理論と実践-創造的デザインプロセスの研究方法
Practice Based Approaches to Creativity and Design Research

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Abstract: 理論と実践をデザイン研究においてどのように位置づけるか、それ自体が重要な問題である。本研究は、デザインと創造性の研究における実践に基づいた理論の道筋を議論する。創造と認知研究における理論と実践は双方向の二つの軌跡で示される。ここでは実践者の立場でデザインと創造性の新しい研究方法の枠組みを提案する。

Key words: Practice, Theory, Creativity, Design,

1. Introduction
Practice based research is a challenging approach to a new departure from the conventional methods of researching into creativity. We introduce a new approach to creative design research. A trajectory of theory, practice and interpretation is described, which contributes to an understanding of how theory and practice interrelate in a generation of new knowledge.

The design process has been represented as a creative process. Taura and Nagai presented a model of the design process which consists of two driving forces: ‘in-sight’ and ‘out-sight’ [1]. They have investigated ‘design insight’ and found the characteristics of design creativity in particular in the concept synthesizing process stage. However, it is necessary to understand the whole process of creative activity from the viewpoint of creative cognition. Sano et al. focused on poetics to study the creative process which included long term self-reporting by a researcher/designer. Capturing the nature of practice in creative activity is an important issue for studying design creativity. In order to pursue our understanding of the contribution of practice to the theory of creativity and design, we propose an approach that is based upon the interrelationship between theory and practice in the conduct of practice-based research as well as articles written by practitioners during the course of their doctoral studies. The practitioners are working primarily within the field of interactive art systems using forms of digital technology to create experiences that enable direct audience participation in the creation of visual and sound artworks [4].

The context for this approach is practitioner research undertaken at the Creativity and Cognition Studios (CCS) associated with a public museum where interactive art works are exhibited to the public and the audience experience is evaluated by the artists [5]. A series of exhibitions of interactive artworks are mounted, where the works are technically finished but still in need of development in the light of audience interaction. In interactive art, the artist is interested in seeing how the interactive elements work. Interactive works invite the audience to engage through interaction and, in so doing, participate in the realization of the work itself. Experiencing art is driven by perception, where perception is an active and constructive process. Experiencing interactive artworks involves the same condition in addition to the active engagement with the work, which involves being in the space of the work, interacting with it and constructing an experience through this interaction.

2. Creative Practice
Edmonds and Candy have studied creative practice and developed ‘creativity and cognition research’ with the aim of extending our knowledge of creativity [2]. They have discussed how practitioner-researchers develop and apply frameworks for interpretation in the context of ‘trajectories of practice and research’ [3]. Practitioner frameworks are defined by whoever invents them (e.g. an artist) and the purpose they serve (e.g. to shape the developing artwork). The frameworks for interpretation arise from an area of creative practice taking place in the context of practice-based PhDs. The view of interpretation presented in this paper draws upon our experience of research in the creative arts and interviews conducted with practitioner researchers as

3. Trajectories of Theory and Practice
In a ‘trajectory of theory and practice’, there are three elements: theory, practice and interpretation. Each element involves activities undertaken by the practitioner in the process of developing frameworks and making works. The trajectories of theory and practice can work in a number of different ways. In figure 1 below we see one process [T2] that consists primarily of creative practice leading to the development of theory in the form of a framework for interpretation which is used in the evaluation of the outcomes of practice. The process [T1] however, the primary driver is theory which gives rise to a framework that drives the interpretation via evaluation of the works.
These trajectories of theory and practice, it is important to stress, whilst time-ordered paths, are far from linear, step-wise activities that move inexorably towards an intended goal. Sometimes the theory comes first but often, the need for it emerges as the creative process continues.

**Theory**, as it is understood in the context of practice-based research, is likely to consist of different ways of examining, critiquing and applying areas of knowledge that are considered relevant to the individual’s practice. If, for example, the practitioner seeks to create a software artefact that can be used in ways analogous with a conventional musical instrument, then being able to select and adapt relevant theoretical knowledge of the physical modelling of sound is a necessary role for such ‘theory’. On the other hand, practitioner theory may consist of an untested opinion (‘hypothesis’) that the artwork can elicit certain emotions or qualities of experience in an audience or ‘user’; this will remain a personal ‘theory-in-action’ until it is subject to a more rigorous form of study that involves investigation as to whether or not the opinion has any truth beyond an individual viewpoint.

**Practice** is a primary element in the trajectory providing as it does motivation for conducting research as well as generating the activities for creating and exhibiting tangible outcomes such as artworks, exhibitions, installations, musical compositions and creative software systems. In the nature of practice-based research, experiencing these works is usually necessary for a full understanding of the contribution to new understandings (knowledge) that the practitioner is making. For that reason, the role the works play in interpretation is vital.

**Interpretation**, in the role presented in this paper, involves the outcomes of observation, monitoring, recording, analysing and reflection as part of a semi-formal approach to generating understandings that go further than informal reflections on practice. An important difference is that the outcomes should, indeed for the PhD, must, be accessible to others. There is no prescribed standard set of procedures as in experimental science, but such evaluation studies are usually carried out using a variety of methods drawn from different disciplines.

### 4. Conclusions

The trajectories of theory and practice we have introduced here represent different types of relationships between theory, practice and the role of interpretation in creativity. It is helpful to distil the main elements of the practice-based research process in this way in order to compare and contrast different practitioner processes. However, it should be noted that there are variations in the way that different frameworks are developed and applied and that there are numerous iterations and interactions between the elements of theory, practice and interpretation.

### References


