Understanding and Evaluating Creativity

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ABSTRACT
The aim of this tutorial is two fold: first, to provide an understanding of the nature of creativity based on research and practice; and second, to present an evaluation approach based on a matrix consisting of the three dimensions of how audiences respond, how we assess the creative works themselves and the expertise and skills of those who make those works. Participants will be introduced to tools for analyzing and evaluating creative engagement and creativity support through group work. It is intended for people who would like to learn ways of demystifying the creative activities and practitioners who would like to create more intriguing audience/user experiences and better understand their creative processes.

Keywords
Creativity, Evaluation, Audience, Artifacts, Practitioners

LEARNING OBJECTIVES

- Provide insights into creativity based on research and practice
- Demonstrate an approach to evaluating creativity based on audience, artifact and creator dimensions
- Provide an understanding of 'creative engagement' from an audience perspective
- Provide guidance for the design and evaluation of creativity support tools
- Provide an overview of a video-based methodology for analyzing creative engagement
- Engage participants in studying and analyzing creativity and creativity support

Understanding and Evaluating Creativity

Creativity is a complex human phenomenon that is widely believed to be inaccessible to analysis and even less so to measurement. Nevertheless, in recent times there have been advances in our understanding of the nature of creativity and a growing consensus that common features can be identified across different domains. In this tutorial, the contributions of creativity researchers are reviewed and assessed in order to gain a broad understanding of the nature of creativity. Second, an approach to evaluating creativity based on criteria derived from audience, artifacts and creator creativity is introduced. This is followed by a focus on the methodologies for understanding the process elements of creativity based upon observational studies of creativity in-situ and an analysis of behavioural protocols.

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When we ask how do we evaluate creativity, different perspectives usually inform the answer. Often it is the way that an audience responds to creative works, whether they be paintings or performances, that gives rise to some kind of general judgment or consensus as to their merit or otherwise. Other judgments, often those of the expert or professional critic, focus mainly on the qualities or the features of the works themselves. An alternative perspective is to base evaluation on the capabilities of the maker to create works. This dimension is often found amongst practitioner peer groups and judging panels awarding grants or commissions. The creative artifact is likely to be at the heart of all three dimensions. Many people are asking whether we can establish measures for evaluating creativity that can be agreed and applied in many situations? A first step is to decide which perspective is to be adopted in determining the criteria for measurement. The matrix presented provides a method for deriving criteria based on audience, artifact and capability.

Human beings are good observers, they learn from observing themselves and their environments; they see, hear, feel, interpret, register and filter what they perceive. That is also why scientific studies of observation are complex tasks to pursue. Systematic observation is the key to evaluating human behavior and situations. Observing and evaluating creative processes has the same potential. Although creativity is a complex and seemingly mysterious human activity, this tutorial is an attempt to demystify creative processes by introducing methods for systematic observation and analysis. Participants will discover what it feels like to be an insightful "observer" and learn many concepts, tools and techniques that will help you to easily set up, conduct and make sense of observational studies. The tutorial is intended to benefit design researchers, human-computer interaction researchers, practice-based researchers, interaction designers and all creativity

enthusiasts. It will not presume a pre-knowledge of creativity research but will be informative to experts.

Course Content

The course begins by asking some fundamental questions. What do we mean when we speak of 'creativity'? What do we know from research and practice about creativity? How do we evaluate creativity? Should we judge creativity by the way audiences respond or behave, by the features of the works themselves or by the expertise and capabilities of the maker to create? How important is the artifact itself to these different dimensions? Can we establish measures for evaluating creativity that can be agreed and applied in many situations?

The theoretical, taught part of the tutorial describes significant research about creative processes and a demonstration of how to assess claims for creativity. The approach is to distil the results of research about creativity and provide a basic knowledge of the area that can be used to inform design and evaluation of interactive systems. Knowledge of creativity research and its applications are complemented through an understanding of how we evaluate creativity. Three dimensions for creativity evaluation are introduced: whether evaluation is based on the way audiences respond or behave, whether it is based on features or qualities of the works themselves, or whether the capabilities of the maker to create it are appropriate criteria. The remaining time will be dedicated to the audience perspective. Studying how audiences respond or behave is critical to understand the nature of engagement. In order to support and enrich this understanding, different levels of engagement will be introduced and discussed through case studies of audience engagement in-situ.

The second part of the tutorial presents ways to understand the process elements of creativity by conducting and analysing observational studies of creative engagement. The practical group work aims to stimulate creativity in the attendees in their drive to support creativity through good research and design. To stimulate active participation and better explain the experience evaluation methods, participants will take part in an exercise where they can reflect on their experiences of an interactive work. This will help them understand both the audience and the researcher perspective in an evaluation study of an interactive artwork prototype. In the audience role, participants will be watching and sometimes engaging with an interactive work that runs from the beginning to the end of the tutorial session. Participants will be involved in active, short term and sustained engagement with the work at varying levels and styles through the day. In the researcher role, they will be required to write their thoughts and reflections about their own and others' engagements and experiences at different times of the day. This exercise will help participants realize and acknowledge cognitive and emotional processes during engagement with the work, and how their perceptions of interactivity may change over time. After the discussions and learning about engagement, participants will be presented with video protocols of people's interactive experiences in-situ. Participants will be asked to assess these video protocols taking on their researcher roles. Finally we will present what creative engagement is and why it is important. The creative engagement model and the emerging design principles will be introduced. The aim is to communicate experiential principles to achieve creative engagement and to discuss the application of these principles to design in different domains.

COURSE LEADERS

Dr. Linda Candy is a researcher in creativity in the arts and sciences with many years experience in teaching and research. She is currently an associate of the Creativity and Cognition Research Studios, and honorary research fellow in the Faculty of Engineering and IT, University of Technology, Sydney. Her work includes PhD programs in creative practice and the development of methods for combining research with practice. She has written many papers and articles about the creative process, collaborative work, the role of computer support and the methodologies for investigating these areas of research. She is a co-founder of the ACM Creativity and Cognition conference series and active in promoting awareness about creativity support environments in the arts, computing and design communities.

Dr. Zafer Bilda is a user experience consultant and a researcher in design and interaction cognition. As a user experience consultant, he has worked across financial, media, telecommunications, retail, tourism and government sectors. He has over 8 years academic research experience specializing in human behavior in interactive environments (including web sites, virtual and sensor environments) and how people experience, creatively engage with and think about technology. Zafer has published over 30 research papers, and presented and led workshops at international conferences in the areas of design, new media and cognitive science. He has lectured, and given seminars locally and internationally on design research; design thinking and qualitative research methods. Dr. Bilda received his PhD in 2006 from Key Centre of Design Computing and Cognition of University of Sydney.

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Tutorial Description