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Design Research and the five-legged dog

In design there are several ways of defining 'research' and there exist several traditions as to how research should be carried out and to what degree research training should be given. From a developing personal perspective, this paper examines some of these issues. The ideas have evolved over the past few years following many discussions with colleagues and those involved in both research training and professional practice, undergraduate and postgraduate students of design and perceptions from those working in disciplines other than design in the UK, Europe and Australia.

Some of these issues are then set in the working context of the discipline of design at The University of Newcastle that now finds itself within a new school that includes the discipline of Information Technology, the school being one of five that make up a new Faculty of Science and Information Technology. These alliances provide for many opportunities, however there are many inherent issues, particularly at RHD level where knowledge and methodology has a tradition of being viewed from a scientific perspective.

The paper makes reference to a parallel situation in the very recent past from a QAA Subject Review of a similar school at a university in the UK with which the author was closely involved.

The paper concludes with a call for greater ongoing communication between schools of Art and Design in Australia on their research activities and issues and proposes a catalyst project that may well be of assistance in this.

PAPER

Design Research and the five-legged dog

If we were to call a dog's tail a leg then how many legs does a dog have? Most would say the answer is 5. But of course the real answer would be 4. We can call the dog's tail a leg as much as we like but in reality it remains a tail and not a fifth leg.

The same can be said of research in design, we call many things 'research', but what is it really?

The exploration of doctoral level studies in design is an unusually complex and sensitive topic raising a number of issues about regulations, examinations, supervision, funding, submissions and equivalence between both similarly named and different types of doctorates in the same and different disciplines and for many schools of design who are exploring doctoral level work for the first time these basic considerations have become major issues, particularly where traditionally the 'research' activities of these schools have centred upon practice, consultancy and exhibition and not publication.

Within design, the activity of 'research' is often seen and understood as simply information gathering, which is a more or less natural part of any project, whatever the discipline. 'Researching into' or collecting information, even when this results in a tangible product or outcome is very difficult to justify as valid research and is even more difficult to publish. Whereas, a systematic enquiry that follows a more scientific method is more readily acceptable for publication, but this method is often unfamiliar to many students of Design. A third option follows Dearings definition "*research where the end product is an artefact where the thinking is ...embodied in the artefact, where the goal is not primarily communicable knowledge in the sense of verbal communication, but in the sense of visual or iconic or imagistic communication*". The outcomes here may be communicable through performance, installation and exhibition, either real or virtual and this definition of research traditionally would align itself most closely with the activities undertaken in most schools of design.

At the time of writing, there appears to be no nationally accepted framework and typology of postgraduate awards in design in Australia, as is the case in many other countries. There is a variation in both what constitutes a PhD in this area, the relative significance of practice-based work and written components and their criteria for examination. As the form of the PhD can be so diverse, the purpose and scope of the study may be often misunderstood, this may well be due to fact that so many supervisors of Research Masters and PhD candidates in design do not hold an equivalent research degree themselves, this in itself is a contentious issue.

The issue of appropriate supervision and examination for PhD candidates will differ from institution to institution. As universities in Australia differentiate themselves it may be opportune to identify existing particular strengths and build on them, only offering Research

higher degrees, including PhD supervision that is defined and agreed within the context of our own institutions and upon careful consideration of the expertise of staff and the appropriateness of available resources.

Newcastle

Doctoral degrees in design at the University of Newcastle have been in place for two years. The format is that of negotiated study in FT or PT mode, with regular but as yet undefined contact between the supervisory team and the candidate. The scope of research at Masters and PhD levels across design is diverse encompassing both practice-based and empirical work. There are currently three PhD candidates, one candidate is at the examination stage, the field of study is Illustration and the body of work comprises a substantial exhibition of artworks and an 80 000-word thesis.

The discipline of design at Newcastle is currently experiencing many issues concerning supervision and appropriate examination, in particular where it is submitted that the written thesis should be regarded as 'supporting' the artworks and not the other way around. This issue should now be resolved by the preparation of a document from the Research Higher Degrees Office, a briefing' to examiners to explain the relationship between written and practice-based work components of PhD submissions.

The addressing and resolving of these issues is now a priority for the discipline of design that due to a recent university restructure now finds itself alongside the disciplines of communication and information technology within a school of science and information technology where the perception of Dearings definition of research is perhaps misunderstood and under valued.

The misunderstanding may in part arise from the belief that only those disciplines where the scientific method can be applied in reasonably direct form should give rise to a PhD rather than the belief that any and every discipline can give rise to a PhD award.

This is an interesting point as the 'scientific method' has itself changed over recent years, taking onboard qualitative research methods, particularly in the social sciences, humanities and arts. This has led to less obsession with the need for experimental control and a willingness

to step out of the lab to test such theories they are created are indeed applicable to the real world outside.

There is a common perception by potential RHD students and practitioners of design that far a great deal of design research consists of examining design theory, which is based on yet other design theories. Of course, design theories are important and can be regarded as helping us to organise what we already know and as a means of helping us ask further questions that will extend the boundaries of what is known. In this way theories in design and the creative arts stretch and grow and become dynamic, quite different to Karl Poppers view of good scientific theory in that it should be readily falsifiable. All this is of course important, but it is at least as important that design research should also concern itself with the validity of such theories in the real world through application and practice.

I believe that the faculty of science at Newcastle is attempting to understand the nature of the work of design, it's teaching and it's research and to express that understanding in coherent ways across the faculty both in terms of its encouragement through teaching buy out, research training, supervisory training and reasonable expectations of both students and staff undertaking higher degrees in design. Design, in turn I believe, should learn to come to terms with science.

Much of science is governed by well understood, proven and accepted laws. Design, unlike Physics and Chemistry for example, apparently does not have any laws, laws being the descriptions of regularities that occur across a wide range of observations, an atheoretical approach that summarises data rather than explains it. If the design process were more quantifiable, as Bruce Archer attempted to show in the 1980's where 'utility theory' was applied to the design process, then some of the issues outlined above may not be issues.

Less than 100 years ago the discipline of psychology was in a similar position. The scientific community considering the study of the workings of the human brain and memory being far too complex to study and quantify. Psychology went ahead and carried out research in it's own way, explored empirical findings systematically and expressed them clearly and succinctly, this together with a real attempt at understanding and explaining the field to others allowed it to flourish and grow and become established in credible and wholly acceptable areas of research.

I believe that there can be wonderful and fruitful alliances between design, the creative arts and the sciences. For this potential to be realised an understanding, acceptance and celebration of the differences between these disciplines must be achieved and their respective research activities be afforded the recognition they deserve. Interdisciplinary work and communication can help this process.

A recent UK scenario

Research in design is a current issue for many universities in the UK as are most practice-based doctorates in the creative and performing arts.

A case in point is a UK university with very similar issues to The University of Newcastle in many respects.

Again, from a university restructure came a new school, of which design was and still is a major component. In the midst of a Quality Assurance Agency review, similar to those of AUQA in many respects, the new school worked upon a strategy to develop its research activities and examine how to attract further research funding and to enjoy improved regional, national and international recognition for their work. They decided that they should look at 'research' as an intrinsic aspect of all school curricula and identity. This imperative was all the more important as it was felt that the university ethos as a whole did not fully promote research as much as it might in relation to its work and outlook.

Clearly, 'research' did underpin a number of the universities key initiatives and its directive towards widening participation and life-long learning must necessarily embrace the relationship between 'research' and successful community-orientated and recruitment initiatives. The school, if it was to have an important role in those developments, found it crucial that the work of individual researchers is known to others and opportunities for discussion and collaboration inside and outside the university be seized and embraced.

Research was largely contextualised within the broad envelope of the UK Research Assessment Exercise (RAE) the outcomes of which determined government research funding to universities. It was therefore limited to discipline and subject teams as these were the categories for the RAE. It was considered important that while the

needs of the RAE needed addressing , equally they must explore a more open address of the potential for collaborative research between disciplines within the new school with a view to bringing additional benefits and rewards.

A school Research Development Group (RDG) was established to promote a school-wide research culture and formulate some initiatives to 'foreground' research as a significant area of shared interest, debate and possible collaboration. It was hoped that such initiatives would serve to signal an appreciation of the value of such work and encourage school staff in developing their research in full recognition of its value to themselves, to students, to other staff and to the school itself.

It was considered a priority that staff should be able to show the significance and distinctiveness of their own work as part of the curriculum they deliver. Only by demonstrating the quality and uniqueness of this work and the success that has been achieved could the school consistently enhance its profile and define its identity in an increasingly competitive environment.

It was agreed across the school that 'research' should not only embrace government funding and curricula criteria but it should be one of the discursive and working currencies of the school, and an agent in potentially bringing together some of its more diverse aspects. Among the ideas that emerged to speak to this idea were:

1. The development of a range of practices where staff may know of and exchange ideas about their research interests. This was done in a number of ways, for example, in a cross-disciplinary forum, a 'themed' interest group, etc. Such initiatives were also supported by a basic school publication including statements by staff about their own research interests and proposed initiatives. This information was to become available on the school website thus promoting the research activities of the school to a wider audience.
2. The development of an in-school conference day(s) which was structured to facilitate the ideas and needs of the researchers in the school. As well as presentations by researchers, this involved talks on funding issues, cross-disciplinary research strategies, and preparation of strategic and grant proposal documents, etc. The conference day's also involved case studies looking at the

way research can underpin curriculum development, how 'research' translates into papers and publication, and models of collaborative research activity.

In summary and regarding the provision for doctorates in design, it is clearly important that both the supervisory and examining team should be constituted to reflect the nature of the submission and also the award and would need to include those qualified in the relevant academic research and typically, those qualified in the professional practice of the subject.

It is important to focus on existing strengths even though this may result in a lower critical mass initially it best forms the basis for the kind of doctoral work that can be adequately supervised.

A full understanding of staff expertise and experience simplifies the task of accepting a PhD candidate or requesting that they modify their proposal or apply elsewhere. A greater appreciation of design research expertise and activities across Australia would help with the latter.

Nationally, design should work towards developing subject specific criteria for excellence within the field and compliance with the three principles underpinning a PhD award, those being:

1. The submitted work must make a recognisable contribution to knowledge and understanding in the field(s) of study concerned
2. The student must demonstrate a critical knowledge of the research methods appropriate to the field of study.
3. There is a submission of some form, which is subject to an examination by appropriate assessors.

These considerations underpinned by communication and a greater understanding of what we are all doing will greatly assist in developing research activities and outcomes in design.

To this end, the author is currently working on a project to establish a national database of potential supervisors and examiners for RHD study in design. This would be a valuable resource both in terms of assembling supervisory and examining teams and a good means of networking, talking to each other and keeping abreast of our research activities. It would be opportune to expand the scope of this database to include the creative arts although further assistance and manpower would be necessary to accomplish such a task.

