WCSC: Why Confusion Seeds Creativity?

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ABSTRACT
One of CSCW’s many contemporary challenges is to understand how to support and possibly enhance creativity using groupware. Traditionally, creativity has been defined to be a structured process of divergent and then convergent thinking. In this position paper, I re-conceptualize creativity as a process emerging from confusion. Creativity is often a liminal activity in which the most innovative ideas and their implementation results from transitory states of ambiguity, openness, and indeterminacy. This perspective has the potential to shift how we support creativity in groupware by understanding and providing tools for liminal activities.

Style format
Panel (leading to participatory discussion).

Community challenge opt in
Yes.

Author Keywords
Liminality, innovation, collaboration.

ACM Classification Keywords
H.5.3 Group and Organization Interfaces: Computer Supported Cooperative Work.

General Terms
Design, Human Factors.

CREATIVITY AND CSCW
Science is a social enterprise. The collaborative nature of science is emphasized by historians and philosophers of science, as well as sociologists interested in creation and diffusion of knowledge (e.g. [2, 8]). History is replete with such examples (e.g. [7, 10]).

A central aspect of and reason for scientific collaboration is creativity. Scientific creativity can be characterized as a process toward achieving an outcome recognized as innovative by the relevant community. Creativity does not happen inside one person’s head, but in the interaction between a person’s thoughts and a socio-cultural context [3].

Creativity has been a traditional focus of study in psychology. More recently, it has been studied in HCI and CSCW under the rubric of distributed collaboration between scientific communities with collaborative infrastructures known as collaboratories [1].

From a CSCW perspective, one of the most interesting facets of studying creativity is how collaborative tools can emulate and elicit creativity in groups and communities. To even begin to address that question, it is critical to understand what circumstances lead to creative processes and states. In this position paper, I offer a new perspective on creativity that deviates from the traditional structured approach to creativity.

CONFUSION AS “LIMINALITY”
I suggest that creativity can be piqued and facilitated by confusion. By confusion, I don’t mean the literal interpretation of chaotic and ad hoc state of events, but rather conceptualized as liminal activities. By definition, liminal activities represent transitory and interleaved processes and products of everyday activities. Applying Victor Turner’s concept [9] of liminality re-conceptualizes creativity as characterized by polarized states of ambiguity, openness, and indeterminacy. Identifying and codifying such states will lead to a better science of creativity.

Liminality, literally “being-on-a-threshold”, means a state or process which is betwixt-and-between the normal, day-to-day cultural and social states and processes of getting and spending, preserving law and order, and registering structural status. Liminality is full of experiment and play; it may be a play of ideas, a play of words, a play of symbols, or a play of metaphors. Liminality is not confined in its expression to ritual and the performative arts. Scientific hypotheses and experiments and philosophical speculation are also forms of play, though their rules and controls are more rigorous and their relation to mundane reality more pointed than those of genres that proliferate in fantasy.

Creativity is a liminal activity. On one end of the spectrum, creativity is about insight and “aha” moments. The process is characterized by divergent thinking in which multiple ideas are pooled and unique information is shared to generate viable alternatives. On the other end of the spectrum, creativity is about structure and formalization. The process is characterized by convergent thinking in which ideas are deliberated upon, compared and contrasted, and tradeoffs are specified in order to select optimal

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alternatives. It is this continual tension and tandem coordination between these two opposing ends that leads to the most creative thoughts and designs.

Liminality raises several questions about the science of creativity. Should the divergent and convergent stages of creative design be structured or unstructured processes? How can liminality be encouraged among creative designers? Can the liminal stage of creativity be captured and re-enacted? How can designers from different disciplinary backgrounds transfer and reconcile knowledge (lateral versus hierarchical modes of learning a la zones of proximal development)? Addressing such questions from the perspective of liminality can help us to distill our understanding of what creativity is and most importantly how can it be facilitated through groupware.

PARTICIPATORY DISCUSSION

This position paper will be presented in a panel-like format through a participatory discussion of 20 minutes. The presentation will be a mix of stating my position, conducting a group affinity diagram exercise, and concluding with an open discussion according to the tentative plan below.

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<th>Introduction (5 minutes)</th>
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<tbody>
<tr>
<td>• Confusion a la liminality</td>
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<td>• Liminal creativity</td>
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<th>Group exercise (7 minutes)</th>
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<tr>
<td>• Write creative moments</td>
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<td>• Affinitize sticky notes</td>
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<th>Summary (3 minutes)</th>
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<tr>
<td>• Consolidate affinities</td>
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<td>• Share affinities</td>
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<th>Discussion (5 minutes)</th>
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<tr>
<td>• Open floor for discussion</td>
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<td>• Wrap up</td>
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The goal is to elicit and consolidate the many diverse perspectives that the CSCW audience has to offer. A potential outcome of this discussion is to create an interest group on this topic that may be matured and presented in a subsequent CSCW or HCI conference as a SIG.

COMMENTARY ON THE TITLE

The voluntary community challenge for the 2010 CSCW Horizon venue was quite creative to say the least. The title of my submission runs counter to the usual CSCW program in the sense of how we – practitioners and researchers – construe creativity in a traditional sense. Prior work on collaboration emphasizes structured approaches to creativity (e.g. divergent followed by convergent thinking) that can often be emulated to reach optimal flow, both at an individual and group level. I, on the other hand, am advocating an antithesis that confusion as a liminal activity also seeds creativity.

BIOGRAPHICAL SKETCH

Umer Farooq completed his Ph.D. from the College of Information Sciences and Technology at The Pennsylvania State University. His dissertation research focused on supporting creativity and collaboration in CSCW contexts. Farooq obtained his M.S. degree in computer science from Virginia Tech (2002) and B.S. degree also in computer science from National University of Computer and Emerging Sciences in Pakistan (2000).

Related to his dissertation research on creativity, Farooq published several articles [4, 5, 6] including “Eureka! Past, present, and future of creativity research in HCI”. He is now working as a user experience researcher at Microsoft.

REFERENCES