

Architecture Students' Understanding of Landscape Issues in Design Studios (A Comparison Approach in Some Tehran Architecture Schools)

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ABSTRACT: Without the surrounding environment of a site, architecture loses its full meaning. In the evolution of the design process, a site's environment should be understood as the integral factor within which a designed product or artifact is expected to perform. The environment is not of secondary priority. Every building is intertwined with its context; context being its physical, visual and ecological potentials. Modern day practice encourages the consideration of ecological factors in any plan to create/alter sites even for those who are not landscape architects. In the pedagogy of Tehran architecture schools today, the architectural design process barely touches upon landscape environment; this is a flawed presentation of architecture which should be remedied. In common practice of Iranian education, buildings rise to represent only themselves. The graduates of this lacking method owe their mal-education to the problematic studio education system. This paper presents both qualitative and quantitative evidence to support the notion that Tehran schools should change their teaching methodology to accommodate the importance of environment in the architectural design process. All research participants are students of architecture. The data, which includes content analysis exports and log-linear analysis, presents the difference between the students' point of view regarding a designed building and its relationship with the surrounding landscape.

Keywords: *Architectural Design Studio, Landscape Design, Educational System, Environment, Tehran Schools of Architecture*

INTRODUCTION

There are differences between the thinking process of designers and non-designers and also between architects and landscape designers. Karmanov & Hamel (2009) in a study explore similarities and differences in the evaluations of 12 design gardens by students of landscape architecture and psychology students. They found significant differences between the two groups on the evaluation of four gardens.

On the other hand, a growing and ever more refined body of evidence suggests that architects both conceptualise and evaluate architecture in ways different to the public (Nasar, 1998). According to Rapaport (1982), designers tend to react to environments in perceptual terms, whereas the lay public, the users react to environments in associational terms. When asked to evaluate buildings, the professional and lay-groups generate differing categories and concepts. The most important notion in this paper is the position of the environment vis-à-vis

architecture; particularly we will focus on its role in academic architectural design.

MATERIALS AND METHODS

As Hybs & Gero (1992) note, the environment should be understood in a holistic manner, as one whole, to include the artifacts it (may) contain(s). Once this holistic view is taken, the environment's evolution becomes an integral part of the design progression towards a new state. The acceleration of global climate change, settlement sprawls and habitat destruction—especially a decade since the New Urbanism Charter, compel us to consider the environment to an even greater extent. Holistic solutions must address poverty, health and underdevelopment as well as ecology and the environment. Designs must preserve the proximate relationships between built environments and guard regional biodiversity. A glance at buildings worldwide shows that attention to the environment in the architectural design process is not only a demand, but also a necessity.

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On the other hand, design is a multidimensional activity involving a variety of skills, including but not limited to analytic reasoning, intuition and creative expression. Learning how to design can be a frustrating process that some students find difficult. Professors employ a range of strategies when teaching design. These strategies are often inherited from previous professors; noteworthy to us, these inherited strategies have little or no theoretical basis in students' learning pedagogy. An important factor in this process is the interaction of learner's design with its surroundings and context. This paper addresses the lack of identification of the purpose of sites in the architectural design process in Iranian architecture teaching methods. Questions we address are: (1) Why do some students in academic disciplines persist in avoiding the environment and landscape despite the importance of attention to its different dimensions? (2) Whose task is it to pay attention to site planning and landscape design in relation to design process in schools of architecture?

There is a gap between the process of architecture and landscape architecture. The approach to environment in architectural design process is either (1) subconscious attention to environment in the design process from early stages, or (2) conscious attention to environment during the design process as a relationship between architecture and environment (or landscape).

Due to many concerns and criteria in the environmental and landscape design area, we studied literature on landscape design education (including in the landscape profession) vis-à-vis architecture. One of the recommendations of this paper is to employ landscape architects in architecture schools, specifically in architectural design studios due to the aforementioned interlocking relationship (of artifact and landscape).

After using various models for more than two decades, in the late 1980s, Steinitz presented a 'Framework for theory applicable to the education of landscape architects and other design professionals.' (Steinitz, 1990). His intention was to illustrate the main stages in the landscape design process that designers could follow (systematically and not necessarily exactly as Steinitz suggested). Steinitz's diagram was better elaborated than the one from the 1970s, and incorporates all stages of the design process (Gazvoda, 2002).

Almost all existing models including early models of the design process imply a cyclic iterative procedure in design. All models deal with refinements of design, goal specifications, optimisation of solutions, etc., but none of them are satisfactory in explaining the emergence of the first (most likely clumsy and unsuitable) concept or version of a design solution (Hybs and Gero, 1992). This last step is what we focus on, that of, the relationship of site and context.

Over the last 20 years, Lawrence Halprin has developed a process coined 'scoring'. Halprin initially developed his system to choreograph the anticipated sequential movement of people through open spaces he was engaged in designing (Swaffield, 2002). For our holistic approach, it can be argued that there

are always ideas and concepts in the mind that directly or indirectly influence the designer. These basic designs may have originated from a variety of the designer's experiences; these inspirations ideally derive from local geographic, agricultural, topographic, environmental and anthropological studies. The designer then poses his observation against his mental and philosophical approach toward nature, landscape, aesthetics and composition. Lastly, he implicitly takes potential audience responses into consideration (Faizi & Khakzand, 2007). In Iranian schools of architecture, it is not only the thinking process based on environmental issues that lack, but sometimes instructors also serve as obstacles.

While there is some overlap between the models, for the purposes of analysis they were treated as discrete approaches (Miburn & Brown, 2003). The analysis of the literature suggests that research is collected and analysed then incorporated into the design process as, (1) criteria against which design concepts are tested and modified: the concept-test and analysis-synthesis models (Ledewitz, 1985; Schön, 1988), or (2) experiences and information which aid in the creation of general principles which are then used to assess specific design situations and evaluate alternatives (the experiential model).

With these few words, Santayana (1896) sets the stage for the central question of environmental aesthetics. The landscape, he says, is indeterminate and promiscuous. To be appreciated it must be, as he puts it, composed. Yet its appreciation is dependent upon all that is vague and whimsical, upon reverie, fancy and emotion. Thus, the problem of environmental aesthetics arise; that being, how the landscape is to be composed in order to facilitate its appreciation.

The system in place in Iranian schools of architecture allows for significant interactive participation. In the studio, students learn by actively engaging a design or planning problem associated with a project. This is called problem-based learning (PBL). PBL is defined as learning that results from a process of resolving a problem (West, 1992). A review of literature suggests that PBL has the potential to foster the following student capabilities: (1) creativity and critical thinking, (2) adoption of holistic problem-solving skills, (3) appreciation of diverse viewpoints, (4) successful team collaboration, (5)

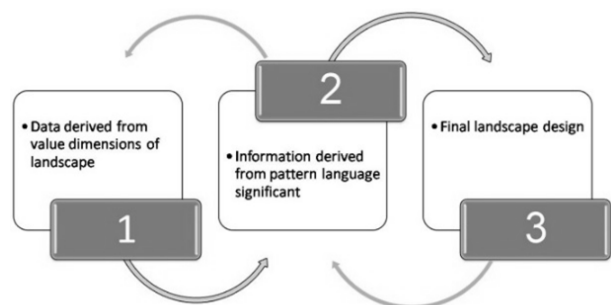


Fig. 1: Basic model of landscape design process according to Alexander (1977) theory (Khakzand, 2009)

effective communication skills, (6) leadership skills, and (7) the use of relevant and varied resources (Barrows, 1986; Lohman & Finkelstein, 2000). In these ways, the purposes of PBL correspond with Schön's (1987) recommendations for professional education and the pedagogic intentions of the landscape architecture studio project.

One important factor that influences design learning is the process of self-regulated learning (Powers, 2006) but as the author emphasised, the low awareness and ability of some instructors in the design process (unfortunately, some of them do not agree with the process and, therefore, product-oriented design is their basic thinking) and the lack of attention to environment could be the reason for false thinking process in the design field.

For the design project to function effectively as a pedagogic approach, students must become active participants in their own learning (Boyer & Mitgang, 1996). All educators benefit from the clarification of a philosophical basis for their teaching approach. This allows an individual to organise his or her behavior systematically, with a minimum of inconsistencies. Kent (1997) believes that the basis of his educational philosophy, educational liberalism, promotes effective personal behaviour, teaches a problem-solving process and provides knowledge as a tool for solving problems. For educators trained in critical inquiry, an important role is developing and teaching a curriculum that encourages students to explore issues and acquire the skills needed to intervene in human problems. Although there will always be debate about the most effective teaching strategy, educational theorists generally agree that successful teaching and learning depend on the creation of an appropriate learning environment. According to Omar Moore and Alan Anderson (1975) in "Some Principles for the Design of Clarifying Educational Environments," four essential principles determine the design of effective learning environments:

Learners need the opportunity to operate from various perspectives;

Activities should contain their goals and sources of motivation; Students should be freed from their dependence on authority and allowed to reason for themselves;

Learners should receive feedback and also be encouraged to evaluate their own progress.

One of the main problems in our studios is the role of students. In the architecture studio, the paradox inherent in learning to design, places the student in a predicament. He is expected to plunge into designing, trying at the very outset to do what he does not yet know how to do, in order to get the sort of experience that will help him learn what designing means. He cannot make an informed choice to take this plunge because he does not yet grasp its essential meanings, and his instructors cannot convey these to him until he has had the requisite experience. Thus, he must jump in without knowing – indeed, in order to discover – what he needs to learn (Schön 1987).

Milburn et al. (2003) argued about the academic contribution

in landscape architecture. They believe that, the role of the academic is changing from one focused on professional education, to one that includes contributing to research and to the development of the discipline. As a result, landscape architecture and related professions have been struggling to resolve the criteria of academic research with a discipline traditionally based on design, professional knowledge, 'intrinsic' understanding and practical application. While some educators welcome research into the academic practice of landscape architecture, Selman argues that 'others fear the ways in which it might diminish practical studio-based teaching, which has been the designers' "traditional forte"' (Selman, 1995).

A design must have the following attributes to be considered a contribution to academics:

Quality;

Thought;

Originality;

Significance;

Technical merit;

Evidence of a vision;

Excellent collaboration with practitioners;

Have received regional, national or international awards or honours;

No fiscal reward;

Written documentation; and universal accessibility (Midwinter, 1997).

We emphasise the role of "studio" in this article because of its key role in the design process. The design studio, often referred to as "studio," is noticeably different from other places on the college campus. Practices regularly observed in typical college classrooms are seldom seen in studio. Instead, as Paul Kasidowski (1996) notes, studio is a casual place where meeting times are specified but students gather and disperse haphazardly, trespass at all hours, maintain large work areas... etc. Within the studio environment, the pedagogic vehicle for teaching students the skills, knowledge and experience necessary to enter the profession is the design project. Education researcher Donald Schön (1987) notes that "studios are typically organised around manageable projects of design, individually or collectively undertaken, more or less patterned on projects drawn from actual practice".

As the core of landscape architecture education, the studio and design project are critical for teaching students the skills and knowledge to become landscape architects. Therefore, professors and students must ensure that they optimise the learning potential inherent in the studio and design project whilst minimising factors that might undermine learning.

Austerlitz et al (2002) believe that: design studio, the axis of architectural and landscape architecture education, has also been viewed as a paradigmatic model for future education in other professions. As such, understanding it thoroughly may be valuable far beyond professional considerations. Existing research presents evidence on the complex and ambiguous

nature of the studio, intensified due to the uniqueness inherent in architectural design problems and the creative process.

The design studio, as it has emerged through the modern period, has become the focus of education for architects, landscape architects and designers in most schools of architecture (Boyer and Mitgang, 1996).

Donald Schon sees the studio not only as the axis of architectural education, but also as a paradigmatic model for future education in other professions which have a tradition of education of artistry (Schon, 1984). Ledewitz (1985) views the studio as the primary means for at least three basic aspects of architectural education: new skills, new language and above all, a process of evolution in the student's way of thinking. Schon (1985, 1987) claims that architecture students must learn to 'think architecturally', meaning that the student must experience "learning by doing", "knowing by action", and "reflection in action". The student learns these processes while performing a design task under the supervision or guidance of an experienced instructor who is also an accomplished practitioner.

Other writers (e.g. Levy, 1980; Brodbent et al., 1997–1998; Cuff, 1991) are of the opinion that the studio is where the student learns to be an architect and most of the "Schon processes" take place.

As we will see, unfortunately, the attention of instructors to environment and context concerns in architectural projects is less than the expectation. In the author's experience, when the students make the challenge about context and site, their reactions are positive. Student reactions to the project were noted informally during the week of developing and playing architectural games. Most students embraced the project openly and warmly, although a few, perhaps anticipating a more traditional approach, expressed some skepticism regarding its relevance. Discussions were lively, with students actively engaged for the entire studio period. Overall, the mood of the class was upbeat and positive, and from their general demeanor, most students clearly considered this a fun project. Written responses in each project were also strongly supportive. Many recommended that the exercise be used in succeeding years and requested similar projects in the future.

The impact of the environment on the life of a design proposition (and later the product or artifact) has pivotal importance as the selection and elimination mechanism in design. It appears that although designers do not always consciously use the environmental factors in the process of designing, they have a very good mental model of the operating environment and use it to develop a workable proposition (Hybs & Gero, 1992).

To conceive of the site as being a part of architecture is to more fully take charge of the formulation of architectural interventions, and to take initiative in actively shaping the built environment (Hogue, 2004). To suggest that the site is the project does not question the primacy of site in architecture. Rather, to construct the site is to simultaneously recognise the immutability of the site/project relationship and raise the possibility of expanding this relationship. Within this framework, the site remains the

foundation upon which any project is established, but it is this very foundation that becomes the subject of critical inquiry.

This view of the preconceived image was anathema to the design methods movement prevalent in the 1960s where Form had to follow Function. However, it is now gaining ground in the world of architecture and urban design. Alexander feels that every project must first be experienced and then expressed as a vision seen in the inner eye, so strongly that it can be communicated to others and felt by others as a vision. It must, however, be evaluated against pre-established site and user criteria. Only when it is judged to meet their requirements can the vision finally be accepted and developed as the design solution (Alexander, 1987). Hillier and Leaman believe that the designer's preconceptions "are exactly what makes design possible at all, and indeed what makes possible the identification of a design in the first place" (Steadman, 1979). According to Filor (1994), there are three common components of any project: the site, the purpose to which the site is to be put and the designer. Each of these will have a bearing on the preferred design solution, varying in degree from one project to another.

Arnold Weddle has said that no landscape has a value until it has a purpose (Weddle, 1973), and Kevin Lynch has stated that one site may have different values for different people or professions (Lynch and Hack, 1984). Weddle was specifically referring to the visual evaluation of landscape at the regional planning level; for more general purposes, he means that the value of landscape or scenery can only be rationalised against a planned change in use, or a concrete development proposal. To follow the Lynch argument, a site would evoke different responses from a farmer, an ecologist and a property developer, and would be exploited and altered in different ways by each person.

As the landscape architecture's understanding of its own modern history has grown over the last decade, a growing volume of architectural literature has attempted to describe the practices of architects like Mies vander Rohe, Richard Neutra, Rudolf Schindler, and Frank Lloyd Wright within landscape architectural terms. That Walter Gropius is markedly absent from the discourse is particularly significant given that the work on his house represents a strategy of relating architecture to landscape that is uncommon among the work of his contemporaries (Kent, 1997).

One would not describe the house as "of the earth," built directly from or designed to merge with the materiality and geological structure of the landscape as are those of Frank Lloyd Wright. Nor would one immediately describe the house as transparent, dissolving visual boundaries between indoor and out through floor-to-ceiling glass as in many of the houses of Neutra, Mies, or Schindler. While in many ways these two strategies are different from each other, they share one important thing: they both derive their relationship with the environment from the romantic conception of nature as the "other," as something outside of the human realm (Kramer, 2004). According to table (1), the various approaches in the mentioned field is discussed and categorised, using content analysis method.

Table 1: Literature review classification based on Content analysis method

Landscape design...	Environment...	Studio...
Midwinter 1997 - Quality - Thought - Originality - Significance - Technical merit - Evidence of a vision	Hybs & Gero 1992 - The environment as a whole - Has an essential importance in design process - Using environmental factors in the process of design - Part of the design progression towards a new state.	- Donald Schon 1984 - Austerlitz et al 2002 Ledewitz 1985 As the training and even a paradigmatic model New skills, new language and, above all, a process of evolution in the student's way of thinking.
Faizi & Khakzand 2007 Impact studies, geography, agriculture, topography, ecology and anthropology based design approach	Hogue 2004 Site as part of the architecture and its evolution	Paul Kasidowski 1996 A casual place where meeting times are specified but students gather and disperse haphazardly, trespass at all hours, maintain large work areas...etc.
Steadman, 1979 - what makes possible the identification of a design in the first place	Powers 2006 The lack of attention to environment could be the reason of false thinking process in design field.	Barrows, 1986; Lohman & Finkelstein, 2000 (1) creativity and critical thinking, (2) adoption of holistic problem-solving skills, (3) appreciation of diverse viewpoints, (4) successful team collaboration, (5) effective communication skills, (6) leadership skills, and (7) the use of relevant and varied resources
Filor 1994 three common components of any project...		

Sampling

The population in this study consists of all students who were studying architecture at different levels in Tehran. The sample consisted of 90 students of Architecture at the University of Tehran, Shahid Beheshti University and Iran University of Science and Technology and was selected by means of systematic sampling. Twenty of them were freshman BS students (level 0), 19 persons were junior students (level 1), 30 were senior students (level 2) and 21 of these were MA students (level3) from all three schools almost equally. Thirty five were male (gender 1) and the remaining were female (gender 2). The present research was conducted in two sections: a quantitative and a qualitative section:

Qualitative Section

A content analysis methodology was used along with logical reasoning regarding the identification of the information that was collected and classified and then performed as a comparative analysis in Table 1.

Quantitative Section

The quantitative section was carried out based on a survey research. The factors were identified according to previous research studies in the field of landscape design and environmental studies. Evaluation of students' understanding in the field of landscape

architecture was explored using a questionnaire. In this regard, the researchers used a questionnaire with three main questions (q1, q2 and q3). Q1 asked about the relationship between the site and building in their design (option 1= Yes and option 2= No). Q2 asked about the condition and decision making process in q1 (option 1= landscape affects the building architecture, option 2= building architecture affects the landscape, option 3= both of them and, finally, option 4= landscape and building architecture shaped independently). Q3 was a descriptive question. Each respondent was asked to nominate a building which he/she believed had a good relationship between building architecture and its site or landscape. The pictures selected using the Delphi method amongst five landscape architecture experts. The data collected was analysed using Log-linear Analysis with SPSS.17 software. The final model generated by the analysis is shown in table 2.

RESULTS AND DISCUSSION

As shown in table 2, the results of Log-linear analysis show the following (SPSS software enabled the author to develop the aforementioned inferential statistical analysis and the results showed that none of the other relationships were significant): Fewer Junior students than expected expressed beliefs regarding the condition and decision making process etc. In

Table 2: Parameter Estimates (b,c,d)

Parameter	Estimate	Std. Error	Z	Sig.	Confidence Interval	
					Upper Bound	Lower Bound
[level=1]* [q2=1]	-3.553	1.596	-2.226	-0.425	-6.681	0.026
[q1=1]* [q2=1]	1.758	0.850	2.067	3.424	0.091	0.039
[q1=1]* [q2=1]	2.745	1.006	2.739	4.725	0.783	0.006
[level=1]*[gender=1]*[q2=2]	20.251	1.992	10.168	24.154	16.347	0.000

addition, fewer Junior students than expected believe that landscape affects the building architecture

More students than expected gave positive responses regarding their beliefs about the relationship between the site and building. They mention the condition and decision making process in the relationship between the sites and building. More students than expected believed that sometimes landscape affects the building architecture and sometimes building architecture affects the landscape.

More Junior male students than expected, when considering the condition and decision making process in the relationship between the site and building, believe that building architecture affects the landscape.

On the other hand, the results of goodness of fit tests show that the following model is fitted with observed data: (χ^2 (24) = 24.588, $p > 0.05$)

The chi-square test shows that:

Less people select option4 in response to q2 but all of the answers have selected;

Less people in response to q1 select option 2.

As the author mentioned before, there was one main descriptive question (q3) in the questionnaire. All respondents should have mentioned a building that has a good interaction with its context and environment, according to their belief and knowledge. One third of persons (30) among 90, from students in University of Tehran, Shahid Beheshti University and Iran University of Science and Technology mentioned the falling water house (designed by Right). In order, other mentioned buildings, as seen in the following images, were: Mellat park Cinema by Daneshmir (8 persons), Church on the water by Ando (5 persons), California Academy of Science by Piano (4 persons), Rokko Housing by Ando and Persian gardens (each one with 2 persons) and 19 individual buildings (each one with only one person). Unfortunately, 20 persons failed to answer this question, although some of the buildings among the 19 were the ones with low interaction with their context and some students only wrote about some parks like Citroen (when they heard about landscape they only imagined a park or open space) This means that they were unable to imagine architecture in a good relationship with its landscape because they did not see an architecture like so. The results of univariate chi-square test

show that:

”Falling Water House” is significantly selected more than other buildings. (χ^2 (7) = 67.69, $p < 0.01$)

As witnessed in the collected responses from junior students, they believe that, it is not necessary for landscape to affect the building design—see figure two. The rate of paying attention to landscape and context in their design process was minimum. Although some of the testees who believe in the relationship between landscape (site) and building design argued about the effect of landscape on building design process but as the researcher mentioned before, they are in a minority. Neither the students, nor the instructors accept the landscape architecture approach as a fruitful way of thinking.

On the other hand, the negative effects of the educational system in the schools of architecture in Iran is clearly visible because, as it can be seen, when the students mature in the schools of architecture, the rate of their attention to an environmental way of thinking is diminished.

Today we can find buildings that pioneer the development in this approach. As Kent (1997) argues, the Gropius house landscape is a significant physical manifestation of the design debates of its era. The landscape is an element of both mediation and integration forging a reciprocal and evenhanded relationship between architecture and site. Shaped by modern architectural sensibilities translated to the landscape and developed at a moment when landscape architecture was struggling to find a modernist inspiration and voice, it is an object lesson in the development of a modernist landscape architecture in America. Nasher Museum as a teamworking project between a landscape designer and an architect (Walker and Piano) is a good example. Nasher museum placed tautly within the framework, the museum embodies its surroundings’ conception of their own place within the larger landscape (sculpture garden).

Finally, at Nanyang university, the designer not only allowed his architecture to be terminated by the existing order of the landscape, he used his architecture to abstract and amplify that order, giving the building and landscape spasticity to site and delineating a formative role for their architecture upon its context. For these designers, landscape served not as a symbol of nature but represented a larger set of processes or systems in which they recognised the reality and value of

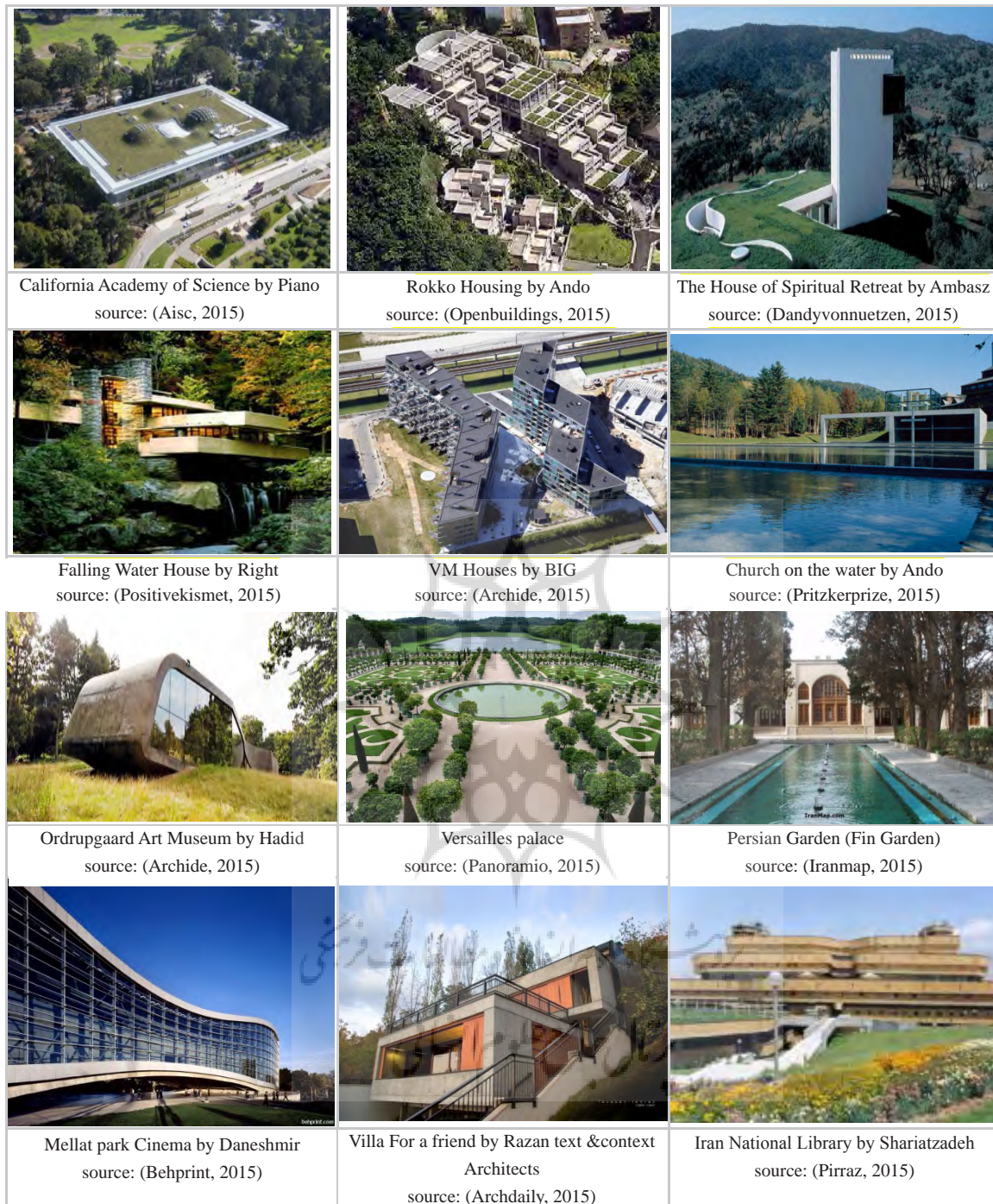


Fig. 2: The selected designs by students regarding interaction between building design and its context

humankind's historical role in the shaping of site. The primary elements of landscape -those of geological and ecological process, climate, and even human intervention- were each engaged equally as formative influence on the building and site. In these projects, the physical and pictorial layering of space in the landscape does not create distance between

humans and nature. Instead, it is the metaphor by which we take measure of the layered histories and contexts of the site framing a powerful middle ground that bridges the dual roles of the landscape, those of demarcation and integration. According to limitations in the quantity (three) of landscape architecture groups in Art & Architecture Schools in Tehran,

		
Nanyang University by CPG source: (Greenroofs, 2015)	Delft University Library by Van Den Broek & Bakema source: (Wikimedia, 2015)	The ACROS Fukuoka by Ambasz source: (Bp.blogspot, 2015)
		
Ewha Campus Center by Perrault source: (Architect, 2015)	Nasher museum by R. Piano & P. Walker source: (Rickrubens, 2015)	Walter Gropius house source: (Richard-schooler, 2015)

Fig. 3: Some built environments with connections to their surrounding and context by famous designers

Design 2: school design	Design 3: cultural building design	Design 4: hospital design	Design 5: residential design	Judgment time
				
				
				

Fig. 4: Results and products of four design studios and their judgment procedure

Iran, it seems that this field of knowledge cannot grow in the appropriate way. The author has collected some illustrations from design studios of Iran University of Science & Technology in Tehran, Iran. The presented works of students, from high-ranking schools, show that the necessity of paying attention to environmental thinking process is not existent. Although instructors themselves did the evaluation and judgment process of the projects, they were unable to identify a remedy for this problem.

CONCLUSION

The results show an approach not a process according to a specific method or thinking. As can be seen in the projects, the students failed to use any character of the context and environment. So we conclude that there is no challenge between architecture and landscape. On the other hand, the rate of maturity in architecture students has a direct relationship to their building design involvement to landscape.

According to the content analysis table (Table 1), it is proposed that paying attention to landscape in design could be a new skill in the student's way of thinking, at the very least. Also, the use of relevant and varied resources, like the environment, could help the young designers to improve their design level.

The presented work is from different semesters, students, and design studios from Iran University of Science & Technology. Almost all of these products are problematic. With the comparison of two design project approaches, we see a direct relationship between comprehending environmental thinking approaches with student creativity.

Based on new approaches in combination of landscape and buildings with different functions, it can be concluded that the projects with a lack of these approaches are less creative and also less responsive.

One of the critical issues in the design process is creativity and extended this into the designing activity process is limited. Although the landscape and environment can create limitations and cause innovations in design process in one hand, but as is obvious, it can improve the designers' quality of design. In many cases, the landscape issues failed to affect the building architectural design.

In the descriptive test, the selected pictures (e.g. Falling Water house) could indicate that the architecture students believe in building design severely, even in the natural environment and they fail to accept the higher level of alterations in the building and site involvement.

Indeed, the young designers failed to involve these issues nor did the instructors ask them to involve these issues. With environmental concerns and their critical situation in this era being of paramount concern, changing student mindsets seems essential. In the schools of architecture, neither students, nor the instructors are interested in including the landscape into their architectural design process. This is sometimes due to the lack of instructors' knowledge and experience in the field of environment and site issues. This case occurs in circumstances under which all the students are forced to analyse ecological and

environmental factors at the beginning of their design process but these factors fail to have any effect on their design. The lack of landscape issues brought up in the design process not only has negative impacts on the environment in the near future, but also causes a diminishing in the rate of innovations in students design quality. In conclusion, a remedy for this situation is the attendance of landscape or environmental designers in architectural design studios.

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