WCETR 2011

Teaching creativity in self-organizing studio network: implications for architectural education

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Abstract

Design education is traditionally developed for those related to creative arts such as artists, art object designers or professionals who search for new ideas in their designs. It is considered as a domain to awaken "creativity". Creativity is discussed as a function of human brain and mostly interpreted in its psychological context. This paper discusses the social characteristics of an education medium for creativity in terms of a network theory. This model of design education, in which the studio group is regarded as a network, proposes that by setting up the primary underlying framework, students ultimately reach a common ground through their individual learning experiences that lead to a wide range of design variations. Consequently, this open-ended process helps enhance the students' independent problem-solving and innovative thinking skills. "Awareness", "information exchange", "role defining", "continuous interaction" are related concepts in such a self-regulating interactive process of searching for creative solutions. The process will be studied under the light of recent discoveries on brain that are connected to the network theory. These ideas will be presented and illustrated through a case study of freshman design exercise implemented at Okan University Department of Architecture, Istanbul, Turkey. This learner-centered pedagogical framework can contribute to a theory of learning that can capture and convey the essential features of a metacognitive environment.

Keywords: Design education; learner-centered teaching; network-based studio environment

1. Introduction

The purpose of design education is to provide a framework for teaching young minds the skills to become active agents in shaping their environment. Design education helps learners discover new ways of perceiving the world, free from the limitations of the profession. In fact, it can be restated as discovering creative ways of looking at, analyzing and interpreting real life. Through structuring an unbounded teaching pedagogy students are motivated to undertake an active role and are ultimately led to discover their own accurate solutions. This kind of a dynamic learning process will instigate "creativity". In this domain creativity is defined as being receptive to new experiences and resistant to ambiguities (Anderson, 2005). Critical thinking may stimulate students to think out of the box, and, in return, to problemetize a world seen. This way of thinking will most definitely reflect in their designs and ultimately in their professional work. Creativity requires two modes of analyses: thinking and making. Hence, the critical question is how to promote thinking and making simultaneously in design education?

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The design studio, as the core of architectural education, presents new ways for conceiving the world from a progressive point of view, free of any boundaries; thus promoting intellectual growth and critical thinking. It is claimed that as a pedagogical method, design studio has no comparable model relative to its intensity and involvement (Deans of the Consortium, 1981). In contrast to typical lecture method of teaching, studio teaching actively engages students, both at the analytic and synthetic inquiry phases. Yet, inquiry is still regarded as a method by the majority of design schools and not a state of mind (Lyndon, 1982).

This article argues that an integrated model of design teaching and learning based on learner-centered pedagogy and network approaches may prove fruitful for developing a scaffold both for critical thinking and creativity in design education. This learner-centered pedagogical framework can contribute to a theory of learning that can capture and convey the essential features of a metacognitive environment. The pedagogical goal should be to nurture a studio culture in which students learn through an interactive learning environment; students instructing students, sharing information, distributing expertise. In this way, it will be possible to foster curiosity and imagination in design, motivating students to explore and encouraging them to think and criticize.

2. Conceptual Framework

There has been a growing interest in creativity by education communities –nationally and internationally– in the last decade. In his widely read book, A Whole New Mind, Pink (2005) argues that the fundamental skills acquired by today's designers –holistic thinking, imagination, creativity, active learning instead of passive learning– override the traditional analytic skills. In support of this shift, design educators are in search of a new educational approach to bring analytic, synthetic, and evaluative modes of thinking into design studios. It is argued that success now depends on the randomly interactive exchange of information which is no longer disseminated linearly (Vertosick, 2002). This theory is also reflected by Kress and Leeuwen (2002) who claim that we are undergoing an epistemological shift from a monomodal and linear system dominated by the book and writing, to a multimodal system characterized by the spatial organization of different modes. Thus, there is an explicit need for a transformative design pedagogy, particularly with regard to the nature of teaching, the roles played by the participants in the activity, and the way social structures are shaped. This paper presents a studio model which implements such a pedagogical stance and discusses the application of a design project based on the learner-centered teaching philosophy and network-based learning environment.

2.1. Learner-centered methodology

Learner-centered describes a teaching methodology in which, as opposed to traditional format of teacher-centred methodology, students actively participate in the process (Norman and Spohrer, 1996). This pedagogical approach emphasizes the importance of active learning over passive learning. In learner-centered teaching, students are no longer passive receivers of knowledge; instead, they are "active participants in learning and co-constructors of knowledge (Meece, 2003). Learner-centered teaching philosophy is developed through in-class strategies that encourage students' participation in decision-making, problem-solving, and knowledge-acquiring. Consequently, it requires continuous interaction with the learning process, encouraging students' reflection, dialogue, and engagement. The interactive environment between instructors and students facilitate the learning process through discovery, inquiry, and problem solving (Law, 2007). Hence, the redefined role of the student promotes self- and peer-assessment skills as well as critical thinking abilities within social relationships animated by dialog and reciprocity. Research underlying the learner-centered principles confirms that learning is nonlinear, recursive, continuous, complex, relational, and natural in humans. Research also shows that learning is enhanced in contexts where learners have supportive relationships, have a sense of ownership and control over the learning process, and can learn with and from each other in safe and trusting learning environments (McCombs & Whisler, 1997). However, the role of learner-centered teaching has not been investigated fully in design education. The design project discussed in this paper is intended to recognize this gap by utilizing a learner-based approach in design teaching.