

## Investigation of Opportunities and Challenges Facing the Sustainable Architecture in Iran

Mehran forsat

Department of Architecture, Tehran University, Iran  
[forsatmehran@yahoo.com](mailto:forsatmehran@yahoo.com)

**Abstract:** This paper is about the importance of education in sustainable architecture and evaluation its features and drawbacks. The goal is to obtain knowledge about environmental education, ethics, values and skills in line with the objectives of sustainable development and public participation in decision-making. The transition from the traditional architecture, sustainable architecture, and architectural education requires a major change and is also faced with numerous obstacles and structures. Sustainable Architecture Courses include educational problems of environmental resources, transportation, construction materials, building systems, and collecting and integrating multiple uses and is consistent with human values. In contrast to the habits of the population in Iran is training and entail the coordination and management structures. Study of Sustainable Architectural Education in Iranian university revealed that there are some shortcomings in the training of students' attitudes and motivation for the change.

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### 1. Introduction

Appearance of architecture education may be attributed to the time that ability to convey human experience and the natural environment for change come and it can be said that the emergence of the language. It has the ability to influence scientific and technological findings, human his developmental path, and in the history of the development of the cultural, social, political and economic impact has been. This is the number and variety of teaching methods. Like other methods of architectural education and practical training in various techniques, change your tune and understand the art of creativity and innovations scientists and craftsmen have been [1]. In medieval schools of architecture, painting and sculpture is influenced along with religious teachings and from Renaissance to contemporary architecture and art are always political, social and philosophical schools. Different schools of architecture in Iran and Arabic countries also influenced by national culture and religious beliefs, climate and local materials and technology and special education methods are presented. In general, the traditional teaching on the integration and coordination of operational procedures, knowledge of the environment and respect for nature, the spiritual and moral values, physical and aesthetic needs of your evening, bringing relief and comfort and glory has. Political and philosophical schools of the eighteenth century and the advent of the industrial revolution, the rise of a materialistic view of the human environment, and the impact point in the process of teaching the arts, especially architecture, is considered [2]. Architecture

of the parallel development of science and technology, seeking to create innovative spaces and structures and ultimately human welfare assistance and the use of fossil fuels has provided facilities. So the fusion of creative design is architectural education and practical aspects of the methods of construction and installation.

Energy crisis of the seventies and the subsequent environmental problems influenced many human activities dogged. Architecture and urban design and the large share of energy consumption and environmental pollution will be faced with a difficult challenge. Ecosystems and the need to care for the earth and future generations, the new concept of "stability" in literature, science and the arts all imported. The concept of sustainable was used development and the design of synthetic micro-and macro-scale. This concept is based on three pillars: environmental conservation, design and value of the human life cycle are located, significant changes brought about in the production and consumption. Architecture and urban areas into harmony with the environment and ecology led Taking advantage. So the conventional wisdom had been changed is based on the use of training facilities in the building and the lack of attention to the environmental impact of the construction. European countries due to the limited energy and environmental problems of global warming and climate change in a few strains were difficult. After the fast, the design and production of renewable energy alternatives has been revised and used to track all aspects of architectural education in sustainable development planning. Meet the needs of

the human development have without negative impact on quality of life of future generations. The fossil energy resource-rich countries and the delayed international have pressure to reduce environmental problems in the form of symbolic actions. But still continue to practice traditional methods. Challenges created in this way have been updated and sometimes even in the executive management of the organization.

**Architectural Education for Sustainable Development** Sustainable development is based on social, economic and environmental objectives are defined and education is an important part of social development and design skills that make up and should be associated with the values of social and environmental resources. Sustainability in architecture education, the content of courses designed to develop skills in building bridges between science, social, economic and environmental. process design and implement complex projects in all directions and goals for sustainable development to take big way. On the other hand consistent with the values of human and indigenous form of prevention is to educate students. Matter interaction in the education field and its purpose is to prepare the next generation to lead the community in the right direction. Based on the recommendations of the United Nations, the promotion of education for sustainable development and improvement of the capacity of the public to be required become familiar with the issues of environment and development [3]. Participation in micro or macro planning, orientation and positive outlook towards environmental resources, energy and ecology have increased responsibility in creating awareness and help make the world safer. This will be possible when the general form of training, continuous and widespread at all levels of social provision and social responsibility are mutually increase [4]. It is important that people have a good understanding of the structure and processes that are internal to the stability and beauty of the work. In general, people in the social environment, students can play an important role in the design process and policy played into the minds of students to lead sustainable goals. However, in most developing countries have cultural places such concepts. Need to know sustainable architecture is an important part of the process required to design and implement public participation and public decisions. When architecture students learn the knowledge and skills associated with human settlement environment totally scale, color, light, and finds meaning in the built environment and ecology, society will embrace these concepts appropriately [5]. However Login sustainability thinking in developing countries, the executive management structure, socialization and training are coordinated with various obstacles faced. Such communities without mental maturity strengthen

the foundations of civilization and the cycle of production and consumption, only the physical and symbolic transition from tradition to modernity. Obviously, this policy reflects the costly construction methods, traditional economy, knowledge of slang and non-documented habit of consumerism, segregation and lack of public participation in policy-making decisions presents.

## 2. Material and Methods

Training in traditional Iranian architecture are often associated with human concepts and sometimes even mystical and the principles has benefited framework of content and its performance qs people recognized and supported with local materials is located production workshop. The reliance on self-sufficiency and cultural products, and the economic climate has caused over the centuries in different spaces, exquisite and beautiful historic architecture arise. Despite the authenticity and integrity of the principles of traditional architecture, contemporary architecture today of little to no scientific training, usually the research, restoration and only has been served as a symbolic or religious space tourist. In any case, the trend of traditional architecture and function is more decorative and less content. The traditional architecture of frame elements such as wind, domes, central courtyard, frozen wastes, such as high-performance canopy and had considerable environmental. The structure of conventional fuels and requires much less attention than they have been in architectural education. In many developing countries, this training is the only place to cross and how to apply and combine it with modern architecture and obtain high-performance architecture can be seen below a sign [9]. The world lies in the concepts of traditional architecture with modern architecture is fundamentally different. Ancestor of modern architectural concepts based on combination traditional architecture that has been associated with the high costs of energy consumption. At seventy years, architectural education in Iran often formed schools on Beaux that the content and methods of teaching style and the student to master the traditional course of century's tradition is different. Now the important part of the training, competitions and style modern architectural projects is high in developing countries, post-modern and abstract tendencies of late twentieth-century abstraction form. These activities are generally based on educational achievements and trends of formal European or American modernist architecture schools, with a glance at the models in magazines and architectural books. Considering that normally utilizes fossil fuels and the conventional facilities, the twentieth century has been the integral part of the design process, architecture and design

methods have less education and performance feedback process overall and is ecological. Education in all disciplines, particularly architecture is largely academic research and hence infers the concepts of functional and innovative ways to understand and comply with the environmental and cultural values of the region and no suitable place. Although in recent years some effort to review and has been apply traditional knowledge and sustainable architecture in Iran, But these trends are often personal taste, and not relying on Western models of social support. Besides these courses, the environment in recent years has been training students lacking adequate background in administrative and social needs of the community. Trends in architecture and sustainable architecture, landscape architecture graduate courses such as traditional structures, humans and the environment represents are basic ecology and sustainable development, renewable energy, architect, familiar with local housing and environmental compliance, and traditional Indian architecture, the results reflect a higher education such as the University of Science and Technology, Tehran University and sustainable architectural principles for teaching the importance of martyr Beheshti University students. Students usually related concepts, including energy and recycling methods, and software design, analysis and simulation of feedback on energy consumption, such that no process; Due to lack of field work in this case, the incentive to be aware of it. The tendency of students to the field rather than on the needs of the market and it is based on personal interests. So long as the material and financial trends that determine students tend to be discipline specific, Cannot be expected of students and the orientation required the presence of community-oriented and have extra motivation. Nevertheless, ambition and a sense of responsibility have increasingly diverted students to the issues of sustainable architecture. Mass media and non-governmental institutions have begun in order to reduce energy consumption and conservation of cultural and environmental conservation activities. In recent years energy crisis has once again focused the attention of the world and is more serious. National Building Regulations as part of its efforts to enforce the city's executive management will work in the coming years.

There are more than two decades are going concepts of climate and energy savings into the field of architecture at the Universities of Iran. But so far is not done qualitative assessment and statistical concepts and trends related to educational planning. So the question is formed how to explain the evolution of research on students' conceptual understanding of the fundamental concepts of sustainable architecture. The aim of the study is that

we know the curriculum and the content of the proposed course suitable for students motivated to change the traditional structure provides executive management towards sustainable development. To obtain the results of this study, was used a method of "case studies" based on a limited survey. The study was planned so that it can be targeted with abuse and conceptual tools of the mind and motivation of the students to become familiar with the lessons learned. Enough results to make decisions and take the appropriate methods to obtain training in the field of sustainable architecture. Climatic and environmental conditions were done through their courses and passing. The multiple-choice questions and was adjusted so that only students who had attended these courses could respond to them. In the course of answering options, incentives and changes were measured in the attitudes of students and their familiarity with a particular concept.

### 3. Results

Most students have emphasized on the relationship between humans, the environment and reducing energy consumption, that the impact of mass media materials. However, students are less comprehensive than sustainable design methods, future needs, human ecology, environmental resources, capabilities and new architectural vernacular architecture and aware its relationship to social and economic factors that influence the design. However, in recent years, domestic and foreign journals at university libraries exist that a certain number of articles are devoted to these issues. So it can be concluded that most of the students has declined faculty of the document or audio media reliance and detailed knowledge of the subject and the study of architectural books and magazines as topics in their classes toward sustainable architecture and its related fields are not searchable on the web.

All students with taking basic courses are aware important role in inspiring the human nature and its relation to the impact of the built environment. But the troops did not have much knowledge in architecture, but they have shown a positive attitude towards it. Students were not aware about the importance of people in the metropolitan area planning and development decisions and also have not demonstrated a positive attitude toward it.

By changing the cross section of the Master of Architecture degree, and depth of knowledge of students has not changed much that however, students are more motivated and are considered more open approach to sustainable architecture and related areas with so much interest have been selected in the research and studies. Students have good knowledge to the use of solar and renewable energy that shows

teachers' attention to new energies and explore in this area and transport them to students.

Solar architectural education in Iran, the approach of using alternative energy after the energy crisis and environmental were concerned of planners, designers and the public interest in the advanced countries, and many fields was established for training methods for the design, calculation and execution of building users in these countries. Besides it, research centers and universities quite serious and persistent, versatile and affordable solutions to the building industry gifts have their own country. However, in recent decades the issue of reducing costs and increasing efficiency in combination with the modern architecture of the building is still very important.

In spite of in Iran most of days are sunny and more than 3000 hours of sunshine per year and the average of the 20 MJ of energy radiation per square meter per day, but enjoying the shade used in the conventional wisdom in burned fossil research has practically applied, the use of solar energy in recent decades, and the trend to limit the number of teachers and researchers began, however, in response to the global effort to reduce the use of fossil fuels and emissions of greenhouse gases, foot with research centers and educational seminars and conferences domestically and internationally, have been taken effective steps in this direction. Associations and public and private institutions was established such as the Solar Energy Research Center Housing and Building Association of Solar Energy and Renewable Energy Organization of Iran. Some of architectures and teachers also designed their own personal houses based on solar architecture principles. Despite such efforts, these efforts led to the creation of specialized universities are called solar architecture.

A good example of vernacular architecture in order to integrate the values of traditional static methods and architecture in Europe and America took the sun, is Solar Building, University of Science and Technology, which was implemented is based on a load bearing brick structure and use of the spa facilities in the building, which is designed based on wind, frozen wastes, the use of evaporative cooling and insulation of exterior walls, providing comfort conditions inside the building. However, no report on the thermal performance of the building and is not currently being used. Obviously, not much time is left until the end of the fossil resources and many of the forward-looking policies related to energy consumption, conservation of environmental resources and the environment the fundamental transformation of public education and specialized preparation in fields of construction, architecture and urban development plans.

#### 4. Discussions

The international community needs public participation to reduce energy consumption and environmental pollution and environmental resources and the preservation of world heritage. Such actions require public education at all levels, in continuous and long-term. Obviously this is way deeper and more specialized training at the University finds. However, public participation in decision-making, it would be a major issue. Also, being a thorough and comprehensive programs rooted in integrity enforcement and education have an important role in ensuring that the objectives of sustainable development. Reviews and analyzes of a limited number of universities in undergraduate and graduate courses related to sustainability were showed that the students are familiar with these concepts and are denied the theoretical surface and deep knowledge and practical training in the principles of sustainable architecture. Lack of cultural space and the market needs to pay attention to these lessons students will open and show the proper motivation. However, try some faculty with expertise in the subject and the tendency of some non-governmental organizations and mass media education programs has created the possibility that a limited education at the college level and conditions for sustainable development and the achievement of sustainable architecture provided results.

#### Corresponding Author:

Mehran forsat

Department of Architecture, Tehran University, Iran

[forsatmehran@yahoo.com](mailto:forsatmehran@yahoo.com)

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