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Creativity and knowledge in architectural education

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Abstract

One of the most important problems in architectural education is that students do not have the ability to transfer theoretical knowledge into practice. Architectural students generally have some difficulties about creating their own design ideas due to their habit of learning by rote instilled by their pre-university education.
Students cannot find enough encouragement and ability to develop individual projects as a new design which uses all kinds of information from previous periods. For example, in architectural education students need to use the basic design principles learned from the first level all the way up to the final level, and even for their whole lives. Students have to acquire some skills such as drawing and design in addition to their theoretical training. In their architectural education, students need to design and draw through learning by trial and error in addition to their theoretical training. In this study, the emphasis will generally be on the rules of transferring theoretical knowledge into practice, and some advice will be given on this subject.

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Keywords: architectural education; design; theoretical knowledge

1. Introduction

In the last few decades, universities have made important efforts to improve the quality of design education. Concepts such as innovative ideas, emotional intelligence and creativity have started to be seen as very important in recent years. (Yürekli and Yürekli, 2004; Casakin and Kreitler, 2009). Creativity and design courses are the backbone of architectural education. Architectural design involves some concrete skills, including knowledge of drafting, architectural materials and structural elements, as well as other abstract elements such as time, space, environment and character (Yürekli and Yürekli, 2004). The architectural design process needs to interpret the

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theoretical knowledge, foresight of future and the culture of the person involved. Students who have an education based on memorizing from the kindergarten to university will have some difficulties with this, particularly at the beginning of the design process, and in making an interpretation of theoretical knowledge. One of the aims of contemporary higher education, and design education in particular, includes directing students to tools which can stimulate research for creative solutions, as well as providing a solid scientific basis for the decision-making process. Every student should be able to implement this design process when the design problem is put forward. The required knowledge is given to the student in the theoretical courses in the architectural department curriculum, but theoretical knowledge which is memorized and then forgotten in order to pass the course without acquiring adequate motor skill abilities, even with revision, cannot be included in the design process. When theoretical knowledge is given to students during the design process as and when the students need it, the solution to the design may provide better results. Generally, this involves the implementation of learning to design though trial and error, and allowing criticism of the project or design instead of learning to design in the design studios from tutors.

In the study of architecture as part of the design process, in order to ensure the transition between theoretical and practical emphasis on the practical application of theory in architectural education, as well as to give a short historical summary of the architectural education, advice will be given on the deliberate relationship between creativity and knowledge in architectural design and how to use it.

2. Architectural Education, Creativity and Knowledge

A method similar to general 20th century architectural education was implemented for the first time in the The Ecole des Beaux-Art Architectural School (Uluoğlu, 1990). The relationship between the student-lecturer (master-apprentice) started to gain importance at the Bauhaus. In the Bauhaus Teaching Theory, which was developed with Gestalt perception hypothesis, students had an education through stages covering all the necessary practical and scientific education for apprenticeship, journeyman and master. The Bauhaus Teaching Theory brought some innovations to architectural education, unlike the Ecole des Beaux-Art Architectural School Education style, as instead of the imitation of classical architecture to actively create a new project by students, the master was more passive, being a guide to the student in the design process. From the 19th century onwards in Western Europe, the architectural profession and education involved improvement and change with small difficulties. Architectural education in Turkey, and the continued relationship between master and apprentice started with the trial and error method in 1883 at “Sanayii Nefise Mektebi (Mimar Sinan Üniversitesi)”, then in 1942 at “İstanbul Teknik Okulu (İstanbul Teknik Üniversitesi)”, then in 1945 “Yıldız Teknik Üniversitesi” and in 1956 at “Orta Doğu Teknik Üniversitesi” (Dikmen, 2011). This has improved and changed day by day with the new architectural departments in Turkey.

The concept of creativity is very important for the architectural profession, and architecture is also sometimes used instead of creativity as meaning. From the beginning with “De Stijl” in the 20th century, almost all of architectural understanding has tried to provide some solutions concentrating on necessity for a small group people. "De Stijl", "Bauhaus", "Purism", which emerged in the 20th century, and functionalism are the common bases for this architectural understanding (Erkman, 1982), and are still used in many educational institutions. This situation is often not good enough, with creativity the most relevant factor in terms of psychological and social needs (Ayıran, 1985). Functionalism in the 21st century, despite the effectiveness of other current architectural understandings (post-modernism, etc.) is still used because functionalism is a necessity but not sufficient. Nowadays, the concept of creativity has to find a new architectural solution for the wider society.

In general, the meaning of creativity is emerging as a feature most looked for especially in the world marketing sector (Craft, 2003). People are now spending money by tending towards different, innovative products. According to the National Advisory Committee for Creative and Cultural Education (NACCCE), the definition of creativity is “imaginative activity fashioned so as to produce outcomes both original and of value” (NACCCE, 1999; Craft 2003). MacKinnon describes creativity as a combination of arts, sciences, technology, and psychological testing (Mondy et al., 1953, Alomar, 2003).

The interaction consist of the following variables inherent in creativity; cognitive (intelligence-information-technical skills-specific capabilities), personal (political and religious factors-cultural factors-socio-economic factors) and environmental (intrinsic motivation-belief-personal creativity feature) (Eysenck, 1994; Kahvecioğlu,