Focus on architectural design process through learning styles

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Learning as an interactive process is an important issue in architectural design education. This study aims to focus on architectural design process through learning styles that are 'accommodating', 'diverging', 'assimilating' and 'converging' as stated in the Experiential Learning Theory of Kolb. A research was conducted to evaluate the effects of learning style preferences on the performance of design students in a design process. It was found that there were statistically significant differences between the performance scores of students having diverse learning styles at various stages of design process. Also, it was found that performance scores of all students having different learning styles had increased at the end of the design process where the progress of assimilating learners were the highest and accommodating learners the lowest.
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In architectural design education, the curriculum should be structured to facilitate and advance student learning. The programme must provide courses to be interrelated and reinforced throughout the curriculum. In general, the architectural curriculum is composed of fundamental courses that develop design knowledge; technology based courses that develop scientific formation of architecture; artistic based courses for strengthening architectural expression; and, finally the design courses, being a combination of the former three and constitute the most crucial part of design education. The design studio where the design courses are conducted is an environment that is different to a traditional classroom from pedagogical, sociological, ideological and epistemological points of view[1]. Most of the recent studies on architectural design education and the design studio are based on computer-aided design or distant learning[1–7]. Some other studies

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deal with the design studio as an environment or with the process within the studio[8–21] but unfortunately, there are few studies on learning styles of designers.

Based on an empirical study on practising architects, in the context of improving design information transfer Newland et al.[22] identified four kinds of design learners that are mapped directly onto Kolb's typology. Durling et al.[23] investigated the cognitive styles of art-based design students and concluded that there is a match between teaching and learning in UK design schools using Myers–Briggs-type indicator as a tool for the assessment of learning styles. Ashton[24] explored the interaction between students in the design studio and pointed out its importance in learning experience.

This study aims to consider architectural design activity through studio process in the scope of learning styles as a new perspective. It is claimed that there is an experiential learning process in design education within the studio environment from the very beginning to the end of any design problem. So, it is hypothesised that different stages of design studio learning require different learning styles or in other words, the performance scores of students having different learning styles vary according to the content of various stages of studio process. Therefore, design education could be considered through the Experiential Learning Theory of Kolb[25,26]. In this study, the effects of learning preferences are also considered according to different learning activities within the studio process.

1 Architectural design studio

The design studio should function both as a learning centre and a complex social organisation like other learning environments[27]. Teymur[28] described design studios as places where real cities, buildings etc., are designed, improved and transformed. In design education, design studios are the places in which the simulation of the real situation occurs[29]. Design studio process is quite important in design education since it is the core of the curriculum and all the courses taught in design eduction are related to the design studio[17,29,30]. The design studio is concerned with the definition of design education, its' problems, relations and contents at sociological level and its relation to other disciplines at epistemological level.

The critique process that held in a design studio is not only a lecture given, but also a social interaction between the teacher and the students and among the students. In a way, communication is a key word in defining the design studio. As Wender and Roger[20] claimed, the significant component of a design studio in architectural education is the verbal interaction