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Qualitative explanation of children's group educational space design with Mosaic approach based on Taylor educational model

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ABSTRACT

Learning is a central part of every person's life. Each person's childhood can form their adult identity and this is conceivable by considering the place where the child grew up and flourished. Education.The main question raised in this research is how to pay attention to children's opinions. Creating favorable group practice physical environment? Also, how can a qualitative model of physical environment design be explained? The purpose of this study is to present a model of group educational space design with the participation of preschool children in the design process. The practical method that is considered in this study to know the views of children about their educational physical spaces is a mosaic approach, which is multi-method and multi-lingual based on identifying several tools that help children express their theories and ideas. The results showed that the children in the experimental group who were taught architecture had different results from the control group in the selection of spaces and their design. The children in the control group are very interested in the size of the rectangle and circle, while in the test group, the children in the circle are preferred. Also in the control group, the children tend to place the window design behind the wall in the room, while in the test group, the window on the ceiling and in the side, walls was more pleasant for the children.

Keywords: *Education, Preschool, Taylor, Mosaic Approach, Qualitative*

1. Introduction

Learning is a central part of every person's life. Each person's childhood can form their adult identity, and this can be imagined by considering the place where the child grew up and flourished. Following the 1989 Convention[1] on the Rights of the Child, a new paradigm was created in the education of children, Promoting the vision of children as citizens who have credible ideas about our world. This approach emphasizes paying attention to children's voices as a means of increasing children's participation in processes that affect their lives. Education and, consequently, educational environments have the most effect and role on the mentality and civilization of societies; Spaces that have appropriate conditions for the physical, mental, emotional, and social development of children; can be achieved by designing the details of the spaces according to the behavioral patterns of kids. Children instinctively realize well and pay attention to so-called small but real things [32]. They are curious and imitative and can easily be guided in the desired direction [20].

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They have remarkable abilities in shaping the environment [26], and when faced with problems, they devise new strategies for it. They can deduce and use a chain of different strategies over a short period, two or three, or a maximum of five minutes. Even when faced with problems, if they have already been answered, they change previous successful strategies [43], while adults believe in bias. These biases can be considered as the result of education and the process of socialization [25], so they prefer to infer about the real world based on their previous knowledge and it is very difficult for them to put aside this knowledge. While children can make wise inferences. The practical method that is considered in this research to know the views of children about the physical space of their education is the Mosaic approach. Which is multidisciplinary and based on identifying several tools that help children express their theories and ideas. And this important thing is easily accessible to them (children) through indirect architectural training. Providing environment and facilities for undirected education, Presenting and understanding through the educator space Through an educational environment that responds to the mental and physical needs of the child, in a way that stimulates the desire to learn, the physical environment will be good training.

This study seeks to identify the factors affecting the promotion of children's learning and also to recognize the important perceptual components in the child of the built environment to understand how the child learns the basics of architecture on the above to provide a model Achieve qualitative design of children's group educational rooms. For this purpose, how the effect of teaching basic architectural skills and aesthetic categories, which are qualitative, to achieve the objectives of the research, they will be examined and tested in the process of architectural education. The main question raised in this study is appropriated the physical environment of group education? Also, how to explain the qualitative model for designing the physical environment for them?

2. Literature Review

To review the literature and records related to the discussion of the present study, the research background can be examined in the topics of teaching architecture to children, children's participation in the design process, the effects of architectural education on learning promotion, and their social relationships. Numerous studies have focused on children's participation in school design and the construction of their physical environment. Harter and Pike (1984) focused on children's participation in social activities and environmental issues. They considered children as active citizens who have the same rights and responsibilities as other members of society, and they claim that children are designers and programmers, just as children play and work with construction games and materials. Harter and Pike (1984) suggest different ways to use children in the design process. For example, they suggested that by consulting with children about their environment and reading their preferences on various environmental issues, children take an understanding role in creating their environment [5].

In an ethnographic study in 18 Norwegian kindergartens, children 2 to 5 years old studied the interaction of children and how they are in space with each other and with materials in the kindergarten environment. Summary of observations showed that children's access to play materials helps them to have a central position in play [27]. It also showed the different ways in which children participated and engaged in various games. Froebel, known as the founder of "Kindergarten", refers to the prominent role that indoor and outdoor environments play, especially in unity with nature, in children's learning [44]. Montessori's approach has identified specific factors that affect children's learning and development, including brightness, color, aesthetics, and freedom [9]. In the Montessori classroom, for example, children are encouraged to move freely in the room. It also allows children to feel independent, responsible, and confident about using the materials in which way they want [21]

Waldorf schools, known as art places for children to learn, have specific features. Children's environments are painted in pastel colors and equipped with wooden furniture while natural light illuminates the room. These environmental features, Waldorf's art curriculum, and topics such as mathematics and science are encouraged from an artistic perspective (Upitis, 2004). Finally, in Reggio Emilia's approach, the physical environment is

seen as the third teacher. The environment is stimulating and complex in materials that try to answer and stimulate children's curiosity and questions. The physical environment plays a key role in Reggio Emilia's approach [6]. [42] identified several characteristics of the environment that illustrate the concept of the environment as a third teacher. According to Wilson and Ellis, children's learning environment is considered as a dynamic environment in which children's relationships and interactions with others are motivated to enhance their learning. According to Reggio Emilia's approach, the learning environment must maintain a balance between children's free exploration and the structure of the classroom [6].

However, research has been done on a case-by-case basis on the effect of architecture education on intelligence, reasoning, problem-solving ability, and other abilities of children and students. For example, Middleley [34] through the drawing of students' intelligence profiles, before and after architecture education, has concluded that architecture education is effective on the level of spatial intelligence Many studies also show the lasting effect of teaching basic skills to children, such as spatial skills, which is also a requirement of architecture. This is especially the case with playable training; For example, New Camp, Harsh Pask, [11], quoting [30]. found that space skills at the age of three predict mathematical skills at the age of 5; [46] at Research have shown that the quality of kindergarten students play is related to their performance in mathematics up to 10 years later, and that kindergarten students' construction skills predict the success of mathematics in high school; [28] through activities to develop dynamic-intrinsic spatial skills called "carpet activities" including brief in-class tasks such as visual exercises, design, construction, and copying the effects of spatial instruction on children's math skills. Improving spatial language. And spatial geometric and visual reasoning was effective.

Many researchers and theorists such as [3,4,13,14,16,18,19,23, 37,38] have researched architecture education and the architectural design process; It should be noted that many theorists and researchers in our country and other parts of the world have done valuable research on architecture education and design process, but none of this research has been related to children and most of them have focused on university education. Based on the researcher's research, two categories of research can be examined concerning the issue of promoting children's learning and its relationship with architecture. The first category is the impact of environment and architecture on children's learning, which has been done a lot of research. The second category, which has a direct impact on promoting learning and improving their social relationships through teaching architecture to children and understanding their spatial preferences, is almost non-existent (Figure 1). Of course, there is a lot of research in the field of educating children to develop their learning skills and social communication in other fields, but there is very little research in developing or improving the level of learning through architecture education.

Figure 1- Factors affecting the promotion of learning in children

Finally, it can be said that in Iran, most research on the relationship between architecture and the child has been made about the environment and the child. In this study, it has been tried to focus on the relationship between the child's mental process and architecture by focusing on cognitive psychology and teaching architecture to the child and by emphasizing the process instead of production. And by analyzing the issue of teaching architecture to children, first of all, to provide a qualitative model of children's educational space design through understanding the child's spatial preferences; And in the next stage, it helps the child to improve the level of learning and also to improve their social relations. In summary, Table 1 lists the theorists and their theories and principles.

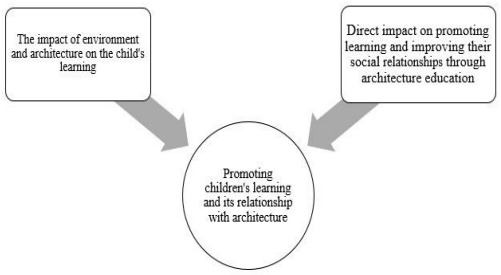

Fig 1. Factors affecting the promotion of learning in children. Source: Researcher

Table 1. Research Theories

Theorists	Theory	Principles	Conclusion
Rudolf Joseph Lorenz Steiner	Waldorf Education	• Every person must find a balance between body, soul, spirit and mind • Steiner's child development theory focuses on three periods of 7-year development.	Waldorf's teacher generally plays a performance role. However, learning is not limited to the classroom. It is also important to engage with the outside world, such as walking in nature, working in the garden, or building a playground with boards, twigs, and other materials. The form of the building is asymmetrical and arched, the colors are in harmony with the interior.
Anna P. Taylor	Teaching architecture to children	Principle 1: Start with the aesthetics and philosophical framework of the reference 2: Develop and use a curriculum organization system to manage school facility planning and development process 3: Designing and learning the environment as a three-dimensional textbook 4: Future goals 5: Strengthen environmental monitoring by cultivating the individual, society, and the world	• Increase children's control over the environment and reduce their fear of new environments • Increase their creativity in later years • Learn more accessible and deeper lessons • Increase security and peace of mind • Ability to better choose an academic field of study or career orientation in adulthood
Maria Montessori	The educational method is based on ideas and actions	The basic principles of Montessori-based education are: 1. Environment: Putting different age groups together (three-year age groups) 2. Freedom: Freedom to choose the activities of interest from the existing activities, with the presence of a guide 3. The role of the guide: Periods of activity without direct intervention and with the presence of the guide	The educational environment consists of three sides: teacher, child and physical environment. The role of the teacher in the classroom is to encourage independence, freedom in the framework, and order. Children are free to choose the activity and the method of doing it within the framework of the available activities; The teacher's guidance is given when the child needs it and not at the teacher's discretion. In this system, the child's ability, independence, and freedom grow and develop. Emphasizing that the child needs to learn to live in this world and adapt to it; Therefore, he needs to acquire the necessary abilities such as concentration, endurance, perseverance, self-thinking and the ability to interact with others from childhood. These are abilities that were not or still are not considered to be a subject for teaching in schools or at home. In this way, the child's needs are taken into account by a ready and appropriate environment and the presence of a guide that the child is naturally aware of his and others' needs and is empowered to respond to them in his creative ways, feeling satisfied, independent, and it becomes spontaneous and has an internal order and self-will.
Teressa Strong-Wilson, Julia Ellis	The concept of environment to The title of a third teacher	Children's learning environment is considered as a dynamic environment in which children's relationships and interactions with others are motivated to enhance their learning.	An educational environment must maintain a balance between children's free exploration and the structure of the classroom.

2.1. Taylor model

Professor Anna P. Taylor (Professor at the University of New Mexico) has devoted her scientific and research background to how to improve student learning in a variety of settings and believes that classrooms should be a practical workshop on fostering technology and solving children's creativity. In her book, she discusses the relationship between architecture and education: a sustainable design for learning environments, the role of school design in shaping creativity and cultural values, environmental friendliness, and students' academic achievement. Her goal is not to create a generation of new architects, but to introduce the principles of understanding and the value of good design and the basic level of relationship with education and the usual courses of students. To this end, students benefit from scientific topics in education and architecture in their awareness development program. She describes the results of this development program as follows: increase children's mastery of the environment and reduce their fear of new environments, increase security and peace of mind, increase their creativity in older years, confidence to take the test Finding different and new ways and increasing the power of risk-taking, learning more accessible and deeper courses, the ability to better choose an academic field of study or career orientation in adulthood (Khoshnevis, 2015). [41] also conducted research on teaching architecture to children and how teachers should guide children in learning activities between architecture and the curriculum. In addition, the postdoctoral project entitled Adaptation of the design education program (architecture and education program for children) following Turkish culture, its analysis and effectiveness, and the expansion of the use of the program has been done by [1]. [33] developed a program for primary and secondary education by the American Institute of Architects to describe a tool to promote support for well-designed design. [2] has also researched teaching architecture to young children. [39] in a study entitled Democracy in Action: Working with architecture in schools on the subject of educating children and adolescents. [35], who is also a researcher and consultant for teaching architecture to children at the Finnish Architecture Information Center, provides an overview of the development of architecture education for children in Finland. He has also researched the subject of introducing ideas for teaching architecture to children, as well as learning architecture through play throughout the year. He and Hamlin have also studied architecture schools for children [24]. [29] explore the potential of teaching architecture in schools by examining the potential of teaching architecture to children. Many studies have also focused on working with children on architectural projects. Lozanovska and in a study by providing an educational model for children's real participation in architectural design in this field received positive feedback and achieved a high level of genuine children's participation and found this model applicable to other elementary schools.

2.2. architectural training

In teaching architecture to children, the process takes precedence over overproduction, and on the other hand, many factors such as mental structures and individual cognition affect the process of architectural design. To teach architecture to children, the child's mental process must be considered. Because the purpose of teaching architecture to children is to cultivate thinking power, problem-solving ability, and to teach basic skills and concepts for this purpose. And an attempt has been made to explore architectural education and the support of this training to improve their learning level by entrusting them with group work. And it tries to link different ideas about architectural education, the process of architectural design, and creativity with psychological theories about children that explain learning and participation and how to promote them. Knowing that teaching architecture, in general, is effective on mental development [31] and despite the many needs in the field of teaching architecture to children around the world, very little research on teaching architecture to children in general Special and also its effect on their mental abilities has been done in our country. Some of these necessities through basic education of architectural concepts are: promoting creativity, improving the level of learning, developing aesthetic knowledge, problem-solving ability, and strengthening spatial knowledge (Figure 2); Further development of these cases occurs in childhood or is affected by these ages.

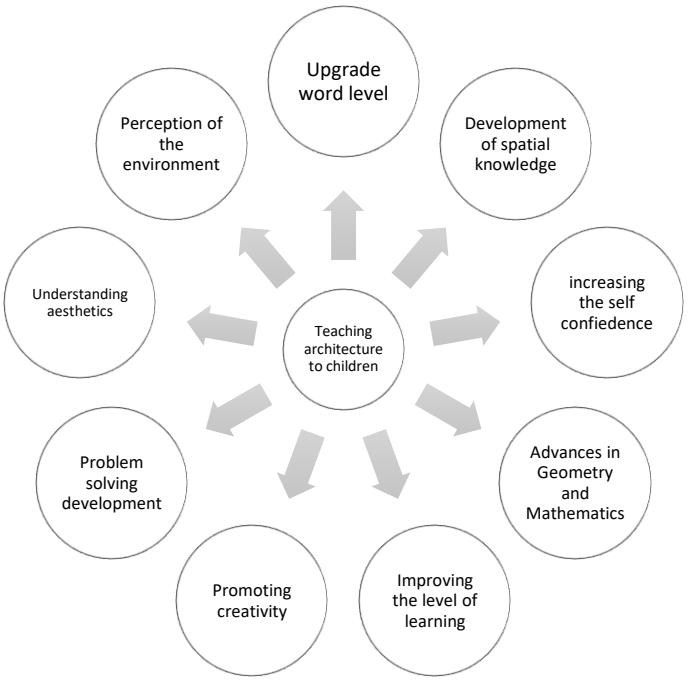

Fig 2. Effects of Teaching Architecture to Children, Source: Researcher

In view of the above, the golden age of learning and the need to teach architecture to children requires the following points:

1.The need to pay attention to childhood learning, the impact of design on it: In fact, since the design process supports the pursuit, experience, and discovery of people and helps to improve thinking skills at a higher level; Regular design training in the early years of life strengthens learning skills, problem-solving and awareness of the environment and nature [7], And according to research by Cohressen, Meskanen, Hameln, Luzanoska, and Zhu, design education as a foundation of knowledge about learning and creativity has many benefits for children, such as problem-solving ability, confidence building, improving social skills, cultural knowledge, and aesthetics and other applied skills [36].

2.The need to strengthen the ability to solve problems and spatial reasoning in childhood and the effect of architecture education on it: According to cognitive science, there is a correlation between architecture and spatial reasoning. Spatial skills, on the other hand, largely cover basic architectural skills. [17] also emphasize the importance of spatial geometry in the early years, and Sinclair and emphasize early exposure to space activities. As shown in Figure 3, based on a study by [45] on space skills training, people who started at a lower level were more successful than those who started at a higher level. Other participants with high initial scores are limited by ceiling effects; This means that teaching this skill will be more effective from a low level and childhood. Unfortunately, despite all these influences, there is a deep gap in architecture education in Iran based on the goal of developing spatial reasoning.

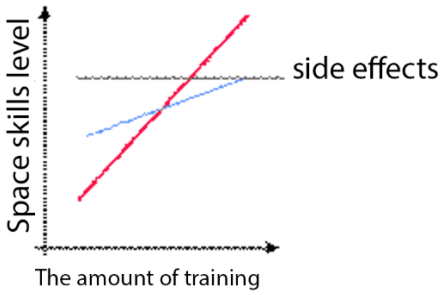

Fig 3. Relationship Between Spatial Skill & Training Levels, Source: Uttal & Associates, 2013

3. According to [12] research, learning architectural design skills at an early age (6-11 years) has supported further development in many complex and high-level cognitive skills, including thinking and problem-solving skills, and the architectural design training program has an effective role in improving children's design skills and is useful for children's social, emotional and cognitive development. This study seeks to identify the factors affecting the promotion of children's learning and also to recognize the important perceptual components of the child from the built environment, to be able to understand the effect of learning the basic principles in architecture on the above, to achieve a qualitative model of children's group educational space design. For this purpose, the effect of teaching basic architectural skills and aesthetic categories, which are qualitative categories in order to achieve research objectives, will be examined and tested in the process of architectural

4.education (Figure 4). Children who have acquired the ability to express their desires from their learning environment in this way will easily be able to assist the architect in the process of designing a physical educational space, which will result in a desirable educational space.

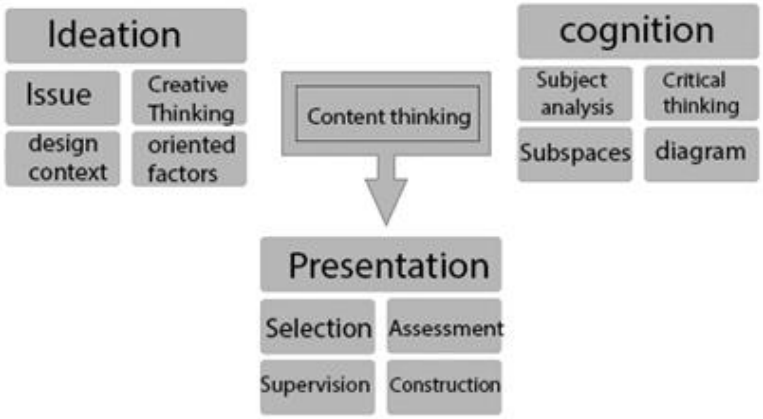

Fig 4. The process of interaction between the three design areas to make the best use of children's potentials to create innovative designs and ideas, Source: [4].

The world of children and adolescents is an unknown world for Iranian architects and designers, trying to know and give importance to this period of life, considering its influential role on the future of the generations who are in charge of various affairs of this land, is one of the necessities of our world today. The main concern of designers is the design criteria of spaces that are designed specifically for children [10]. because architecture for children has requirements that are directly related to children's perceptions (Figure 5). Issues such as the physical scale of the child and from what height he looks at the world and its surroundings [8]., therefore, in designing places where children are the main users, we must give children the opportunity to express themselves apart from the architects [15].

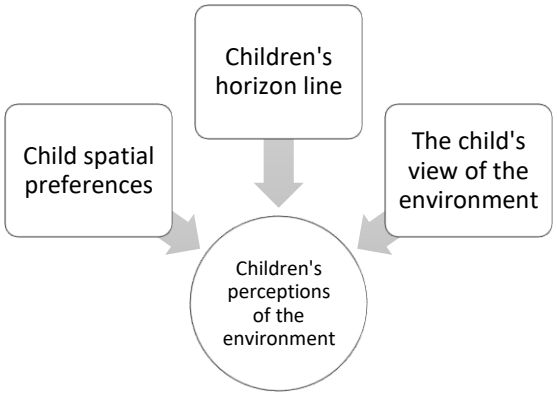

Fig 5. Factors Affecting the Child's Perception of the Environment, Source: Researcher

3. Research Methodology

In this research, children are actively invited to express their opinions about how to play and educational places. Also, children's ideas in making decisions about designing the environment will be seriously considered and quality principles and criteria will be provided according to the needs and requests of children to improve their perception process. To conduct this research, studies related to topics such as teaching architecture to children, its necessity and method of education, how to design educational spaces, participatory projects, environmental psychology as well as educational psychology of children have been reviewed and taken notes. To conduct field studies, several preschool students were selected and will be trained in planned architecture. They are then interviewed in person and each interview is conducted openly; the results of the design process are examined. The method used in the study is descriptive and analytical, documentary and especially field. To select the statistical population and the sample population, research was conducted throughout the country and according to the official announcement of the Ministry of Interior portal, according to the official announcement of the portal of the Education Organization, there are 30,000 preschool centers across the country. To conduct this research, schools were selected that minimize the side effects on the research Therefore, socio-economic factors were considered as control variables, and areas were improbably selected taking into account cultural, economic, and social conditions. To conduct this research to minimize the side effects on the research as well as safer and easier access due to the conditions caused by the new Covid 19 virus and the resulting quarantines and closure of schools physically and holding classes online, the surveys were conducted completely randomly, identifying many active kindergartens and preschools, and after carrying out administrative work, a number of them were selected throughout the country. With different methods of Morgan, Krejcie, and Cochran, the sample size with a standard error coefficient of 0.05% was equal to 384 people. Also, students are selected by a completely random method and are indirectly taught architecture. They are then interviewed in person using the mosaic method or approach (due to different reactions of children to different ways of learning and responding). They were then asked to express their ideal learning environment with the help of the instructions given, the results are reviewed using the content analysis method and a qualitative model is presented. In this study, selected preschool children were evaluated in two groups of control and test. Children in the control group are those children who have not been educated in architecture and have answered the interview questions according to their prior knowledge. But in the test group, the children were first taught architecture and then answered the questions. To educate children, an educational video was created according to Prof. Taylor's curriculum focusing on her preschool curriculum and according to the curriculum in line with the objectives of this research. Eight kids from the preschool age group were randomly selected. The eight, who had no background in architecture education, were asked to comment on their favorite workgroup space. In this regard, completely impartial questions were asked to the child so that the path of creating the child's mental space does not go beyond the path of the dissertation. For example, the child was asked, "Does this place have a window?"And the child answered yes, a yellow circular window on the wall in front of the door and a large window on the ceiling. In this way, several options for research questions were put forward. Then, the initial interview questions were compiled and distributed as a temporary test among fifteen preschool students, and the results obtained from the pre-test were read, and finally, the final interview questions were compiled.

4. Results

The results of this study fall into two categories: psychological interpretation of children's paintings and analysis of interviews with children. In the analysis of children's paintings, the children of the two groups were collected separately. The collected drawings are divided into control and test groups. The results showed that the children in the test group who were trained in architecture had different results from the control group in the selection of spaces and their design. According to child psychology, children in the control group are very interested in the size of a rectangle and a circle. As shown in Figure 7, interest in plants and animals is evident in the

paintings. He also shows interest in playing with his classmates and alone in his drawings. Toys, ropes, toy cars, show the same interest in playing. In one of the control group's drawings, he draws linearly playing with his classmates. Another drawing from the control group shows children tending to a back wall window. According to the drawings of the test group, which are shown in Figure 8, the shape of a circle and a rectangle is known to children. According to the drawings, the children preferred to be together in a circle shape. However, this free circular community has been interesting to them. The color factor is seen in children's paintings as red, warm, and colorful. Also, the window in the ceiling and the side walls were more pleasant for the children in the experimental group. Another finding showed that according to the smiling faces of children who were pulled together, it shows the preference of children to play with each other. In addition, more geometric shapes can be seen in the drawings of the test group, which shows that the group of children in the test group knows more about geometric shapes. This shows the emphasis and importance of architectural education on the ability to adapt knowledge to the child's practical world.

The color scheme of the children's drawings shows that the children in the test group knew all the colors, while the control group either did not know the maximum number of colors or knew less than three of them. This shows the effect of teaching architecture on increasing children's knowledge. In another analysis of the children's drawings of the two groups, the control group showed a tendency towards a square window, and in the next stage, the circle was seen as shapeless and less visible, and finally, the triangle had the lowest score. In the experimental group, the most preferred circular window shape was selected with the most votes, then amorphous and less seen, square and finally triangle. The role of architectural education in the selection of children's circles and curves is quite visible.

Fig 6. A Number of Observation/Control Group Drawings

Fig 7. Experimental Group Drawings

In the interview, most of the control group chose the white (neutral) color. In the second stage, gray, pink, sky blue is selected. But in the test group, most of the yellow or red (warm) colors were selected and in the next stage, green or blue (cold) were selected. In this category, the choices of the two groups were exactly the opposite of each other. The results showed that teaching architecture to children did not teach the courage and vision to choose different colors from neutral to children. The results showed that teaching architecture to children in the experimental group increased the courage, vision, and ability to choose different colors from neutral colors compared to children in the control group. To achieve accurate design results from the children's point of view, in the qualitative analysis of the interviews conducted by the experimental group, the content analysis method is used. According to the number of times each parameter is mentioned, Table 2 is given. The limit number considered in this study is three. That is, parameters with a number of three or higher have value in this research. According to the findings, children need indoor play space such as slides and bridges, outdoor sports play space such as slides, use of soft floor materials, space to talk to friends and draw and read books, circular and square windows (circle There is more), Large windows and transparent walls, the presence of trees and flowers, the pool space, cat storage space, recesses and protrusions in the walls, the use of large pillows in interior design, creating green space in interior architecture, creating easy access to green space And the exterior, the existence of colored walls, the presence of skylights and painted walls, the existence of stairs and height differences in interior architecture, the existence of many doors and hidden spaces for play, space for personal belongings, the existence of circular tables, and also they were intense interest in blue, yellow, red, green and pink. The most important parameter for children was first the presence of depressions and protrusions in the walls and then the presence of large and large windows and transparent walls.

Table 2. Qualitative Analysis of Interviews

Parameter	times mentioned	Parameter	times mentioned
Indoor play areas such as slides and bridges	11	Circular window	5
Existence of water indoors	2	Square window	3
External play and sports space such as slide	8	Yellow-yellow windows	6
Soft floor materials such as foam or carpet	8	Pink color	3
Talk to a friend, draw and read a book	3	Existence of a tree	4
Non-soft floor materials such as wood	1	Easy access to outdoor green space	5
Existence of pots and flowers	8	Large area, large windows, transparent walls	14
Swimming pool	3	Green space in interior architecture	5
Cats placement	3	Depressions and bumps in the walls	15
Indoor Pets placement	1	Private space for children	2
Use large cushions	3	Wall painting	3
Green color	3	Colored floor	1
Red color	4	Existence doors to create a secret space	7
Colored wall	10	Square shaped table	2
Skylight	3	Circle table	3
Existence of stairs in interior architecture	10	Space for children's furniture	5
Sit freely on the floor and table	7	Interior light control such as curtains	2
Blue color	10	Orange color	1
Large classroom space	1	Existence of color boards	2
Lack of misleading space	1		

5. Discussion

According to Cohressen, Hameln, Meskanen, Lozanovska, and Zhu, design education as a foundation of knowledge validity for learning and creativity has many benefits for children, such as problem-solving ability, self-confidence, improving social skills, cultural knowledge, and enhancing beauty. Cognition and other practical skills are involved. According to the results of this study, it was shown that architecture education is effective in recognizing and understanding the space from the child's point of view, choosing shapes, colors, and even group participation, and children without education (control group) and trained children (test group), even in the way of design thinking, act differently. The findings of this study have acted in confirming as well as completing the mentioned researches and in addition to showing the importance of architectural education in strengthening aesthetics and other skills, has seen in more detail the opinions of children in the design of spaces. Considering the findings of this study on the importance of the role of architecture education on the difference between children's aesthetic mental skills is in line with the findings of [40] and shows that paying attention to aesthetics in the educational program can cause Mental skills that remain undeveloped in many students. According to [22], children have creative abilities and the ability to express themselves, by giving children a role and putting them in the role of an architect and not just exploiter, according to the findings of this study, design elements and parameters were extracted that both children feel more comfortable and their creative ideas are applied in the space in which they live.

Research vacuum on the issue of teaching architecture to children despite numerous programs in this regard: Even though the teaching of architecture to children in a highly specialized way reaches more than thirty years in most parts of the world, in our country has not been looked at academically. Except for a few workshops held by some private or affiliated organizations in other countries, such as Archie Kids, we have not seen a positive step.

6. Conclusion

Due to the different analyzes and the mosaic approach that has been exploited, the results showed that teaching children's architecture is important and has caused differences in children's responses. The results show many interior and exterior architectural design tips. The color, the geometric shape of the volumes, and the way of design have been very important to the children. This chapter examines three types of questionnaire analysis, interview, and drawing. According to the findings, children need indoor play space such as slides and bridges, outdoor sports play space such as slides, use of soft floor materials, space to talk to friends and draw and read books, circular and square windows (circle There is more), Large windows and transparent walls, the presence of trees and flowers, the pool space, cat storage space, recesses and protrusions in the walls, the use of large pillows in interior design, creating green space in interior architecture, creating easy access to green space And the exterior, the existence of colored walls, the presence of skylights and painted walls, the existence of stairs and height differences in interior architecture, the existence of many doors and hidden spaces for play, space for personal belongings, the existence of circular tables, and also they were intense interest in blue, yellow, red, green and pink. The most important parameter for children was first the presence of depressions and protrusions in the walls and then the presence of large and large windows and transparent walls. Providing an environment and facilities for indirect education, raising the level of knowledge and public understanding through an educational environment, and responding to the psychological and physical needs of the child, in a form that stimulates desire in the audience, will be a suitable educational environment.

The results of this research can be used now, in the educational system of our country, for children in the future and help to formulate strategic plans for education, or children's centers such as the Center for Intellectual Development of Children and Adolescents and other associations and kindergartens, educational institutions In private sectors such as architecture training centers and institutions holding educational workshops for children; In this regard, the important factors of this plan are suitable architectural exercises for children. The results of this study, by increasing children's perception of the built environment, have a tremendous effect on promoting

learning motivation and increasing social relationships.

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