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Educating Process of Design to Learn Urban Park Design for Non-Landscape Architecture Students

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Abstract: *The aim of this paper is to apply urban design disciplines as method of teaching in urban planning bachelor program especially for urban park design course. Contemporary situation of urban planning students identify that there are less design courses, so they normally less introduced with design principles also design bases in the department, and so this condition creates problems in the process of urban park designing. So methodology of this research based on the questionnaire technique with a comparative approach to ask opinions of students before and after the course. Finding of research identified that students were less introduced with application of basic geometrical design such as point, line, plane, and volume before of this subject. Additionally, students identified that imaging process of landform and landscape has had weakness particularly in topography, site analysis, and environmental qualities in education syllabus of urban planning department. Results of research identify that mix model principles can explain and detail those design disciplines for students also introduced them with design concepts particularly in those missing parts. Furthermore, mix method learning system is effective regarding opinions of students as sufficiency in conceptualizing and imagination process after studio.*

Keywords: Urban Design Principles, Park Design, Non-Design Students.

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Introduction

Higher educational institutes have broad types of students in different levels, programs, and courses with multi-level of tendency and interesting to the design courses in Iran. For instance, some courses like urban park design normally present in architectural, urban planning and built environment faculties also department with different syllabus and details additionally less explicit design curriculums.

It seems generally, designing of parks and green spaces are accomplished by landscape architectures, environment and green space designer as anticipatable course who passed the essential and fundamental subjects in designing curriculums. Nevertheless, for those non-designers that have deficiencies in design courses such as urban planning students in the diploma program is not easy to find out design matters in this program. In this case, teaching technique limit to introducing and presenting overall information about park to enhance students with the concept of park design. Therefore, according to subject, students attend in a theoretical and verbal class to listen and look some experiences about park design projects although in studies motioned about various methods, techniques, and tools to increase as mix method education process such as graphical, mathematical and analytical (Demirbas and Demirkan, 2003).

Additionally, park design is a specific studio in landscape architecture program and students have proper opportunities to introduce with landscape design in studio that it is included particular subjective parks such as river, mountain, shoreline, forest, and so on also in scale such as national, local, small and other scales, additionally themes parks as well. Nevertheless, it seems there are gaps between course and purposes of urban design park in urban planning department that it creates ambiguous conditions for both students and lecturers to encounter with this subject. So, each of them interpret and apply this course regarding their idea and findings. For example, some of students believed this course is optional subject that have not basic roles in the curriculum, while some of lecturer, interprets this subject as a theoretical subject that has only a introducing role to give them some general information and so for some of them including students and lecturers find this subject as opportunities to complete design course particularly those shortage of landscape architecture syllabuses that normally kept out of urban planning programs.

Problem Statement

Urban park design subject as part of diploma in urban planning has deficiencies in the syllabus, manual booklet and description page that it creates differences among lecturers to encounter with this subject as theoretical or practical subject however, in the text of manual mentioned that this subject is theoretical base with some simple design exercise to introduce students with design matters. Nevertheless, it seems that this course could be effective to promote designing knowledge of the students also application micro scale plan that it is normally missing in the syllabus of this course.

Additionally, another problem is different ability of students in this program to design regarding background of educations in high school and the local education system. For example, it has been observed that some high school and technical schools have had priority to mathematical or geometric subject, or in opposite, some of them attention more to the studio and practical courses. As another point in differentiation level of students, could mention to those technical schools students that normally have variety in the field of studies including construction, mechanical, agriculture, electronic

and architecture. Therefore, levels of introducing with the design course and interesting to the design area have been totally different. It seems the curriculum of Urban Park Design course has paid less attention to these differentiation among of students that this deficiencies need to study.

In other words, students have common courses in large scale base without extra subjects in small scale courses in the B.A program and diploma of urban planning in those educational institutes. So students have had less design courses in practical subjects particularly in the essential and basic design techniques. Therefore, these deficiencies have created problems in the physical and metaphysical design parts for students. For instance, in studies of Varkkai (1997) in urban design education in the US universities was identified that normally students have deficiencies in the design courses. Moreover, Kreditor (1990) pointed to those neglected subjects in urban design educational institutes in US. Therefore, it seems that there are some deficiencies in the urban planning courses regarding design criteria such as design studio particularly urban park design. Hence, should consider the level of introducing those students with the design bases and process from specific methods and techniques to assess imagining, innovating, and creating of them regarding basic design forms, shapes and urban design disciplines and orders as regards urban design principles.

Methodology

Methodology of this paper has designed on the qualitative method particularly comparative questionnaire with qualitative approach. Therefore, the questionnaire designed with comparative approach in two parts to measure level of influences the syllabus of design course on the qualities of the design processes. In this case, the questionnaire designed in two columns with both comparative questions including first column, the data before of presentation the course in the class, and second column, the data after it. Structure of questionnaire designed on the half open-ended questions to use of extra opinions and information of students like to present. To check up the validity and reliability of the questionnaire, the structure of questionnaire checked with three lectures in department of architecture as explanatory stage and so those recommends were applied to correct the questionnaire. In pilot survey stage, the questionnaire was passed among a small group of educated students to check the understanding, answering, and responsibility of them in regard of questionnaire. Answers of those pilots identified that some questions have had ambiguous in opinion of students, some of them were needed to restructure or replace, and integration that this results influences on the structure of final edited questionnaire. To analyze the data were used the qualitative approach regarding absence of Stevens Measurement Scales standard (Stevens, 1947, 1954) for quantitative analysis including nominal, ordinal, interval, and ratio scales. Therefore, qualitative analysis chose as valid technique as non-quantitative to analyze data questionnaire technique(Neuman, 2006; Tafahomi, 2012).

According to method, the structure of questionnaire combined from five parts including introduction, introducing questions, general questions, design questions, and other opinions about the course. In the introduction part was explained objectives of the questionnaire. Then, in the introducing part, were asked some questions about ages, gender, educational backgrounds, and professions. In general questions were asked about area of interesting, knowledge about parks and green spaces, level of introducing with green space regarding those space references and literatures. In the

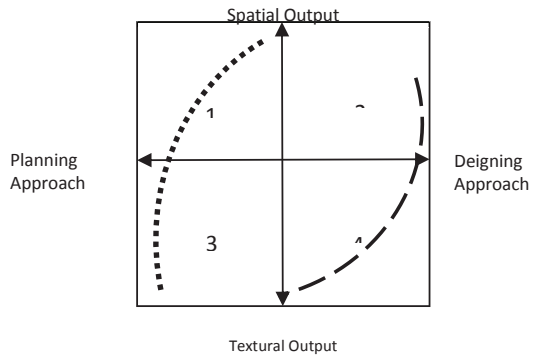
design parts asked questions about introducing with the fundamental design components and compounds such as point, line, plane, and volume, additionally, analytical disciplines of design such as spatial, textural, visual, morphology and so on. Finally, in the last part were required from students to write other opinions about course. For data collection, the corrected questionnaire was distributed among students who have been passed this course to complete. The statistic group combined from 40th students as total number of class, however, some of them had been returned to their cities and was not jointed to this research. In the first announcement were jointed 11 students and in second and third were added 9. For covering all students were asked to those joined students, to deliver questionnaires to other friends that were not informed about the research process and announcement. Since distribution time of questionnaire returned 22 questionnaires and with following process for those no returned persons got extra 9. So the statistic society of research based on the 30 completed, 1 non completed, and 9 no returned questionnaires. As an example in this case, Miller and Salkind (2002) mentioned from Heberlein and Baumgartner (1978) that with continued requests by researcher from respondents will increase the level of answering around 30%, although in this case, research following process could not obtain to this result.

Theoretical Framework

Design and designing process have were been one of sophisticated and complicated areas in recent literatures of architecture, urban planning and urban design field studies (Zeilsel, 1986; Lang, 1987; Lawson, 1997). So this specification has attracted authors and experts to explain this process in diagrams and figures or texts to document this scientific process (Lang, 1987; Zeilsel, 1986; Moughtin et al, 2003). This broad area of the design normally classified into two parts including meta-physical part of design in including thinking, imagining, and innovating, and physical part of design such as sketching drawing , and designing.

Those two parts additionally have been strongly connected with each other, in whole large scale to small scale plans and projects in both planning and designing approaches. Indeed, in the large scale plans in planning and designing areas there are diagrams and conceptual maps that were called as designing such as regional strategic plans and maps, also in the micro and small scales, there are other kinds of maps that were called them as design such as detail and specific plans. Therefore, studies have showed that large scale plans had have tendency to the spatial output with planning approaches while the micro scale plans have tendency to the textural output with designing approaches (Tafahomi, 2012).

Figure number 1: Textural and Spatial Area of Design (Source: Tafahomi, 2012)



As another important factors in the designing and planning should pointed to structure of the design problems definition that it is specific and explicit in the designing process. For instance, studies have showed that each design problem has own specific structure and relation that good design practices have been normally depended to methodology and process definition the problem by designers (Chermayeff and Alexander, 1963). Therefore, different design structures needs to different designing problem solving such as scales, methods, process and approaches. For example, scale of the problem solving in urban design is more larger than architecture also scale of problem solving in the urban planning is more larger than urban design, hence this hierarchy exist in different scales of plans and projects (Lawson, 1997).

Additionally, studies have showed that architecture areas have had tendency to integrate other area of knowledge to develop methods and products such as mathematic (Verner and Maor, 2003), with fascination so fantastic forms (Pizarro, 2009), sensitive relation with environment (Pallasmaa, 2005; Zardini, 2006), and environmental pollution and risk (Clarke and Stansfeld, 2007). Therefore, in this broad area of knowledge, they use from different style of techniques and methods. First of all, architecture use of the own methods in research and design, then they apply from relevant field of studies like urban planning and designing also landscaping, and after that, it extends to other area of knowledge like psychology, sociology, and behaviour studies courses although they normally prefer to use a own mix method and approach to increase validity of method. Therefore, application of urban design dimensions, aspects and principles (Tafahomi, 2012) could provide sufficient condition to convert those gaps and shortages particularly in urban park design for non-designers students.

Data Analysis

According to the questionnaire structure designed in two comparative parts and approximately with the same target but different purpose, in the first part, was asked respondent's opinions before of this course and in second part was asked they opinions after passing this course that all data mention in below. The general information and data of the respondents identified that respondents were included 14 males and 16 females. Answers of respondents showed that they educated more in mathematics and

technical branches in high school courses with overall 85 percent than other fields of studies that it was included 75 percent females and 95 percent males. In the profession question they answered majority as student with 80 percent.

The collected data including the questions belong to Before of Course and After of Course that they mention in below parts:

5-1 Questions in relation to Before of Course: in the first part, there were 5 questions with level of education. These questions measured the level of introducing and interesting respondents with the park design areas. Summary of the answers of the respondents to Yes/No question is mentioned in below table:

Table numer1: Answers of the respondents to questions before of course

Questions	**Positive approach**		**Negative approach**	
Level of responsibility	High level	Good level	Average level	Low level
1-Interesting to Design	23	7	0	0
2-Introducing with design	12	6	5	7
3-Previous related course with design	5	3	7	15
4- Evaluating the level of depth introducing	4	8	12	6
5- Paying attention to structure of parks	2	4	4	20
6-Application topography in design	0	0	3	27

Those students in answer to questions about introducing with the basic components and compounds in design including point, line, plane, and volume mentioned only the name of the figures. Additionally, in the question about application basic shapes in design process such as quadrangle, cycle, and triangle sited answer No for all those shapes. Furthermore, the respondents in answer to question about design principles as a systemic approach in design process such as spatial, textural, environmental, cultural orders mentioned that they no introduced with those kinds of orders.

5-2 Questions in relation to After the Course: questions in second column of the questionnaire designed to evaluate influencing of the course on the opinions and abilities of students. So, questions of this part were designed with approach to evaluate effects of course on the opinion and mind of the students. This part similar with previous, have had ordinal and interpretative questions. Summary of the answers of the respondents to questions is mentioned in below table:

Table number 2: Answers of the respondents to questions after of course

Questions	**Positive approach**		**Negative approach**	
	High level	Good level	Average level	Low level
1-Effects of course on the interesting to design	18	10	1	1
2- Evaluating the level of introducing	22	8	0	0
3- Paying attention to structure of parks	29	1	0	0
4-Application topography in design	28	2	0	0
Questions	Chosen options by respondents			
5- Interesting to the syllabus of course	Design (24)	Analysis (5)	Documentation (1)	
6-Effictive technique in the course	Sketch (18)	Correction (8)	Lecturer(2)	Discussion (2)

Those students in answer to questions about introducing with the basic components and compounds in design including point, line, plane, and volume mentioned new imaginational and conceptual words including for point: sign, landmark, focus, and center, additionally, for line idealized movement, direction, path, and terrain feature lines, and for plane described layer, map, ground, and earth, and finally for volume they pointed to space, pace, and texture. Furthermore, the respondents in answer to question about design principles mentioned as a systemic approach in design process such as spatial, textural, environmental, cultural, social, functional, activities, accessibility, movement, and city furniture orders.

Findings

Findings of research identified those males interested more than females into research in spite of high number female students in this field study particularly who were fresh students without any profession background as well.

Those ordinal questions in the *Before of course* part identified that they have been interested into design subjects however they have less been introduced with the particular curriculums or courses in design matter. Additionally, students' evaluation process of their educations in relation with the design courses explained that they were believed which; they have passed some effective courses in relation with the design however their assessments of qualities of those courses were not sufficient regarding level of introducing with the design courses. In the last question, respondents identified that they have less been introduced with the topography concepts and subjects while in urban planning topography and slope are important aspect in planning and designing stages.

Additionally, in the analytical parts of the questionnaire, respondents could not imagine any interpretive words or conceptualize application of those asked figures and shapes into spaces and places. This gap addressed to shortages into basic courses in early times of education particularly in the fresh times in the university. Furthermore, for those geometric shapes such as quadrangle, cycle, and triangle the condition were the same. Moreover, finally, in this part, respondents mentioned that they have been less introduced with the design principles as analytical approach. Therefore, as a result

could conclude that subjects before of Urban Park Design could less provide effective condition to present this subject.

In the second part of questionnaire, questions in related to *After of course*, students identified that the course could strongly effect on their interesting into design subjects which, it could be observed from frequencies of answering to the question with positive approach for the design part, as more interesting section of the course. Additionally, the data identified that students in evaluation of the level of introducing to the design subjects chose more high and high options, so the course has been effective on the design knowledge of respondents. Furthermore, respondents mentioned that their paying attention process in to park structure increased in the course and they got systematical and analytical approach regarding structure, topography and geomorphology.

In addition, students identified some detail and fundamental aspects of course to show effectiveness of educational plan on their conceptualization and imagination and interpretation abilities. They mentioned some words in questionnaire that implied on increasing level of imagination and innovation regarding those basic shapes. Finally respondents identified their knowledge about the design principles according to urban design analytical approach as new achievements. In this results could conclude that process of the class with those structures and duties trained abilities of students in the innovation and creation stages that these factors were mentioned by them. Hence, the syllabus of urban park design was adapted more with practical studio than theoretical class although in this process respondents were not conscious about this experiment.

Conclusion

Diploma program in urban planning department as part of B.A of urban planning has deficiencies in basic subjects regarding design field studies. These shortages have impacted on the qualities of analysis and design in the course particularly in the urban park design subject. Findings of research identify that respondents assumed that their introducing have been adequate for designing however results of the questionnaire addressed to those absences and deficiencies. Indeed, those basic subjects in design in this program could not provide sufficient condition for students to design urban park although they have been more interesting about this course. Therefore, it is suggested to reedit the syllabus of this course.

Diploma of urban planning has deficiencies in the systemic approach for analysis and design process that it appears in the localizing stage of design such as urban park designing. It is notable that more syllabus of this course has been adapted by macro scale approaches like analysis, design, and general outlook. Therefore, this insufficiency could address to absence of architectural and basic design subjects in the curriculums of this course, even less consideration of educators to add those essential design materials to the program.

Results of research show applying and integrating other methods into urban planning such as urban design principles could provide richer condition as a systematical approach to appear analytical structure for analyzing and designing places that could nominate as mix model. Those urban design principles that were applied in this research include five analytical approaches such as spatial and textural, visual and perceptual, functional and activities, accessibility and movements, green spaces and urban furniture. Additionally, procedural and contextual layers include in the subject that could point to social, cultural, economic and management parameters in analysis

and design stages which, these mix methods converted and changed the class into a design studio as an interdisciplinary approach.

Therefore, the mix model in presentation of the course in the studio could be provided sufficient condition to expand ability of students to imagine, innovate, and create new concepts in the design area particularly green spaces. Hence, mix model of education encountered students with new sphere of design that it has been missing in the course which, could be mentioned those important items such as topography, geomorphology, terrain, site design, urban design qualities, and plants.

Urban park design is a macro scale and detail design projects that those students were less introduced with these kinds of designing so results of research identify that all built environment field studies need to multi scales design courses to introduce students with related courses in the same area of knowledge and profession. Indeed, architecture, landscape architecture, urban planning, urban design, tourism planning, and other courses in this field have relation and connection in plans, projects also in scales and patterns. So, these departments should support particular subjects which they are more relevant with courses and profession. Therefore, it is suggested to establish a share committee for those relevant courses with all participated members as steering or strategic committee to check and control qualities of syllabus and presentation by lecturer in the class. Additionally, this committee should be have responsibilities to recognize and determine the limitation and differentiation duties and tasks of courses in all departments to monitoring process, materials, results, outputs and qualities of courses.

Finally, it is suggested that lecturers and teachers in the design class with non-designer students should be ready to use of own creation and experiences to change and complete syllabuses regarding class levels and essential qualities. Indeed, those lecturers who are encounter with design education to non-design base students have responsibility not only to own subject but also to those previous subjects that presented by someone else that maybe have less been sufficient. It is notable that this kind of streams changing have root in the realistic part of the world particularly in the developing countries.

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