

Chapter 2

Articulating Design Education

ABSTRACT

Design as an activity may be conceptualized analytically by saying that it consists, first and foremost, in the ability to create visual images of new structures and products; secondly, in the ability to produce such images in a way that will balance the economic demands of clients with the cultural demands of society; and finally, in the ability to use and control various ICTs for the production of visualizations. At the core of design activity is the phenomenon of creativity, the most mysterious and problematic feature of design, because it is thought to emanate from the imagination in a way that precludes and defies rational choice and control. J. P. Guilford's concept of divergent thinking helps to explain creativity, as does Donald Schön's concept of reflection-in-action, contrasted to Herbert Simon's argument that design thinking is primarily problem solving, but ultimately, creativity and imagination appear to be elusive and uncanny concepts. Aristotle's insistence on the formally teleological nature of making suggests that there may be a difference between art, or pure creativity, and design, or technical creativity, with its emphasis on utility. Creativity has always been required of designers, but in today's world cultural awareness is also needed, in order to comply with communitarian ethics, with its emphasis on co-operation and consensus building, directed mainly toward environmental sustainability. Finally, expertise in the use of ICTS is now being universally advocated for all designers.

INTRODUCTION

The champions and enthusiasts argue that in the future design will be done entirely through human-computer interaction (HCI), but the truth is, the human brain is vastly superior to computers, for the simple reason that computers operate

by limited algorithms, and therefore they do not possess imagination or the ability to create visual images spontaneously from disparate sensations and richly textured memories.

Several themes consistently emerge in critical discussions of the competencies that designers will need in the near future. For a good overview

DOI: 10.4018/978-1-4666-1999-9.ch002

see, for instance, “Defining the Designer of 2015” (2010).

First among these themes is the ability to respond to communication problems visually and to devise solutions to these problems through research and analysis and the generation of testable prototypes. There seems to be no doubt that, above all else, designers need an aesthetic sensibility and a gift for making meaningful images. This suggests that design should be articulated primarily in terms of art, rather than of science.

The second theme emerging in the literature is that future designers will need to possess a broad awareness of the context of design. This includes, more than anything else, a thorough knowledge of the (2010)current trends and advancements in information and communications technologies (ICTs), but it is also important for designers to familiarize themselves as intimately as possible with all relevant socio-cultural and economic contexts.

The third emergent theme is that future designers will need to be able to incorporate the latest technologies in their plans and be able to do their work flexibly, nimbly, and dynamically. In other words, future designers will need to be able to think faster than ever, to make changes in response to unexpected demands, and to carry on their work by making efficient use of constantly evolving technologies. Of particular importance here is the ability to understand and utilize systems theory and complexity theory in relation to causes and effects.

The fourth theme to emerge in the literature is that future designers will need to exhibit an ability to work collaboratively in large teams across flat organizational structures, while at the same time exhibit management capabilities, particularly in the use of verbal communication skills.

The fifth and final theme is that designers of the future will need to possess solid ethical standards in regard to their profession, especially in relation to preserving cultures in a global context

and sustaining the environment wherever their work takes them.

Thus the ideal designer of the future, whether an architect or an engineer, will be a paragon whose essence somehow combines all the characteristics listed above in a seamless synthesis of virtues. He or she will be visually creative – a maker of images – and he or she will be not only sensitively aware of all possible contexts but also ethically dedicated to preserving and sustaining cultures and environments on a global scale. Moreover, he or she will be able to collaborate and lead at the same time, and be able to view all problems as opportunities to be handled either through the application of analytical technical rationalism or through the application of the emergent possibilities of complexity theory. Finally, he or she will be knowledgeable about the newest ICTs and be able to use them as they continuously evolve. The task of the design educator is therefore simple: Produce such a human paragon within the space of time allotted to a university education.

The task may be simple, but it is certainly not easy. All of the characteristics required of the future designer are grounded in activities. Therefore, in order to understand the desired essential nature of the future designer we need, first, to articulate these activities and explicate them clearly and fully. This chapter will attempt to do precisely that. The activities in question are threefold. First of all is making, in the sense of creating visual images. What happens when someone designs something new? This is a profound and difficult question to answer, so we will be as careful as we can in attempting to discover the truth of this matter. The second activity is developing a refined contextual awareness of the world beyond the design studio, an awareness capable of balancing the economic imperatives of the profession of architecture or engineering with the socio-cultural and environmental concerns of the world at large, culminating, ideally, in the achievement of a virtuous character. The third activity is developing, in an ongoing

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