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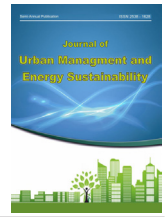

CASE STUDY RESEARCH PAPER

Explanation of Objectives in Public Built Environment Education Up to Urban Management

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ABSTRACT

Public Built Environment Education is a learning opportunity that is provided to non-professional audiences such as school students and their parents and relies on different characteristics and aspects of built environment phenomena such as architecture, landscape, urban spaces, and similar. This research objective is to provide an overview of the main components which affect both the goal-setting and the implementation methods of Public Built Environment Education. This research especially focuses on the matter of goal-setting because it is the first essential step to examine the capabilities of built environment phenomena to play an active role in efficient education in the future. Following that, and to grasp more recent activities in this area, case studies were selected from the participants of the Golden Cube competition, which is held every other year by UIA. The goals set for the new examples are not much different from those proposed in past decades. Although various institutions offer Built Environment Education through various new learning methods, they only apply some necessary skills for contemporary literacy on a one-way road due to the nature of their goal settings. It means they will not accept any responsibility for reinforcing the rest of those skills. In other words, to express all their capabilities, these educations, in addition to obtaining new learning models, need to define and follow more up-to-date goals based on new definitions of literacy and its requirements, including the concept of efficiency.

Running Title: Public Built Environment Education Up to Urban Management

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The current article is extracted from the doctoral thesis of the first author, which is titled "Explaining the model for measuring the capacity of build environment education in creating learning opportunities - with a phenomenon-based learning approach" under the supervision of Dr. Hossein Zabihi and the advisor of Dr. Kamal Rahbarimanesh in the architecture department of architecture and urban planning faculty in Qazvin branch of Islamic Azad University is in progress.

1. INTRODUCTION

New learning behaviors have also been proposed by changing the definitions of effects on learning. The common denominator of many of these behaviors is the appeal to concrete phenomena present in everyday life. The first form of the problem of the present research is to examine the level of readiness of public education in the artificial Environment to help these new learning models. Considering the continuous presence of multidimensional phenomena of the artificial Environment in the daily life of man, by raising this issue, questions arise, among the most basic of them, what are the most important goals for the design and implementation of public education on the artificial Environment?

To develop and improve living facilities, mankind has attempted to exploit resources and consider optimal consumption (Azadkhani, 2022) Artificial environment is any physical environment planned, designed, and built. In this way, architecture, landscape architecture, urban design, and interior design are the field of artificial environments. In response to the emergence of the complexities of the city and the aggravation of the environmental problems of the city, sustainable development was raised and the attention of urban planners and designers was focused on sustainable cities (Madani Esfahani, 2021) The theory of Environment livability is one of the debates that emerged from sustainable urban development, which focuses on all residents' social, economic, physical, and mental health (Hekmati and Joodaki, 2023) These environments are one of the first experiences of every human being. Artificial environment phenomena are packages including a wide range of technical requirements, cultural values, climatic and economic requirements, etc. Their ability to carry such broad concepts makes them fruitful educational content. Providing artificial environment education to the general audience is important from two aspects; To follow the developments in the field of learning. Education is moving away from abstract study materials and referring to educational subjects which are phenomena present in everyday life. This is an opportunity for artificial environment phenomena to gain a suitable place in the design of new educational content by proving their capabilities in supporting educational content so that while they play their role in the development of society's literacy, they can benefit from the advantages of promoting sensitivity and public awareness towards They also benefit from the quality of the artificial Environment. Second, although the professional boundaries of artificial environment professions are clear, encountering artificial environment phenomena is a general matter; "Everyone" is the first-hand audience of these phenomena, they are affected by them, and of course, as users or employers, they affect its quality. Recognizing the citizen's right to influence the Environment is also significant from the point of view of citizenship rights. Creating a more conscious relationship between the Environment and the audience is also helpful for professionals in the artificial Environment: the Copenhagen UIA statement in 2009 considers the survival and sustainability of the urban Environment to be dependent on the awareness of all users. (UIA Copenhagen Declaration 2009) It can be said that the level of public awareness is often low. The general public is deprived of the minimal information to help them make informed environmental decisions. By accepting the importance of providing this training, it becomes essential to know better what has been done in this field. including knowing the components of these learning experiences. Goal setting is one of the first necessary steps to start these experiences and one of the most decisive components determining the final direction. Here, the goal is to get an image of the main components affecting goal setting in these trainings, so that as a first step, they can be referred to in future studies of the ability of artificial environment phenomena to play an active role in learning based on efficiency. The efficiency of the set of skills is essential for a productive life in the 21st century, and their acquisition is considered a necessary quality to be "literate" in the new century. These skills are described as teaching to know5, teaching to act6, leading to live7, and training to live with others8. (Delors 1996) The requirement to acquire these skills is mastery of work tools, work methods, thinking methods, and global life. which include familiarity with working tools, working techniques, thinking methods, and international life requirements. (Rosefsky and Darleen, 2012)

2. MATERIALS AND METHODS

The current research started by following the qualitative research method and by posing general questions about the goals and features proposed for public education in the artificial Environment. According to the requirements of the research goal

in examining the possible changes in the purposes of public education in the artificial Environment, the data collection method was chosen in two stages and two ways: library (to get a picture of the primary goals) and case study (to study new implementation examples). To get a picture of the current training, participants' statements, descriptive reports of the organizers, and materials that describe or link to the works of the participants in the Golden Cube competitions in 2012 and 2014, the study and then the participants were divided into two areas of resources and activities. The content category included written or multimedia educational works and activities representative of the workshop, class, and course. At this stage, 34 educational resources (written content including fiction and non-fiction books, illustrated books and various publications, and audio-visual content including digital games, card games, video, theater, dance, educational packages, and different software) and 60 participating educational programs in the department of institutions and schools, they were investigated to obtain a picture of the objectives and the form of training implementation.

The present research, during the past research, tries to use the view that new perceptions of the concept of literacy, learning, and appropriate educational content have been created, to propose the necessity of changing the viewpoint regarding the attitude towards public education in the artificial Environment. As will be seen, even the experiences of the 2010s face limitations that have their roots in the 1960s and 1970s. It seems that the most significant volume of content produced emphasizing the necessity of providing this training and related executive solutions is available from the 1960s to the 1990s. Of course, there are significant practical examples from the following decades, which will form the central part of this article. Hinda Avery in the article "The Potential Role of the Art Teacher, the Urban Planner, and Community Groups in Built Environment Education", refers to the design, social and political aspects of the urban Environment in the education of the artificial Environment, says that these educations should help the younger generation to improve their ability to shape Know the Environment as needed. He is against the focus of architectural education on mere aesthetics and design and states that this education should have an interdisciplinary approach and include elements related to design, society, and politics: "Artificial environment education should include design and social aspects, it is political of the urban Environment and to make children aware of their ability to shape the Environment to meet their needs. Avery, in his criticism of the common trends of his time, points out that in most cases, the phenomena of the artificial Environment are only referred to as the subjects of paintings, sculptures, and graphics, and the identity of the work as a cultural symbol is ignored: (Avery, 1989) "The educational system must Promote through a strong curriculum. A program with a sense of social responsibility and environmental importance. "Younger people should feel responsible for participating in decision-making about what affects them and their community." (Avery, 1989) Despite mentioning the presence of general artificial environment education in the school curriculum, his ultimate goal is to create a context for environmental interventions and not to enrich the school curriculum further. In the 1970s, Eileen Adams and her colleagues tried to evaluate the methods of strengthening environmental perception in the form of art education and to strengthen the critical and diagnostic skills of the person in assessing the artificial Environment. (Langdon, 1996) The importance of his activities is due to his efforts to attract the attention of art teachers in schools to architecture. In stating the necessity of providing public education in the artificial Environment, Adams pointed out the opportunity for the child's mental, sensory, emotional, and social development and mentions the chance to practice decision-making, discussion, and communication skills for the child. He has organized organizations including teachers and architects. Still, at the same time, he warns that the inclusion of artificial Environment education in the school curriculum should not lead to a heavier program. (Adams, 2008) Adams says that the study of the Environment is not a historical, geometric, or geographical phenomenon, but an essential member of the field of art and design education. This interpretation is the most significant criticism that came to his goals after publishing the book Art and Design Education and Artifact Environment15 in 1982. For him, the lesson plan mainly focuses on sensory and primarily visual aspects of architecture. Although he does not deny the importance of the social aspects of architecture, he considers that dealing with them is beyond the scope of the art class. (Langdon, 1996) and the problem may be that he believes the place of providing public education in the artificial Environment

only during the "art lesson hour". June Mcfee in Environment and Culture: Teaching Facilitator believes in combining design and visual elements with social and cultural awareness (Langdon, 1996). To present a lesson plan for artificial environment education, he uses his investigations of the values of culture (and not the design or visual qualities of artificial environment phenomena) begins. His goals emphasize the two components of people's relationship with the surrounding physical Environment and the evaluation of the urban Environment. He describes learning activities to understand how to use the Environment and recommends paying attention to four areas: my space18, shared spaces, gathering spaces, and networks between spaces. (McFee, 1977) The lesson plan suggested by McFee first draws the child's attention to his world and then extends it to the broader world. The quality of communication between these spaces is the central theme of his lessons. McPhee suggests that the teacher, by asking many questions from various aspects affecting the growth of the city and helping the child to find their answers, will finally reach the answer to the question of how the child can help Do members of a group solve environmental problems around them? (Langdon, 1996) McPhee, like Avari (although from a different perspective), considers this training to be of service to environmental qualities. This does not help to reduce the gap between public education, the artificial Environment, and the learning system.

Targeting in educational designs of Golden Cube programs

By examining 94 entries of the Golden Cube and referring to the traditional goals of public education in the artificial Environment, the visible themes in their goal setting for designing content and activities were extracted and compared with the purposes above. After reaching the objectives visual in the design of resources (vs. activities) it can be seen that "activities" generally offer a multi-dimensional learning experience while the "resources" produced are distinctly focused mainly on "one" primary goal. For example, in the instance of Donja Dubrava market revival (representative of Zagreb/Croatia Architecture Research Institute in Golden Cube), various behaviors can be observed, caused by various goals. To begin with, "field research" is a prominent practice that involves visiting and documenting the existing situation by students and members of the institute, collecting local people's memories of the bazaar to get a more complete picture of its cultural and social status, and also interviewing to record popular ideas in The future shape of the market was discussed. Another behavior of "receiving and applying information" was performed by attending lecture workshops about the market's history. The following specific design behavior was implemented by attending the seminar and "designing" based on the suggestions received using various visual tools and techniques to implement the design processes. Finally, the behavior of "presentation" was observed in the form of holding an exhibition to display people's proposed designs and children's suggestions, which was enriched by practicing visual expression methods and the experience of competition to convey the message. All this was due to the goal setting for all three goals of learning skills, reading, and literature that were observed in this learning experience. In the following, a description of the goals above and examples of behaviors carried out in Golden Cube to provide them are presented. For the conversation between the designer and the audience, if there is a concern, a familiar context and language happen, and it is necessary to agree on the concepts that both groups rely on when thinking about the phenomena of the artificial Environment. Familiarity with the limits of intervention and the tasks of artificial environment professions, strengthening the storage of related vocabulary, and practicing to express environmental qualities with expressive words are among the goals observed in the Golden Cube programs. The behaviors observed in Golden Cube's programs to achieve these goals are Studying and talking about the basic concepts (beauty, durability, utility, etc.), dealing with the concept of settlement and its types, types of scale, types of human gatherings, aesthetic values, symbolism, multiple qualities of the senses and the like in the form of workshops and lectures. Describing experienced or imagined spaces in the form of graphic or literary representations, and expressing "qualities" perceived by people or depicted in films and literature are also efforts to reach standard literature.

Increasing environmental awareness by increasing empathy between the audience and designers can lead to preserving design values and cooperation to create higher-quality spaces while drawing attention to the phenomena of the artificial Environment. This is the underlying theme in gaining environmental awareness and the ability to intervene as a goal.

Following this goal, the program designer tries to provide a deeper multi-sensory understanding of the Environment and sensitivity to its impactful aspects (as a comprehensive and multidimensional phenomenon) in daily life by creating a platform for conscious environmental exposure. In this way, focusing on gaining sensory awareness of the space, getting to know the cultural and historical values of the artificial Environment and its social capabilities, reviewing the effects of historical developments, and becoming familiar with the qualities of a socially and biologically sustainable environment, getting to know the cultural heritage and finally attracting sensitivity, interest And it pays attention to the space to help the learners to understand the production values in the design of the Environment. In this way, with the child's active attention to the Environment, he has become sensitive to his rights and responsibilities towards it, he has understood the relationship between the artificial and natural Environment and the relationship between sustainable development and quality of life, and from 9- the artificial Environment a level of sensitivity, acquires taste and ability to criticize. This means "reading the environment" as a prerequisite for "intervention in the environment". Various behaviors are observed in Golden Cube programs to meet the purpose of reading. For example, in some cases, the child's immediate Environment (his home, school, and classroom) is suggested as a field of exploration of environmental characteristics to achieve the more explicit goal of knowing the surrounding ecological qualities, as a subset of reading ability. In the same area, there are courses to express the memory of a single space in the city, a conversation about a specific element or space such as a city square, or areas with the same title such as a kitchen, classroom, alley, etc. are also observed. Another aspect of reading about an environmental phenomenon deals with knowing the factors of its spatial changes during history.

Studying those environmental phenomena that have had a long process of formation (cities and some buildings), significantly helps to identify the socio-economic components affecting their changes. For example, the Swiss Squares map app (an augmented reality app for iOS) shows the evolution of some crucial squares in major Swiss cities. This program focused on identifying and representing the elements that make up the city's fabric to reveal the process of its growth and changes. Under the reading goal, other minor purposes are also observed. For example, to learn about the cultural heritage, the Card Game Moscow program from Russia offers an exciting combination of design activities while creating familiarity with Moscow's architectural features. This activity identifies a valuable building site on the city map. After drawing and coloring a view of it, a new narrative of the city map is presented, enriched with the works of the children in the program. Or the Green Schoolyard program from Sweden, which redesigns the school grounds to create a greener space with local materials; An example of behavior to achieve the more explicit goal of familiarizing with bio-sustainability, which at the same time has an eye corner to achieve the goal of intervention in the Environment. Or the ITI Marie Curie program from Italy aims to strengthen and evolve the neighborhood concept to meet the partial purpose of familiarizing with social sustainability. As mentioned, reading is a prerequisite for action. Acting to improve the quality of the Environment and making responsible decisions to solve its problems is a form of practicing the role of citizenship. By accepting children's right as influential citizens of the future and creating a comprehensive and comprehensive information flow, they enter into the process of environmentally conscious decision-making. Another form of intervention refers to children's ideas to get a picture of the future of space. For example, in the exercise Vision: Stadt Plan.2020, students collaborated with architects and urban designers to imagine and visualize the future of Basel in Switzerland.

Skill training

A major orientation is observed in the design of the content and activities present in Golden Cube for skill learning, which is associated with another kind of auxiliary purpose. While strengthening the professional and specialized skills necessary for architecture, landscape architecture, urban planning, etc. is observed in several content and activities, the implicit attention to strengthening general skills is also repeatedly observed. Although the truth is that they cannot be considered as exclusive goals. This second category can be described as a secondary goal representing essential background skills for performing [most] the activities in the Golden Cube. If the first group deals with the skills that professionals of different levels use in conducting studies, designing, presenting, and finally during construction, it can be said that the second group focuses on strengthening general skills

related to part of the efficiency requirements. knew In most of the Golden Cube programs, activities use these skills (including group work experience, scheduling, planning, asking questions and solving problems, division of work and effort, leadership, creativity, negotiation techniques, practicing group decision-making, building relationships with others and Environment through participation in groups including children, teachers, parents, professionals and students in the field of an artificial environment. The children in these programs face a range of environmental issues, relying on critical thinking (which is strengthened by practicing criticism of the artificial Environment). After the experience of field research to collect the necessary information, they experience the process of group decision-making to solve a real problem. and by planning to implement the found solution, by creating the opportunity to practice the role of designer and builder (in the form of a team project), it provides the possibility of experiencing social impact while strengthening teamwork skills. Strengthening technical skills is done in several formats. One is to strengthen the skills necessary to design and present the work, which is mainly focused on the use of drawing tools and especially to strengthen the skill of visual expression. For example, practicing basic design skills including basic technical drawing skills and getting to know digital design tools (in some cases with an eye towards sustainable architecture). Also, there are examples for familiarizing with various methods of collecting and organizing information, familiarizing with the design process, knowing the concept of environmental planning, and in the next steps, familiarizing with the ways of building space from basic elements and available materials. Apart from mere skill training, these exercises help identify the values that affect it by providing the experience of creating space. With this experience, a person can find the connection between the answers he provided to solve an environmental problem with the characteristics of his surroundings and thus recognize the hidden values in the design of the Environment. Part of the Golden Cube exercises are also focused on building or improving some space. This means the need to get familiar with the concept of project management, which in the next steps requires familiarity with the process and methods of construction, familiarity with the basic engineering concepts, and familiarity and experience of working with real tools. In other exercises, buildings are studied in terms of their relationship with the context of their occurrence, for example, in terms of material science and climate, or the technical knowledge of building is interpreted as the response of modern knowledge to human needs. For example, in Espiralando Bioarquitetura from Brazil, architects, students, and volunteer parents erected a mud structure in the school playground after planning and designing. For 94 golden cube entries, by referring to existing reports and detailed statements, recognizable behaviors, and goals were explained and then categorized. Table number two shows these goals and their corresponding behaviors. (Tab1.)

Table 1: goals and common behaviors in the activities present in the Golden Cube competitions

literature	Object	Knowing the environmental qualities and expressing them with appropriate vocabulary			Familiarity with the field of artificial environment professions		
	Behavior	Description of environmental qualities and their recognition in literature, images, and films			All kinds of learning behaviors such as scientific tours, lectures, debates, and workshops with the presence of environmental professionals and students		
		Object	Knowledge of biological sustainability	Knowledge of environmental heritage	Discover the surrounding Environment	Knowing the components of social sustainability	Understanding the process of environmental changes over time

DISCUSSION AND FINDINGS

Comparing the objectives derived from the previous theories with the Golden Cube programs shows that the objectives of these programs have significant compatibility with the previously mentioned objectives. In other words, only seven cases out of the 94 reviewed cases follow other goals, which include the promotion and introduction of the implemented programs and one case of the teacher training program. As mentioned, in activities (as opposed to resources), few programs are designed to achieve only one goal. It can be said that providing multiple goals is one of the characteristics of Golden Cube programs. Of course, it should be noted that with the available information, the level of priority of each goal in each program could not be measured. (Fig. 1)

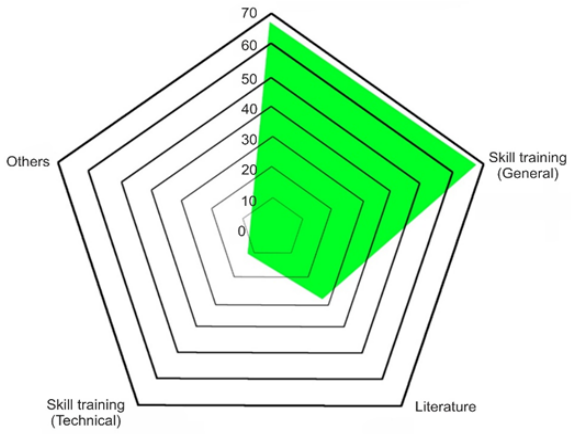

Figure1: How to explain the goals in the resources and activities present in Golden Cube 2014-2016

After reviewing the programs, the distribution of goals is presented as described in chart number one: 88 programs (93% of all programs) follow the objectives of the environmental awareness subcategory, in which 65 programs (69%) include behaviors related to reading the Environment and in 23 The program (24%) of behaviors corresponding to the environmental intervention is observed. At the same time, 78 programs (82%) correspond to one of the two skill training groups, while the highest frequency with 67 programs (71%) belongs to the strengthening of some kind of general efficiency skills, and technical and artistic skills are observed in only 11% of the programs. As expected, almost all the activities of schools and institutions, along with some resources, are defined based on the use of efficient general skills. Because these skills have a basic and necessary role for all behaviors present in these programs. Although artificial environment general training is suitable for practicing efficient general skills, their strengthening is not exclusive to this training. For this reason, this category of skills cannot be evaluated along with other goals. Finally, 27 programs (28% of participants) specifically provided behaviors aimed at strengthening common context and language (literature). It is clear that reading, as a subset of environmental awareness, is the most common goal that is considered in planning, and the next categories are literature and finally technical skills training. Compared to the opinions of the thinkers of the past decades and considering the prominence of environmental awareness among them, it should be said that there does not seem to be any change in the priorities of this goal-setting in recent decades.

Despite the advantages proposed in the traditions of public education of the artificial Environment, the existence of such a view of them can be described as short-sighted. When it is considered that modern theories in the field of education refer more and more to learning from tangible and accessible phenomena, the focus of public education on the artificial Environment only on "more familiarity" with the phenomena of the artificial Environment makes the ability of these phenomena to serve in Official education systems remain hidden. To get a more accurate picture of the existing gap between general education in the artificial Environment and formal education (and even though this is not the main issue of the present article), it is necessary to examine the participants from another point of view, for this purpose, the duration and frequency of their implementation was taken into account. For this purpose, the activities were divided into single and annual programs. Annual projects are those that have been held regularly in several years leading up to the competition: whether continuously during an academic year or a limited period of a few hours, a few days, or a few weeks; In other words, continuous annual or limited annual activities. Many activities have been implemented only once in Golden Cube, which we call single projects. Short-term single projects have been held in the form of several-hour workshops, one-day experiences, or just one classroom, and long-term single projects have been held over periods of several months or weeks. The difference in the frequency of these periods is significant: among the 57 activities (and not resources) examined, only 16 samples (28% of the programs present) have been repeated annually in at least three years leading up to the competition: eight cases continuously throughout the year. and eight other cases in the form of annual limited periods. On the other hand, we see 41 programs (71%) that are designed for only one execution. Among these, 20 cases were held as continuous programs during (at most) one semester and 21 cases were short-term programs of several hours to several days. (Fig. 2)

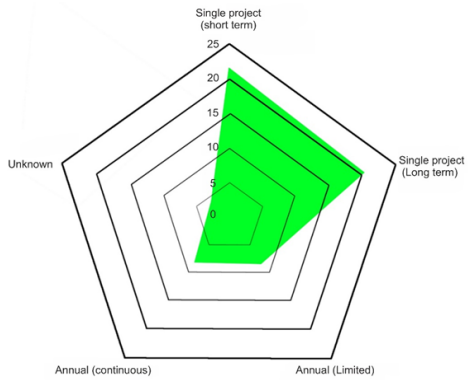

Figure 2: Frequency distribution of continuous and single activities present in Golden Cube

RESULT AND CONCLUSION

After referring to the findings, the following are presented as the results of this research:

• The goals affecting the design of resources and activities in Golden Cube are still included in the existing categories of literature, skill training, and environmental awareness.

• The implementation of these programs is generally in the form of cross-sectional extracurricular training, and because the courses are generally defined outside of the formal education experience, the training programs at different levels are not consistent.

• In general, the general education of the artificial Environment does not serve the educational system but mainly only helps to improve the communication between the audience and the Environment.

In other words, it seems that public education related to the artificial Environment is now presented in the form of limited courses in which these phenomena, without having any connection with the official educational content of schools, play the leading role in the content development process. That is, the distance between professionals in the field of artificial Environment and decision-makers in the field of education remains strong.

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