Integrating Laboratory Paradigms and Ethnographic Field Studies For Advancing Analyses of Creative Processes

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Abstract
This symposium responds to calls for an integration of in-vivo and in-vitro methods when studying how people tackle complex, open-ended issues in the areas of creativity, design, and innovation. Bringing together expertise from multiple perspectives and methodological backgrounds we explore fruitful ways towards integrative approaches to analyzing creative processes and practices. The theme is addressed from theoretical and practical viewpoints.

Author Keywords
Creativity, creative processes, design thinking, integrative research approaches

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION
The question of how humans make sense of complex, open-ended issues and create novel solutions to them has been at the core of creativity research since the very beginning. Various methodological and disciplinary approaches aimed at attaining a deeper understanding of creative abilities can be traced from early works on "the art of thought" [14] and "productive thinking" [16] right through to the "problem solving paradigm" in the 1960s and 1970s [12]. The last few years have brought a resurgence of interest in creative processes in the quest for profound innovations and novel entrepreneurial activities [8]. Many key notions gain attention around the topic of "designerly ways of knowing" [6] and find their way under the label "design thinking" even to new fields such as management and organizational studies [3].

Theories, concepts and models from organizational studies, creativity research and cognitive science are expanded, adapted and applied in these emerging new research areas, while many issues around them are not yet resolved even in the domains of their origin. Taking up the concept of "insight moments" [13] as one example of phenomena within creative processes, challenges remain around the use of incongruent and overly encompassing terminology as well as structural differences between laboratory tasks and observations in real world settings. To address some of these challenges, increasing calls for integrative research approaches appear in the literature [9,15] and argue for bringing together various disciplinary perspectives, levels of observation and methodologies.

This symposium responds to calls for methodological and conceptual integration and discusses potential pathways for advancing such integration in the context of studying creative processes in various organizational contexts and professional settings. Huge challenges seem to lie in addressing several levels of complexity with multiple perspectives and methodologies in projects simultaneously. Our meeting takes conversations amongst the participating colleagues around these issues to a next level and a broader base (see also [1,2,4]). We aspire to explore the potentials and prerequisites for creating and using shared data sets for cross-disciplinary research purposes embracing the aforementioned challenges by drawing on experiences from a series of design research symposia [5,11].

MAIN PERSPECTIVES
The main perspectives present are located along a continuum resembling Kevin Dunbar´s suggestion to take an "in-vivo-in-vitro approach" to studying creativity and cognition [7]. Thereby, we seek to link ethnographically inspired ways of real-world observation and experimental approaches in laboratory settings. At the same time we relate to the growing interest in mixing research in lab, field and studio settings [10], as well as in design driven research or research through design [17] in the HCI area.

1.) Studying creative processes in the lab

This perspective covers some of the widely applied tasks used in cognitive psychology and neuroscience labs for studying creative processes. In so doing it discusses the contributions of these tasks to elucidate concepts, theories and models around them.

2.) Working with professionals in partially controlled (lab) settings

This view discusses how to create research designs and tasks for working with professionals under more controlled conditions without disrupting their "normal" creative processes and practices.

3.) Performing large scale and long term (video) ethnographic studies of creative processes

This perspective builds on experiences from ethnographic approaches in general and collecting, coding and analyzing large sets of (video) data following interdisciplinary design teams during university training and in large industrial settings in particular.

4.) Applying multi-perspectival participatory approaches to studying professional design teams

The fourth perspective represents experiences from collecting and combining first-, second- and third-person perspectives on creative processes in multidisciplinary design teams in industrial settings. A strong emphasis lies on issues of documenting, mapping and visualizing creative processes for knowledge creation through reflection and research.

5.) Research through design – inquiry through reflective practice

The fifth perspective represents integrated research approaches in the fields of HCI and design studies. The perspective argue that creating theories *for* design, as well as *on* design, can be approached through creating artifacts, staging designerly interventions and playing the role of the designer. This is an interesting approach, but offers a series of debated implications for both design and research.

The five perspectives are discussed in response to three guiding questions: (1) What is the state of the art and relevant literature?; (2) What are the methodological and conceptual challenges and limitations?; and (3) What are potential contributions towards an integrative research approach? Our conceptual considerations are based on experiences and empirical material from the participants and their respective research groups together with relevant literature. Personal backgrounds in engineering, HCI, industrial design, cognitive science, management and psychology are drawn together at the same time.

GOALS AND EXPECTED OUTCOMES

The goals of the symposium are to share experiences from current work, intensify collegial conversations beyond the DESIRE network and lay the base for future research collaborations. We aspire to thereby contribute to further developing integrative methodological approaches to creativity research and advancing analysis of creative processes and practices.

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