved may be judged from the published copy of the thesis. University regulations should be clear on these points.

Overall, if it is done well, this award is not an easy option and may require a large effort of further work to get evidence into a form suitable to be submitted.

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