

Discourses on Research and the PhD in Design

David Durling

In the UK there has been considerable debate in the sector of art and design about the nature of research and how this relates to the PhD. In recent times, this debate has been conducted internationally, and differing expectations have emerged. The debate has been conducted largely through two major international conferences held in Ohio, USA (Buchanan et al 1998) and at La Clusaz, France (Durling and Friedman 2001), and through various e-mail discussion lists, for example “DRS” leading up to the La Clusaz conference in July 2000 (DRS 2000) and more recently “PhD-Design” list (PhD-Design 2001). The third conference, Doctoral Education in Design, is due to be held in Japan in October 2003, organised by the Asian Society for the Science of Design. This paper attempts to outline and reflect some of the main issues arising from these discussions, together with the direct experience of the author and colleagues. Though it focuses on design rather than art or performance, these are nevertheless issues which the whole of the sector is continuing to struggle with and debate.

Historical background

Most current art and design provision has arisen from the long and rich traditions of the art schools, many of which go back well over 100 years. Most art schools were absorbed into what were previously polytechnic departments, though a few mono-technic art and design schools remain, usually with their degrees validated by local universities. So, the great majority of art and design is within the post-1992 modern universities.

Until the 1960s, it was not possible to obtain a first degree in design or, with a few exceptions, in art. There was a tradition of institution-specific awards and a nationally accredited award known as the National Diploma in Design (NDD), a vocational qualification in the tradition of mastery of craft skills. Following a major review of art and design provision, a new, more academically based award was established, termed the Diploma in Art and Design (DipAD). This arose from the traditions of the NDD but had a more comprehensive “liberal studies” component intended to establish the historical and theoretical background which would contextualise practice. The DipAD was eventually replaced by a BA (Hons) following further curriculum realignment to meet the standards required of an undergraduate degree. With the establishment of the former polytechnics, the Council for National Academic Awards (CNAA) monitored degrees in this sector at a time of considerable change. The transition from vocational diploma to undergraduate degree was accompanied by considerable debate about the intellectual and academic imperatives of degree level education which design had to accept. Later, Masters degrees were added and, in spite of occasional resistance from the older universities, PhDs as well. Design degrees have, therefore, been around only for about three decades. Doctorates in design have a shorter history, with apparently a considerable increase in the volume of PhD students over the past few years.

By contrast with design in engineering or architecture, and with few exceptions, art and design has not been notable as a domain with a well established research ethos. There has, however, been a long tradition of individual tutors undertaking professional practice, either personally-oriented or commercial, as a means to keep their professional skills up to date (and sometimes simply to earn extra money). Practice is an important way in which design educators can keep themselves abreast of the latest thinking and techniques, which directly informs teaching and thereby benefits students. Development through professional practice has typically been the case in areas such as art, crafts and graphics, but perhaps less so in product design.

Sources of funding for research activity had always been minimal, but with the coming of the Research Assessment Exercise (RAE) and the formation of the Art and Humanities Research Board (AHRB) a few years ago, this has changed recently for the better. It now seems evident that the RAE has caused a considerable up-swing in both the volume and the quality of investigative activity of all kinds within the subject area. There was a considerable increase in the number of institutions submitting in 1996 in the art and design unit of assessment, and an increase in the

volume of research active staff returned in 2001. Research activity, in all its manifestations, is increasing steadily. In this newly competitive environment, departments are seeking to position themselves advantageously and this has led – or is leading – directly or indirectly to the establishment of doctoral programs specific to art and design. Though not yet a full research council, the AHRB has had a major impact in promoting research activity. For many departments, the twin funding sources of RAE and AHRB have provided the first substantial external income for research in art and design. It is clear from the considerable efforts now being made by design departments that research is being taken very seriously. However, as a young domain it is perhaps to be expected that the nature of research and the robustness of related research degrees is still being debated, and that is the case at the present time.

Confusion

Art and design covers a considerable range of work across 2D, 3D and time-based media design, fine art, and cultural, theoretical and historical studies. Some areas such as history of art and design have a longer timeline of robust scholarship, whereas areas that have been consolidated somewhat later are still establishing a track record of research activity.

Any discussion about research in design is prone to significant misunderstandings. Among the reasons for this state of affairs is that the domain of art and design is relatively new in a university context, and the nomenclature and processes typical of subject areas with a long tradition of research not yet been established. Given the history of limited research culture, professional practice rather than research and few staff who are qualified at the doctoral level, it is to be expected that deep understanding of the nature of research is limited. In drawing guidance on research and related degree studies, many staff seem not to have more than a surface knowledge of research in other fields. Discourse is characterised by many fundamental misunderstandings. For example, some will state simply that practice is research (for example PAPIR 2001), based on a notion that all designing is necessarily investigative. Some design practice is demonstrably investigative, but presumably there is routine design just as there is routine sampling of testing in other domain. Some design is experimental and may have the gaining of new knowledge as one of its goals. However, it surfaced in RAE 2001 that there were many outputs which clearly could not be defined as research (HEFCE 2001).

More worryingly, it is possible to identify several category mistakes (Ryle 1949) at a profound level. The old joke that “she came home in a flood of tears and a sedan chair” illustrates the absurdity of conjoining terms of different types. But this is exactly what happens in art and design, with the result that the term “research” means different things to different people. For some it refers to principles and more objective findings, for others it means subjective opinion. For some it is grounded in appropriate methodologies and well tried methods, for others it is a personal

journey. For some it refers to outputs that are blind reviewed by peers (for example papers in research journals), for others it means review by journalism (for example newspaper reviews of exhibitions). For some, the outputs from research are published and constitute an enduring and searchable record, for others it is personalistic development that gains tacit knowledge for the individual but is not available for other scholars. Many of these confusions have surfaced in the various e-mail discussion groups (DRS 2000, PhD-Design 2001).

Various bodies, notably RAE and AHRB, have defined research for the purpose of assessing the quality of outputs or making judgements about funding applications. Some will take these criteria to be exactly the same as criteria for the kind of research that might be conducted for a PhD study. This is absurd. There are many kinds of research, ranging from information collection at one extreme to Nobel Prize winners at the other (Langrish 2000). The PhD form dictates another, particular form of research suitable for a training in research methods. The derivation of appropriate research for the PhD resides from the long tradition of philosophical inquiry across various disciplines. The form of the PhD stands there for all to use. It is neither simple information collection, nor does it normally lead to Nobel awards. The definition of research for the RAE (HEFCE 1999) – for example – arises from a different motivation and includes elements of practice and procedures that would be unsuitable for PhD study. This confuses RAE research or AHRB research with the kind of research conducted for the PhD which is represented in one logical type or category (or range of types and categories) when it really belongs to another. The rather liberal interpretation of research that is suitable for an RAE assessment or an AHRB funding application might be quite unsuitable for a narrower and more specific research training focus of a PhD study.

It is clear that, depending on the subject area and its traditions, there are several interpretations of the term “research”. Some definitions are suitable for the assessment of bids for funding purposes, whereas other definitions are suitable only for very specific research studies such as those undertaken for the PhD. Some practice may be routine practice, some will be investigative and so it will have a declared research intention, whereas some research will be the kind that is suitable for a PhD investigation. These various uses of the term research should not be confused. The reasons for research are to provide reliable evidence, disseminated widely, that is reusable in some form by others (Cross 1991). Research has goals quite different to those of practice. Research asks questions, selects appropriate methods, tests the questions, analyses the result, and disseminates the conclusion unambiguously. In so doing, the best research lays bare the bones of the processes of investigation, and discusses the strength and weaknesses of the results. It lays down reliable knowledge that future researchers may follow, and methods that may be repeated if necessary. Practice does not normally have these goals, and the reasons for practice are quite different. They may involve a personal journey, a burning desire to be the best designer, the development of a new technology, some functional improvement, or simply earning a living. These are not necessarily lesser

goals, but they are different categories of creative endeavour, and should not be confused as being identical categories.

Practice-based PhD

In recent years, the sector has seen considerable growth in PhD studies. Much of the focus – and one of the most debated and contentious points – concerns what have been become known as “practice-based” or “practice-led” PhDs. These terms are widely applied to research in art and design, though rarely are they defined adequately. They refer to a study where practice is used as an interrogative process. Some therefore see practice as a research method in its own right. The intention of such study seems to be to develop high level practice. Of course, under certain circumstances, practice may form a part of a PhD study either through being structured as method for collecting data systematically or as a means to allow structured reflection upon practice.

A PhD study is primarily a training in research, though this is often overlooked. Through the study of methodology, and practice in the choice of implementation of suitable research methods, the candidate comes to understand the methodological context and is able to demonstrate the application of suitable methods.

In addition to evidence arising from e-mail discussion groups, there have been more formal attempts by a small number of European universities (CDA group) to assess weaknesses and promote best practice. In addition, Staffordshire University School of Art and Design has invited several recent PhD holders to participate in seminars on the processes and outcomes of their practice-based PhD programmes. It will be immediately apparent that there are some very real problems in reporting these findings, as institutions and individuals will not want to be named. Nevertheless, there are some interesting findings that have emerged from these various sources. In several universities it is clear that PhD candidates have been taken on without adequate resources in place to handle supervision at this level. One gets the impression that for some departments, the introduction of doctoral candidates in the early 1990s had been “to get research going”, with little understanding of the needs for research methods training and the provision of adequate supervision either through existing PhD holders or through specific supervisor training programmes. Such resources cannot be invented overnight, nor can they be achieved cheaply.

A number of successful PhD candidates reported not having had a single day of research methods training. Indeed, in the preparation of this paper, another candidate, at the end of his first year of PhD study and who had just presented at a conference with the argument that practice and research are identical processes, also confirmed in subsequent discussion that he had no research methods training whatsoever – and this in a department that has reported expanding its doctoral number significantly over the past couple of years, it is a problem that appears to be continuing.

From the, as yet, small number of cases published, many practice-based PhDs seem to have been dominated by *ad hoc* “investigations” through practice, based on loosely defined research questions. There is of course eclecticism about art and design practice which is wholly appropriate to the nature of creativity in the subject. This is, however, quite inappropriate to research, where it is necessary to sustain a focus over a period of time in spite of many diversions and opportunities that will present themselves along the way. Research is not eclectic, but more appropriately it should be systematic. Part of responding to problems of rigour lies in defining suitable research questions and this is not a trivial task. One of the ways that candidates learn how to sustain their study is through the very clear articulation of their questions, and this may involve formal systems for their refinement (Poggenpohl 2000).

It has become fashionable in practice-based research to undertake a “contextual review” of the field of study, rather than a full literature review. The purpose of the contextual review is said to be to locate personal practice in a context that the researcher considers to be the research field. Such a review seems typical to be a loosely structured survey, and it is not intended to be exhaustive. This poses problems of reliability concerning the original contribution to knowledge. It is possible to demonstrate an original contribution only if such a contribution can be compared with the state of knowledge in the field in the period preceding the study. For example, one well publicised thesis arising from a practice-based study provided evidence of only a handful of sources. One of these (the ARIAD index) (<http://www.ariad.co.uk>) is known to be incomplete, although this was not highlighted by the candidate. The finding from this limited search was that no other work was found that related to the topic under investigation – this was hardly surprising. Conversely, a little enquiry around the topic by an experienced researcher highlighted more than 100 potential sources (Friedman 2001). Experienced examiners have also pointed to the inadequacy of many literature searches to establish prior art sources (for example, see Archer 2000). The contextual review, in the form evidenced in current practice-based PhD completions, seems often inadequate for a research degree.

Sometimes, as indicated above, a research degree study will include an element of practice. This might, for example, include the design and construction of an artefact as a significant part of the research. In apparent recognition of the labour involved in the production of an artefact, some university research degree regulations permit the partial or full replacement of written thesis by the submission of related artefacts together with a thinner text. For example, a written thesis of say 10,000-20,000 words, and this raises a number of issues. Some believe that a written thesis is the only way to demonstrate thinking and the process of research with sufficient clarity. So, is it really possible to articulate an argument with the clarity required of a PhD study in so few words – especially where a main outcome of a qualitative study lies in clear explanation? What of reporting the extensiveness of a literary review?

Another issue concerns the “talking pot”. If a pot were exhibited as part of a PhD portfolio, and it were the end point of a line of investigative activity, will it speak to an examiner (otherwise well versed in the pot’s “language”) with sufficient articulation of the argument? Will it be able to speak for itself about all the processes of research and development that have led to its creation – that is, will the research be evident in the pot by itself? Traditionally, the thesis is examined and approved in outline by external examiners before a *viva* – will the pot be so examined too? What if it is a whole roomful of pots that requires more than one visit by an examiner? How is the exhibition to be recorded for future scholars? For those who believe that written thesis is the only way to capture the whole process of the study in a single, enduring and searchable medium, is it possible to reconcile this with the slim text, the exhibition as an output (unless it is recorded fully in the thesis) and with the taking pot itself?

Issues of quality assurance

It seems that in art and design there has been haste in implementing new forms of PhD without sufficient planning and without due regard for the long history and nature of PhD in other disciplines. Several experienced researchers have commented on problems of the PhD in UK universities (Archer 2000, Langrish 2000) and there are at least two substantial archives of e-mail discussions – I will not deal with these points here as the whole discussion is available for public scrutiny (DRS 2000, PhD-Design 2001).

There are wide variations in requirements for the PhD in both design and in art across UK universities. On the one hand, some will point to their universities as having already modified their regulations to allow for exhibition of artefacts together with a “thin text” such as a catalogue. At one art school there is no requirement for a written text at all. This does not meet the requirement for a PhD thesis (in the sense of argument) to indicate in some detail the process of investigation, including defining research questions, the establishing of prior art sources in the field, the choice and justification of methods used, the collection of data and their analysis and the forming of generalised conclusions that add reliable and replicable knowledge to the domain. The use of the artefact in exhibition as a submission for the degree has arisen from an earlier regulation of the CNAA that Langrish (2000) has pointed out is badly misunderstood and that it should be removed. There is also the not inconsiderable requirement to publish the process and its findings for future researchers to follow and build on.

All this is in marked contrast to the care exercised in creation and approval of doctoral programs internationally. For example, in the USA there are very clear approval mechanisms for doctoral programmes in specific subjects, and for regional accreditations (Kroelinger and Giard 2000). So, for example, a design school would, over several years, propose and develop a structured programme of doctoral

studies. This will include ensuring a suitable infrastructure for the support of research students, appropriately qualified supervisors, and a comprehensive research methods training. There is a motivation to ensure the very highest standards lest a doctoral programme in one area should reflect badly upon the university as a whole.

A PhD model

Within the School of Art and Design at the Staffordshire University we have been engaged in, and been informed by, the various public discourses outlined in this paper.

The outcome is that we have published a statement about the kind of PhD study available within the school. We have chosen not to deny practice-based work (practice may form part of the PhD study, though only under certain conditions), but instead to articulate carefully the nature of PhD study as a research training, and to clarify expectations in terms of thesis and examinations.

In outline, this specification expects that a PhD candidate will:

- Undertake generic research methods training – this should include a grounding in research methodologies generally and the nature of philosophical inquiry relevant to the field of study;
- Undertake a specific research methods training closely related to the topic under investigation;
- Identify and propose a well focused problem worthy of investigation;
- Articulate the research questions carefully via a formal structure to develop and refine the questions;
- Establish a theoretical framework within which the study is conducted;
- Clarify the aims and processes of the study by formal registration;
- Undertake a substantial literature search to establish prior art in the field – this will be an extensive review which normally draws on a number of sources and seeks to establish all previous and current works in the domain under investigation that precedes the candidate's own contribution to knowledge;
- Identify the research method(s) to be employed and select suitable method(s);
- Determine the form of data collection – which may be an experiment, survey or observation etc. or reflection on practice, if conducted systematically and objectively;
- Explain how the method(s) were used and articulate the problems and limits of the method(s) used;
- Explain the findings and, in detail, the data collected, their analysis, and their robustness;
- Answer the research questions unambiguously;
- Articulate clearly the contribution to knowledge and explain the generalised findings from the research;

- Explain any problems and limits to the study as a whole, and suggest future work to be done;
- Evidence the work done through a thesis of appropriate length that should fully articulate the thinking through the medium of words;
- Publish the thesis as an enduring record which is searchable and accessible publicly;
- Use appendices to record any additional material, for example collections of raw data;
- Contain all evidence within the thesis;
- Submit the thesis for examining by an external examiner(s);
- Participate in an oral examination (*viva vocae*)

It is anticipated that, through these explicit statements of what is expected of a PhD candidate, any misunderstanding about the process and expectations of the PhD will be avoided, for further detail see ARI Web site (<http://www.ari.staffs.ac.uk>).

Conclusion

We have seen how various confusions about the emerging PhD in Design have arisen. It is perhaps to be expected that with so little tradition of degree level study in design behind us, let alone doctoral study, we are still groping towards appropriate paradigms for research in design and its related PhD.

In the face of misunderstandings about the nature applied to the PhD in Art and Design, it is perhaps unfortunate that there is no longer a national monitoring of curriculum design and outcomes in research degrees such as used to occur once through the CNA and its committees. This is not to say that the PhD in Art and Design cannot and should not be developed. Of course it can, and it will. But given that the sector is relatively new to research, it would seem prudent to establish some robust doctoral programmes based on tried and tested precedents, before embarking on changes that threaten the reliability of the knowledge base that the field needs. There is also currently the potential to educate inadequately a generation of researchers for the difficult task of being professional researchers.

There may well be new insights about the built environment that will come about through new methods rooted in the way designers think. Given the long history of the academy, of research in many fields, of the special form of the PhD as a training for research and the relatively short period of time during which there have been degrees (let alone PhDs) in art and design, we should tread carefully. It behoves us to approach our highest degree, the doctorate in research, with careful consideration of the special nature of study and to ensure that it provides the very best training and practice in research methods.

This article was first published in:

Durling, David. 2002. Discourses on Research and the PhD in Design. *Quality Assurance in Education* 10 (2):79-85.

References

- Archer, B. 2000. A background to doctoral awards. In *Doctoral Education in Design: Foundations for the Future, 8-12 July, La Clusaz*, edited by D. Durling and K. Friedman. Stoke on Trent: Staffordshire University Press.
- Buchanan, Richard, Dennis Doordan, Lorraine Justice, and V. Margolin, eds. 1998. Doctoral Education in Design. In *Proceedings of the Ohio Conference, Octobre 8-11, 1998*. Pittsburg: Carnegie Mellon University.
- Cross, Nigel. 1991. *Editorial in Design Studies*. London: Elsevier.
- DRS. 2000. Internet discussion prior to La Clusaz conference. 7.april. Available from www.jiscmail.ac.uk/lists/drs/2000-04/0001.html.
- Durling, David, and Ken Friedman, eds. 2000. *Doctoral Education in Design: Foundations for the Future, 8-12 July, La Clusaz*. Stoke on Trent: Staffordshire University Press.
- Friedman, Ken. 2001. From PhD-Design Archive [internet]. Available from www.jiscmail.ac.uk/cgi-bin/wa.exe?A1=ind0107&L=phd-design&F=&S=&O=A&H=O&D=O&T=1, 25 July.
- HEFCE. 2001. REA 2001 [internet]. Available from www.rae.ac.uk/
- HEFCE. 1999. REA criteria, UoA 64 Art and Design [internet]. Available from www.rae.ac.uk/Pubs/5_99/RAE5_99.doc
- Kroelinger, M., and Jaques Giard. 2000. Initiating an interdisciplinary doctoral program: perspectives from a new program. In *Doctoral Education in Design: Foundations for the Future. 8-12 July, La Clusaz*, edited by D. Durling and K. Friedman. Stoke on Trent: Staffordshire University Press.
- Langrish, J. 2000. Not everything made of steel is a battleship. In *Doctoral Education in Design: Foundations for the Future, 8-12 July, La Clusaz*, edited by D. Durling and K. Friedman. Stoke on Trent: Staffordshire University Press.
- PARIP. *Practice as Research in Performance Symposium*. 10-11.november [internet] 2001. Available from www.bris.ac.uk/parip/sched.html.
- PhD-Design. 2001. E-mail discussion group [internet]. Available from www.jiscmail.ac.uk/lists/phd-design.html.
- Poggenphol, Sharon. 2000. Constructing knowledge of design, part 2: questions - an approach to design research. In *Doctoral Education in Design: Foundations for the Future, 8-12 July, La Clusaz*, edited by D. Durling and K. Friedman. Stoke on Trent: Staffordshire University Press.
- Ryle, Gilbert. 1990. *The Concept of Mind*. London: Penguin Books.

Summary

Art and design has recently seen considerable growth in PhD studies and in the UK the sector has been at the forefront in developing practice-based doctorates. There is an ongoing debate about the nature and quality of these PhDs. There are residual confusions about practice and research, and wide variations in requirements across the universities. In the UK, design has a long tradition of vocational education arising from well respected art schools, which for the most part have been absorbed into the modern universities. Generally, the award of first degrees across mainstream design dates back only three decades, the award of PhDs less than one decade. There is still a shortage of experienced supervisors and examiners who themselves hold the PhD and have deep knowledge of the process. A model specification defines clearly what is expected for the award of PhD in Art and Design.