

Practice in the Process of Doctoral Research

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Abstract

This paper presents a reflection on the processes and outcomes of doctoral research with the aim to convey something of the experience, development and rational that are characteristic for the PhD. The reflection highlights in particular the questions of why to do a PhD and how to include practice.

1. Introduction

This paper presents a reflection on the processes and outcomes of doctoral research with the aim to convey something of the experience, development and rational characteristic for doing a PhD. For this purpose, I use my own PhD as a case study to highlight two issues in particular. These are:

Why a practitioner might want to do a PhD. I explain my motivation for doing a PhD in relation to the debate around research and practice, and I explore how research and practice differ, how they relate, and how research can contribute to practice.

One problem - n solutions: shaping the PhD. I discuss the process and product of the PhD on the example of my own inquiry by comparing its initial development to its final shape. I also explore what the role of practice is and can be in this process.

2. Why a practitioner might want to do a PhD?

I start this section by introducing myself and my work, which will lead me to the core of the first problem: *why a practitioner might want to do a PhD?*

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I have a background in the crafts with a degree in gold & silversmithing from a vocational college in Germany, and I worked for two years in the profession before moving to London to study for MA at the Royal College of Art. After I left the RCA, I started setting up my own studio. Being at the start of a promising career, I seemingly changed course again when I enrolled for the PhD. This raised the question why do research, and even a doctorate, as a practitioner?

I was of course attracted by the prospect of having another three years to develop my work and ideas. But that was not the main reason: I felt I had reached a point within my work where the traditional means of craft practice would not suffice to approach the encountered problem and to progress my work beyond a certain point. I therefore turned to research, in the hope to find an answer to my questions, or indeed find out what the questions were.

Because of my traditional vocational background, I had had no previous introduction to research and therefore no understanding of what it really was about. Only intuitively, I sensed that research was the right thing for me to do. My aim was to gain an understanding of the conceptual underpinnings of my creative work in order to progress it. This was seemingly to be achieved through making and through contextualising and reflecting both on the practice of making and on the resulting artefacts which were also to be tested within use. To give the inquiry some focus, I chose to centre it on the subject of the drinking vessel which I framed within an anthropological/material culture context. I was researching social and ritual behaviour and use of drinking vessels, with the intention to produce new improved artworks that would reflect my ideas enhanced by this study. In due course, my PhD developed very differently. However, before I explain the progress of my own study in more detail, I want to reflect further on the key question of this story: 'why might a practitioner want to do a PhD?' and which is familiar to practitioners moving into research.

In the introduction to the DS&T journal special edition on issues of research and practice, Durling, Friedman, and Gutherson [1] state three reasons for doing a PhD:

- To engage with research and gain/advance new knowledge
- As 'a guarantee of basic proficiency in university disciplines' and university-level teaching
- To further their career and improve their salary

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While the latter two reasons for doing a PhD point to a problem of political nature, for this discussion I am more interested in the first. Assumed that a research degree is taken up out of a genuine interest in research, one finds regularly that practitioners start out with the intention to conduct practice-based research with the aim to improve their creative work. Scrivener describes the problem as follows:

“Typically, the candidate researchers, whether artists or designers, are experienced practitioners who want to engage in research that will contribute directly to their on-going practice. Furthermore, they wish to conduct the research through art- or design-making, or, put another way, they do not wish to suspend their creative work or allow it to become separate from, or sub-ordinate to, the research activity” [2].

Scrivener considers that this request is not a problem as such, i.e. that it is not necessarily in conflict with the requirements of research. The question arises therefore as to why there is a (perceived) problem, and what it is? Scrivener provides another clue when he indicates that problems arise

“when the candidates’ primary interest is in producing artefacts and when these are closely associated with their self-identification as creators. For these candidates, the artefacts arising from the research cannot simply be conceived as by-products or exemplification of ‘know-how’. Instead, they are objects of value in their own right. Typically, the candidates involved are artists or studio/craft practitioners, focused on producing work that stands up in the public domain (e.g. be worthy of exhibition). For them, doctoral study is seen mainly as an opportunity to develop as creators and to produce more satisfactory work” [2]

This raises the further question ‘Why do a PhD, if the aim is to create more satisfactory artworks?’ Or, ask differently, ‘How does research contribute to professional/creative practice?’

Like Scrivener, I want to advocate that the creation of new creative work is not necessarily at odds with research. However, I see a problem where the aim of “producing work that stands up in the public domain” [2] remains the main motivation for the practitioner-researcher and where the requirement of research to advance knowledge is neglected. Looking at the process and product of PhD research in relation to the process and product of creative/professional practice in the creative disciplines shall serve to highlight some of the differences of research and practice.

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The formal aims of research with regard to process and product are for example defined through AHRC [3] and have further been explained by Biggs [4]:

- With regard to process, AHRC has defined and stated the importance of research question(s), research context, and approach/method. [3]
- With regard to product, AHRC has defined the difference between research and practice in relation to criteria for the products of research, while other sources highlight an advance in knowledge that is original and communicable [3, 4]

While there are guidelines and definitions (e.g. by funding agencies) for what constitutes research, there does not seem to exist an equivalent formal definition for what constitutes creative/professional practice. I have therefore collated a selective list of characteristics of professional/creative practice which seem to be commonly recognised [5]:

- practice is a personal investigation, [6]
- practice is an expression of personal experiences, worldviews etc. [7]
- practice creates an experience for the audience, user etc. [7]
- practice offers a service to the audience, user, client etc. [8]
- (the products of) practice are for sale.

These characteristics indicate that practice can offer a personal development/benefit for the practitioner or for others through creative output. However, there is no requirement or necessity or consequence that practice will advance the knowledge of the practitioner and/or the audience. This indicates a crucial difference in aims between practice and research. As an example and in order to explain what this difference might mean, I identify these differences in my own practice and research work:

The practice (which became the starting point for my research) was a set of cups, which was designed to make an impact on social interaction through its use, and so to create a new experience for the user, although not necessarily the same that had motivated the design in the first place.

In contrast, the aim of *the research* was to understand the characteristics of this kind of object, the interactive phenomenon created, and the principles of designing it. This knowledge created by the research can be used within practice to improve the artistic translation of the personal experience into artefacts.

These are clearly different aims yet both, research and practice, serve the same goal of advancing my practice, and indeed both were required for a satisfactory development. This explains from a personal perspective why a practitioner might wish to pursue research, and what the contribution of research to practice might be. Adopting the aims of research through my commitment to doctoral study in due course required me to find an approach and methods appropriate to the process of research, which is what I will discuss in the remainder of the paper.

3. One problem - n solutions: shaping the PhD

Moving from why to do a PhD to how to do a PhD, in this section I discuss

- 3.1 the 'internal' relationship between problem, process, and product within research;
- 3.2 the relationship of theory and practice as related to the process and product of the research project;

3.1 Analysing the relationship between problem, process, and product in the study

As indicated before, I undertook my PhD, because I had encountered a problem which I felt could not be solved simply through making more work, nor would the literature that I had read by then provide any further insights. The problem was that I had made an object that seemed to behave differently to other objects, but I did not quite understand how. Therefore I felt unable to make new objects that were not a mere repetition of the first. In order to make the problem more tangible, I describe said object:

The project "Social Cups", which I made during my MA, became the starting point for this research. The "Social Cups" were designed with the aim to actively explore the social interaction within which they are used and which I had observed at various occasions, and to make the user aware of this interaction and reflect on it. The shape of the cups is that of a champagne glass, yet without the foot. Instead of the foot, without which they cannot stand, the cups have each a little connector by means of which they can be connected. When at least three cups are connected, they can build a stable unit. In this way, people are encouraged to explore their interactions and interrelations when using the cups (Illustration 1).



Illustration 1:
“Social Cups”.
Kristina Niedderer,
1999.

The piece raised strong debate about the potential value of the object to influence interaction. There were doubts about perceptions of predictability with regard to use as well as considerations about the potential of design as a social mediator. Both doubts as well as expectations centred on my intervention with function that somehow subverted the norm. This sparked the desire for a systematic inquiry into the phenomenon described. The assumption was that some objects could influence interaction more actively than others due to the manipulation of function. The aim was to understand better the characteristics of this kind of object, of their impact and design, and whether they could be useful as a wider concept for design. In the following, I describe first how the project was originally imagined to shape up, and then how it actually developed and why.

3.1.1 The original design of the study:

Aim: Coming with the mindset of a practitioner to the research, I envisaged my study to be a design inquiry, which would generate knowledge about objects that could create awareness (mindfulness) of social interaction and about how to design them. I also wanted to show that these objects, which I called *performative objects* where new and unique.

Method: At this stage, I thought it would be necessary to show that one could design other objects with this quality of mindful interaction, or that one could design the same object differently, but still with the same quality. I also thought I had to test the objects, e.g. by using them, in order to show that they did create mindful interaction. I started to design and make some objects, and to test them by giving them to people to use. A relating cultural-historical essay was thought to explain the practical exercise.

Outcome: The outcome might have been examples of work and results of the testing as proof that one could design (certain) objects to cause mindful interaction. I might have also been able to say something about the quality of this mindfulness in the interaction, and about the design process in form of some design guidelines.

The problems with this design of the study were several, for example:

- To establish guidelines for the testing was difficult because of too many variables (characteristics, situation, people, culture-dependency, etc.)
- What if the tests failed? In the current design, I would not have known whether the setup was wrong, or the design of the objects, or whether it was not possible to cause mindful interaction through objects at all.
- Another problem was that in this form, the study could not establish whether all objects could cause mindfulness or only some, because it was not designed to establish the principles of the phenomenon.

The reason for these problems was a lack of understanding of what different kind of approaches the inquiry could take, and how they could be pursued through an appropriate methodology to build a robust study. Once I had gained this understanding, the study developed as follows.

3.1.2 Summary of the actual study:

Aim/Problem: Since I felt that the traditional means of practice would not suffice to approach the problem that I had discovered within my practice, I wanted to understand better the underlying concept, i.e. whether we could design objects to create awareness (mindfulness) of social interaction, what their characteristics were, and what the principles are for designing them.

Conjecture: This led to the proposition of a new category of design object, called *performative object (PO)*. The conjecture was that POs can communicate and cause mindfulness of others in the context of human interaction by means of a modification of function. My claim was further that POs had not yet been recognised as a separate category and therefore they had not yet been put to their full potential use. At the core aim of the study was to identify the PO as a separate category of definable design objects.

The research questions: In order to identify the PO as a separate category it was first necessary to find out what POs are by defining their characteristics. It was further necessary to distinguish them from other categories of objects in order to show their originality. And finally it was necessary to try to assess the benefits of proposing this new category. This resulted in the investigation of the following research questions:

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Q1: What are *performative objects*? Q2: Can we distinguish *performative objects* as a separate/new category? Q3: What are the consequences of identifying and designing them?

Determining the nature of the study: The most important step in proposing the PO as a new category was to identify the study as a naming and classification study. Fawcett [9] explains that naming and classification are descriptive theories. They “are needed when nothing or very little is known about the phenomenon in question” and they “state ‘what is’.” With regard to the study of PO, the task of the naming was to identify and qualify the phenomenon under question (Q1: what are...?). The task of the classification was to identify how the phenomenon relates to other (related) phenomena (Q2: can we distinguish...?). In this way, the study showed the existence and originality of the concept of PO.

Identifying the methodology: In order to demonstrate the existence and originality of the category of PO, the first part of the study was used to describe the phenomenon of PO (concept development). The second part was used to test the existence and originality of the concept through analysis and comparison of examples. The challenge was to maintain the relevance of this naming and classification study for the field of design. This was achieved by positioning the study in the context of design, by using relevant examples, by indicating the consequences of the study for designing, and by proposing tentative design guidelines.

Methods: the main methods used were concept development and comparative analysis. The concept development was used to identify the characteristics of POs, i.e. interaction, mindfulness, and function. The comparative analysis was used to critically analyse the concept of PO as to whether it (can) exist(s), and to compare examples of different known categories of objects in order to establish whether the concept is original. A relatively smaller yet important part of the concept development and analysis was conducted through the use of creative practice. Within a well-defined framework, the concept of function was explored experimentally in order to generate insight into the functioning of POs and into the design process, as well as to provide examples for the comparative analysis.

Outcome & contribution: The outcome and contribution of the thesis was that one can identify artefacts with certain characteristics of as *performative objects* (POs) and that one can distinguish them as a separate definable category of design objects. The thesis provides a framework to distinguish and evaluate design with regard to these characteristics, and it also provides some tentative design guidelines for designing POs.

3.1.3 How the definition of the problem changed during the course of the study, and how this affected the nature, the research questions, the methodology, and the outcome of the research

What remained of the original study was the proposition of the category of the *Performative Object*, what changed can be summarised as follows: The main aim of the study became the identification of the PO as a new category of design object that can cause mindful interaction by means of its function, rather than to demonstrate that a limited number of objects can be shown to cause mindfulness. The outcome of the study was redefined: it changed from seeking proof of mindfulness through empirical experiment to a theoretical argument that generates knowledge of the characteristics and qualities of interaction, mindfulness, and function thus providing a framework for identifying and distinguishing these kind of objects from other objects. The questions changed accordingly from whether POs can cause mindfulness and how we can design them, to what POs are, how we can distinguish them, and what their significance might be. The methodology also changed with the nature and argument of the study. It changed from experimental research that seeks to test and verify the predicted theory (which had the problem that the theory did not yet exist) to a naming and classification study, which generates a new theory (that can be tested later). The methods changed accordingly from experiment to concept development and comparative analysis. The context of the study moved from a context of critical theory/material culture into the context of design, which its relevance to design despite of its more theoretical nature.

Aspects	Original outset	Final outset
Aim	Proposition of PO; narrow understanding of PO as new kind of object	Proposition of PO; wider understanding of PO as new category of design object
Context	Material culture/critical theory	Design
Questions	Can PO's cause mindfulness? (How) can we design them?	What are POs? Can we distinguish POs...? What are the consequences of identifying them?
Methodology	Designing POs + user-testing; critical essay describing the concept, designing, and testing	Concept development Analysis of examples to demonstrate existence of the concept of PO; <u>Comparison to demonstrate its originality</u>
Outcome	Show that objects can cause mindfulness	Show that POs exist, and can cause M; Show that they are a new/separate category; framework for identifying them Tentative design guidelines.

3.2 The relationship of theory and practice within my work

In Section 2, I set out my understanding of the difference of research and practice in order to explain how the practice has initialised my research by generating the research problem. In Section 3.1, I have explained how the research has developed. I will now explain which role practice has played in my research and what its role and contribution has been.

The practice was conducted as part of the concept development, and with the aim of generating insight into the functioning of POs and into the design process, as well as of providing examples for the comparative analysis. For this purpose, **the concept** of function was explored experimentally through creative practice. The practice project consisted of designing and making a number of drinking vessels according to a pre-determined conceptual framework. **The framework** was based on having identified five aspects of function in the text “The Thing” by Heidegger [10]. Each aspect of function was explored with regard to causing mindfulness through designing and making 3 drinking vessels in which the relevant aspect of function was gradually made dysfunctional. **The stages** of ‘functional’, ‘dysfunctional’, and ‘semi-functional’ in each set of vessels were achieved through a disruption of the relevant aspects of function. In those vessels, which were ‘semi-functional’, i.e. at the cusp between being functional and being dysfunctional, it was still possible to ‘compensate’ for the disruption of function through interaction with the object. **For example**, in the case of the functional aspect of holding liquid, the dysfunctional vessel has many holes and therefore does not hold and cannot be made to hold any liquid any longer. In contrast, the semi-functional vessel has only five holes, which can be covered with the fingertips of one hand. Thus the function can be restored through interaction, whereby this requirement for interaction could be shown to raise awareness and reflection. **The outcome** of the practice in terms of artefacts was a series of 5 x 3 drinking vessels of conceptual-experimental character, some of which served as examples for the comparative testing in the thesis. **The outcome** of the creative practice for the research process was a record of the design process, which provided important knowledge of the relationship of function and mindfulness with regard to designing *performative objects*. **In this way**, the analysis through creative practice made a contribution to the conceptual understanding of function and its relationship with mindfulness in the *performative object*. The knowledge gained allowed me also to draw up some tentative design guidelines as a more direct contribution of the overall study to design practice. A small number of the objects produced would serve as examples.

What the project did not provide, and was not meant to provide, was a body of creative work that would stand for itself. If that would have been the outcome, this might have been an additional benefit, but it was not essential to the progress and contribution of the practice to the overall research project. Instead what was important was to find out what would happen within the established framework, and to gain some knowledge from the process about *function* in the *performative object*.

4. Conclusion

In the first part of this paper, I have discussed why a practitioner might want to study for PhD, and how this research might contribute to their practice. I have set my own motivation for doing a PhD in the context of a comparison of the aims of research and practice to answer these questions, and to illuminate how the aims of research and practice differ, and how this affects the nature and understanding of process and product within each.

I have further discussed my doctoral research project in its initial and in its final design in order to show the importance of getting the research design right in order to gain robust and valid results and new knowledge. Most important is the interpretation of the research problem, which determines the nature of the study, the questions, methodology, methods, outcomes, and context (audience). Finally, I have shown how theory and practice can merge within research, and where and how practice might contribute to research and vice versa.

End Notes

- [1] Durling, D., Friedman, K., and Gutherson, P. 2002. Editorial: Debating the Practice-Based PhD. In the *International Journal of Design Science and Technology*. 10 (2): 7 – 18.
- [2] Scrivener, S. Characterising Creative-production Doctoral Projects in Art and Design. *International Journal of Design Sciences and Technology*, Vol.10(2), 2002, pp.25-44 (30).
- [3] AHRC definition of research 2004-5. The UK Arts and Humanities Research Board, Guidance notes. URL: <<http://www.ahrc.ac.uk>>:
 1. The Board's definition of research is primarily concerned with the definition of research processes, rather than outputs. This definition is built around three key features and your application must fully address all of these in order to be considered eligible for support:

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- it must define a series of research questions or problems that will be addressed in the course of the research. It must also define its objectives in terms of seeking to enhance knowledge and understanding relating to the questions or problems to be addressed
- it must specify a research context for the questions or problems to be addressed. You must specify why it is important that these particular questions or problems should be addressed; what other research is being or has been conducted in this area; and what particular contribution this project will make to the advancement of creativity, insights, knowledge and understanding in this area
- it must specify the research methods for addressing and answering the research questions or problems. You must state how, in the course of the research project, you will seek to answer the questions, or advance available knowledge and understanding of the problems. You should also explain the rationale for your chosen research methods and why you think they provide the most appropriate means by which to answer the research questions.

2. This definition of research provides a distinction between research and practice per se. Creative output can be produced, or practice undertaken, as an integral part of a research process as defined above. The Board would expect, however, this practice to be accompanied by some form of documentation of the research process, as well as some form of textual analysis or explanation to support its position and to demonstrate critical reflection. Equally, creativity or practice may involve no such process at all, in which case they would be ineligible for funding from the Board.

- [4] Biggs, M. 2002. The rôle of the artefact in art and design research. *International Journal of Design Sciences and Technology*, Vol.10 (2), pp.19-24.
- [5] some general definitions of practice can be found e.g. in Wordsmyth. 2001. Wordsmyth. The Educational Dictionary. Wordsmyth Collaboratory. Robert Parks, ed. ARTFL (Project for American and French Research on the Treasury of the French Language). Chicago: Divisions of the Humanities, University of Chicago. URL: <http://www.wordsmyth.net/>. Date accessed: 2001 February 2.
- [6] e.g. Schön, D. *The Reflective Practitioner*. Ashgate, Aldershot, UK. 2002.
- [7] e.g. Carroll, N. 1999. *Philosophy of Art. A Contemporary Introduction*. London: Routledge.
- [8] e.g. Norman, D. A. 2002. *The Design of Everyday Things*. New York: Basic Books.
- [9] Fawcett, J. 1999. *The Relationship of Theory and Research*. Philadelphia: F. A. Davis Company.
- [10] Heidegger, M. 2000. Das Ding in *Vortraege und Aufsaeetze*. Guenther Neske Verlag, p.157-179.
Heidegger, M. 1971. The Thing in *Poetry Language Thought*. London and New York: Harper & Row, p.165-186. (Translation & Introduction by A. Hofstaedter).