Directions of Design Creativity Research

Design Society – Design Creativity SIG

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Dr. Amaresh Chakrabarti welcome remarks

The members of the panel were: Dr. Gero, Dr. Taura, Dr. Nagai, Dr. Kim and Dr. Chakrabarti.

Dr. Gero discussed the definition of creativity noting that the encyclopedia of creativity has 55 definitions, indicating how difficult it is to obtain a consensus. The first goal is to understand enough and then build tools to assist and be more efficient. We still don't know enough about creativity, which provides opportunities for research. In addition to looking for efficiencies in being creative we can look at augmenting creativity; technology helps us with this. Our shortcoming is that we don't have good tools, we only speculate and this causes problems. In the last 50 years we have begun to carry out design creativity research using the scientific approach. We need testable conjectures instead of speculation. We need a robust set of cognitive constructs that can provide an understanding of creativity and then build tools around those constructs.

Dr. Yong Se Kim talked about the Creative Design Institute. 12 faculty member collaborate, many areas involved such as engineering, architecture, etc. CDI tries to understand what is behind designer's creative design activities. They look at design creative modes, elements, model of design reasoning (iterative process of seeing, imagining and drawing). Why we are doing it? To understand what creativity is, then teach creativity to students depending on their creative mode.

Dr. Taura presented the topic of design theoretics. He explained 3 categories. Category A refers to drawing and creativity lies in the interpretation. Category B refers to problem solving where creativity lies in the gap between need and solution. Category C refers to ideal pursuing where design is something which is meant to be. A definition of design: the process of composing a desired figure towards the future. How to pursue the ideal design process: Method 1, refer to other sciences. Method 2, simulation technology. Design Theoretics: Analyze existing phenomena. Propose methods by revising existing engineering practice.

Dr. Nagai talked about the self-investigation method during the creative process. Observation of creative process from an inner perspective is difficult. Typically the outer perspective is more scientific. A limitation is that the flow cannot be observed. The outer perspective is the third person voice. The elusive flow condition is not fully defined and cannot be investigated in depth. The inner perspective refers to poetiques, the problems are: unconsciousness, insensible and incomplete memories. The proposal is to integrate third and first person point of view; we can obtain greater consciousness of the design activity. In practical terms, this means the integration of two existing reports: self report and observed report.

Dr. Chakrabarti discussed how to assess design creativity. Some questions mentioned: What influences design creativity? How does culture influences creativity? What is the influence of learning on creativity? How to teach/train design creativity?

DISCUSSION

A member of the audience (architecture background) asked: What do you think is the scope of multidisciplinary creativity? Is it too broad of a scope?

- Dr. Gero responded saying that design is a discipline of its own; it is an overarching activity, and the study of design creativity is a subset of the studying designing.
- Dr. Kim added: When Dr. Wilde's parameters are combined (the 8 components), creativity occurs, or partial creativity occurs. There may be underlying things that could be commonly appliued, and some domain specific things; current interest is on common things.
- Dr. Taura stated that common design knowledge is interesting, but discipline differences are also interesting.

A member of the audience asked: Creativity is very subjective, science is objective, how do we achieve balance?

- Dr. Gero responded: Both may be right, creativity research is an immature field. We can study design creativity by studying the object created, or studying the person who created the object, or the characteristics of the person, or the process of creation (which is the easiest to do), or the social interactions amongst designers, their products and the consumers of those products. Maybe the reputation of the person matters a lot (e.g. Steve Jobs). Maybe social behavior tells us about creativity. It depends on society's view and sometimes it depends on the opinion of the person not on the object. Creativity is a rich conception rather than a unitary concept. Both extremes work fine but not enough.
- Dr Tversky: Understand the human being and their context. Have to pick the theories that have leverage and help us do something practical with design.
- Dr Gero: Research is predicated on the regularity axiom of science. Some claim that therefore is impossible to study. In design it is ILLEGAL to repeat! This doesn't mean that it cannot be studied as the regularity that is of interest is in the process not in the product.

A member of the audience asked a question to Dr. Nagai related to self report.

- Dr. Nagai: Missing…
- Dr. Chakrabarti: Missing…