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The Reflection of Educational Spaces On The Education Process

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Abstract **–** Education structures are among the units in which individuals who have basic education in the family begin to take part in the social structure. While each culture offers different educational approaches in line with its own values, the lack of the same diversity of educational structures in relation to the changing educational approaches and curricula cannot touch the educated individuals and cannot provide the appropriate physical environment to express and develop themselves. In this direction, the structure that emerged at the point where the dreams of young people meet the designs of the architect, accelerates and facilitates education. The education model integrated with its architecture creates a more attractive environment for users. The diversity of design criteria and needs of primary and secondary education (high school) structures revealed the spatial elements and different organizational status of the elements in their design. The designer, who offers many structural experiences to the user, has a hidden and strong influence on educated individuals. Considering all these situations, the design of educational buildings reveals the importance of individuals in their physical, mental and social development.

Keywords – education, education systems, education buildings, elementary school, secondary school

I. EDUCATION AND EDICATION SYSTEMS

Although human development is a lifelong process, education also varies continuously in parallel with this process. Karabey quoted Tanilli as saying that the word education has been used in three meanings today:

"First of all, education is first of all a social institution, an educational system. There is a structure and rules of operation as an institution. Institutions, tutorials, students, laws and regulations. The word education is secondly used as the result of an action. Education here is specialized and good or bad education, technical education or classical education. It is the product of this or that part of a particular education system. Finally, education refers to a process. In this sense, education gained an interpersonal form and explained that it was a process observed in every age and every situation."[1]

In addition, although the concept of education is an important concept in its own rights, the place where the education is got has an effect on learning. Education structures are the whole of the places that the individuals of the same age group coexist and contribute to their professional orientation according to their abilities. After the family environment, many educational models can be applied to individuals who have started to find a place in the social structure in preschool-elementary and secondary school (high schools) structures and are educated. These educational models, which we can define as classical and modern education systems, are very important for individuals who are beginning to establish relationships with preschool- primary and secondary schools. The classical education system progresses gradually and does not offer a defined spatial proposal. In the modern education system where educational scientists and designers meet, education is given gradually in accordance with age groups and at the same time specific elements are defined for the elements of structure to facilitate the education of individuals and their organization.

II. REQUIREMENTS AND PROGRAMMING FOR PRE- – ELEMANTARY AND SECODARY SCHOOL

As with all building designs, climate should be designed for comfort conditions and considering the values such as environmental values and topography in terms of belonging to the structure. Especially, the topography factor architectural program has many repetitive units, and it is highly effective in avoiding the risk of stationary masses when they are designed with a purely functional focus. *In addition to all these values, spaces with different functions in different sizes according to user age groups are needed in educational buildings.* Perkin has made recommendations for units and areas that preschool education structure should have for comfortable and healthy preschool education.

Table 1. Size reqouirements for pre-school [2].

Direct activity / classroom space	42 ft / child
Staff support / storage space	38 ft / child
Observation space (often used by parents or staff)	9 ft / child
Subtotal assignable space	**89 ft / child**
Nonassignable space, "multiplier"	20 ft / child
Total facility space / child	**109 ft / child**
Outdoor activity space	75-200 ft / child

Dimensional changes are required in the needs and places of young individuals who continue their education in primary

schools after pre school. These changes are shown in the chart of Perkin's research.

Table 2. Size reqouirements for elemantary-school [2]

Clasroom	30 ft / child
Music room	850 – 1000 sq ft
Science room	1000 – 1400 sq ft
Art room	1000 – 1400 sq ft
Computer Lab.	1000 – 1400 sq fk
Gymnasium	36 ft x 52 ft / 45 fk x 70 ft
Auditorium	School capacity x %50 x 7 sq ft
Library	900 – 1200 sq ft
Dinning room	School capacity x %50 x12 sq ft
Kitchen	Depends on food program and equipment

In the middle school (high school) period, which is acceptable in the middle of the development age, the field of specialization and the importance of the units belonging to these trainings are increasing in line with the vocational orientation of the individuals.

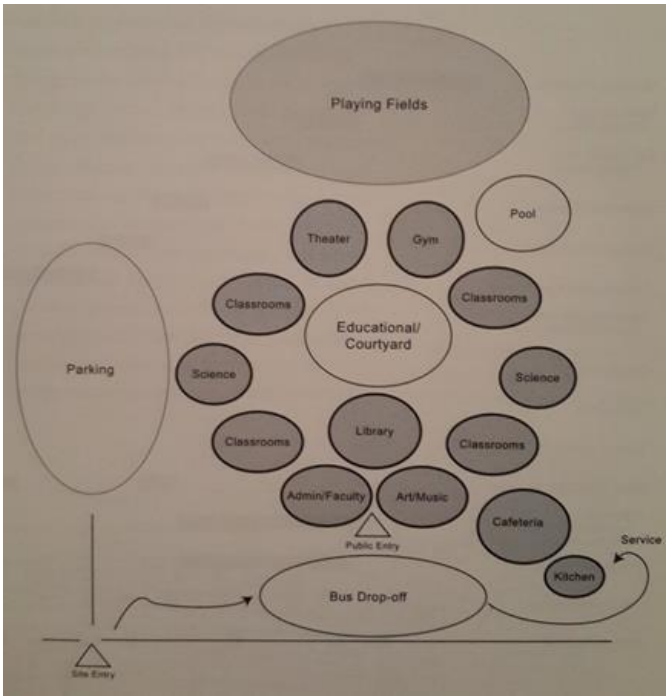
Table 3. Size reqouirements for secondary-school [2]

General classroom	770 sq ft
Art room	1200 sq ft
Business classroom	1000 sq ft
Computer Lab.	1000 sq ft
Office/secretarial practice room	840 sq ft
Home and carrers(homemaking)	1200 sq ft
Industrial arts	2000 sq ft
Mechanical drawing	840 sq ft
Vocational shop	Varies
Library	Varies
Music room	770 sq ft
Instruments/band	1400 sq ft
Music practice rooms	Min 25sq ft / child
Gymnasium	48 ft x 66ft
Swiming pool	Değişken
Earth science	1000 sq ft
Biology room	1200 sq ft
Chemistry classroom	1200 sq ft
Physics classroom	1200 sq ft
Study hall	15 sq ft - Varies
Cafeteria / kitchen	Varies
Auditorium	7 sq ft/ child- varies

Different educational models aim to find the most correct way for individuals to develop their own education systems, and thus varying curricula. In the footsteps of all these variability, the fact that the educational structures are composed of one-stop-space places restrict the perception of individuals. The educational structures that do not integrate with the education system may cause the education and training of individuals to be incomplete. Attractive educational structures should be designed so that individuals who are open to development cannot be unhappy and have a closed identity by trapping them in cold walls. When the literature sources are scanned, the influence of the structure in education is not very common. King and Marans examined the studies and found that there are research findings about color, heat, space layout and lighting have important effects on learning and they stated that there is a need for more studies on this subject.[3]

In line with the work of many researchers educators, it was demonstrated that the design of the education structures by the designers Mark Dudek and Bradford Perkin had begun from the planning stage.

Table 4. Conceptual diagram for upper school. [2]



As can be seen from the figure, the diagram created for the educational structure is considered as a whole for the education - teaching places, common areas, open air areas.

III. EFFECTS OF SPACE ON EDUCATION

Hathaway says in the introduction to the "Educational Buildings" article: "We first shape the buildings, then they shape us. For schools, this is very important because there are hidden powers of many aspects of educational buildings to help both learning and human skill, or both". Cohen, Manion, and Morrison also suggest that the physical environment is a framework for learning and can contribute to advance learning as well as learning. they emphasize that they will contribute to their power.[3]

The areas required for educational structures are more than likely to be organized. Needs, unit possibilities of the organization as well as the possibility to think of the units' comfort conditions is an important detail should not be forgotten.

According to Özbayraktar, Moore has worked on an effective architecture that increases success in schools and the learning space in school planning standards has also been diversified. [4] The physical properties of the educational buildings, which are supported by fixed and flexible spaces, which are physical, scientific, and which help the development of skills, are spatially rich.

As Jonathan Kozol states in his book Savage Inequalities "If the children have to go to school buildings that are killed their souls, the school reforms made have no value."[5]

IV. RESULT

In general, the design of education structures is the concrete provision of education. The development of a generation is limited to the change of curriculum by interfering with the education system, is the greatest injustice to developing individuals. If we consider the fact that every individual who has complete physical and mental development transforms his / her environment according to his own circumstances, it cannot be expected that the full-time or part-time education they take in closed spaces surrounded with pure brick, which are created without thought, can be effective. Educational environments encourage young people to education as long as they involve spaces that allow individuals to participate, allow learning by experiment, and positively influence their socialization. School structures that do not include physical environments that attach importance to individual skills cause them to be remembered as compulsory participation places, and there is a hidden conflict between individuals and education. Educational buildings are buildings that play an effective role in the development of individuals and not the places just to be visited. For this reason, the structures designed for the user's educational and physical needs reflect the importance given to the future of a society. If the education structures are not forgotten as a part of the education system, problems in the education process will be prevented by the help of structure – system compatibility. Finally, structure – system compatibility will be provided by educatinal structure designs which designed both with the ideas of educators, pedagogues, managers and designers.

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