A Study on instructional methods used in CAD courses in interior architecture education

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Abstract

Computer Aided Design (CAD) today plays an increasingly important role for interior architecture. 25 years ago, almost all interior architecture presentations are drawn on a paper with a pencil. Today CAD radically changes all these traditional drawing habits and it becomes an economical and technological requirement for interior architecture profession. In this study, the instructional methods used in CAD courses are analyzed according to “CIDA 2014 Student Learning Expectations” through student surveys. At the end of the study, it is evaluated which instructional methods are more beneficial to teach “Computer Aided Presentation and Image Manipulation Techniques” in Interior Architecture Education.

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Keywords: computer aided design, CAD, education, instructional methods, interior architecture

1. Introduction

In order to meet the growing computer aided design talent demands, universities open expedient CAD courses for students to make them adapt to the rapid development and popularization of computer-aided design technology. CAD software turn out to be the key tool for professions such as architecture, interior architecture, industrial product design, graphic design, engineering etc. These software packages provide support to designers at gathering knowledge, sketch, 2D design, 3D design, prototyping and visualization stages of design process (Dönmez, 2013).
Interior architecture encompasses the examination of interior spaces in terms of practical, esthetical, symbolical and functional aspects and design of interior spaces according to user’s physiological and psychological needs and activities (Gökhan & Atasoy, 2005). Interior architecture is a multi-faceted profession that applies technical and creative solutions in order to design interior spaces (Duralp, 2006). It specializes in interior space’s detailed design requirements such as colour, material, texture, lighting, heating, acoustics, furniture and all details of human use (Coles and House, 2007).

In the interior architecture education field, CAD knowledge becomes an economical and technological requirement for students and professionals in order to express the design decisions effectually. In traditional architectural design process, two-three dimensional drawings and models which gradually become more concrete are used. With the use of computers in design process, although traditional expression tools are not left aside, digital technologies are used as additional tools in visualization of design (Yıldırım and Yavuz, 2012).

Piotrowski (2004) states that interior architect should integrate the interior architecture knowledge with presentation tools and instruments. After he/she improves interior design decisions, he/she should manage to present these design decisions through appropriate instruments such as computer aided drawings, sketches etc…

2. Curriculum Analyses of Interior Architecture from the Viewpoint of CAD Education

The cumulative course list of Interior Architecture Bachelor’s degree programs in Turkey obtained from author’s previous study (Erkan, 2013) is demonstrated in Table 1.

Bahçeşehir University, Doğuş University, İstanbul Technical University and Mimar Sinan Fine Arts University are taken as a reference for the curriculum analyses. The diversities in student selection methods and university types are considered during the determination of these universities. Compulsory courses are considered and these courses categorized as five main groups during the curriculum analyses.

Table 1. Cumulative course list of Interior Architecture Bachelor’s degree programs in Turkey

<table>
<thead>
<tr>
<th>Course Categories</th>
<th>Courses</th>
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<tbody>
<tr>
<td>Off-discipline courses</td>
<td>Foreign Languages 1 + 2 + 3 + 4</td>
</tr>
<tr>
<td></td>
<td>Turkish Language 1 + 2</td>
</tr>
<tr>
<td></td>
<td>Principles of Atatürk and History of the Revolution 1 + 2</td>
</tr>
<tr>
<td></td>
<td>History of the Civilization 1 + 2</td>
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<tr>
<td></td>
<td>Sources of Contemporary Europe and Modern Ethics</td>
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<tr>
<td></td>
<td>Introduction to Computer and Information Systems</td>
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<tr>
<td></td>
<td>Civic Involvement Projects 1 + 2</td>
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<tr>
<td></td>
<td>Introduction to University Life</td>
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<td></td>
<td>Economics</td>
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<td></td>
<td>Mathematics</td>
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<tr>
<td></td>
<td>Common Law</td>
</tr>
<tr>
<td>Professional general knowledge courses</td>
<td>History of Architecture 1 + 2 + 3</td>
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<tr>
<td></td>
<td>History of Interior Architecture</td>
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<tr>
<td></td>
<td>Introduction to Architecture</td>
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<td>Introduction to University Life</td>
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<td></td>
<td>History of Art 1 + 2</td>
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<td>History of Design 1 + 2</td>
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<td></td>
<td>Architecture in Istanbul</td>
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<td></td>
<td>Design Theories</td>
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<td></td>
<td>Basic Design</td>
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</tbody>
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