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DESIGN: The Most Creative Human Power

Abstract: In this keynote speech, I present a feature of human creativity that is based on humanity in order to discuss a key question, "Why do humans have the ability to design?" Contributions from other people are important design motivations and seem to relate to ethics or morality. The highly abstract concept of "the Future" is also strongly connected to design competency. Additionally, creative activities provide people with fun and enjoyment as well as contributing to success in business by inspiring social change.

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1. Mode of thinking

Throughout a series of experimental observations I have identified a design mindset by examining features of a creative design process. In 2003, I discovered a typical feature of design thinking by comparing a mode of design thinking with other thinking modes [1]. The participants were given a number of different assignments and required to draw a sketch for each: "draw a cup," "draw your cup," and "draw a cup that you would like to present your girlfriend (or boyfriend)." The design processes were captured by having the participants record their ideas on a soft-board and these were analyzed in order to identify the structural characteristics. All of the participants drew a prototype cup immediately after they were instructed to "draw a cup." Tasks that took the shortest time to design were also the ones with the smallest amount of drawing involved. However, for the second task, all of the participants took a longer time to their draw cups as greater detail was required. It was confirmed from interviews conducted afterwards that for this task all of the participants thought of their own cups that use at home. After drawing the outlines, each participant drew a pattern on it. Finally, (and this was the most interesting case) the task "draw a cup that you would like to present your girlfriend (or boyfriend)," took the longest time as all of the participants took more time to design the cups and drew them with greater detail. They sometimes erased lines in order to re-shape or re-design the patterns. It also took them a long time before they began drawing. The reason they gave for this was that they spent this time deeply considering what their friend would like.

This represents a typical example of a mode of design thinking.

2. Mental time travel

From the example of the previous experiments, we can theorize that, in design thinking, a deeper level of consideration and careful confirmation may be required when considering whether somebody would like the design or not rather than when simply reproducing an image from memory.

This is an assumption, but the functional features of the human brain seem to be deeply related in regard to creativity, especially in design. An example is that only humans can imagine “the future” as a highly abstract concept. A basic mechanism for imagining the future can be mental time travel. Given this, humans are capable of imagining the future and use this to design measures for solving current problems or to create possible advances for the next generation. We can imagine the future and this mental mechanism contributes to the formation of human society through design [2].

3. On-going study

In order to identify the essentials of human creativity, my colleagues and I intend to develop a study of design science. To date, we have found interesting features in the creative cognition of designers and craftsmen [3]. Additionally, background culture and social issues have been extracted as frameworks of design creativity [4].

References

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