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## The PASD Method

### **The need for radical change of school space in Greece**

All efforts to upgrade the Greek school for being capable responding to cultural, social and economic requirements of a modern European society highlighted the absolute necessity of the redesigning school buildings in Greece. The architectural characteristics of school space must be changed, thus, its arrangement and aesthetics for making it suitable for the implementation of new curricula that provide the application of cooperative methods of teaching and learning in multicultural classrooms. However, the change of architectural features by itself is not enough. The main objective of redesign must be the change of pupil's relationship with school space. In other words, this type of redesign goes beyond the context of a typical architectural design, since, furthermore, it intends to reform the educational and psychosocial functional conditions of the classroom, through the process of changing its space's characteristics.

Since 1996, redesign of school space stands in the center of an applied research program conducted by the Department of Preschool Education and Training of Aristotle University of Thessaloniki. Acquired experience has shown that design should be linked to a combination of criteria, due to which the basic characteristics of the area (i.e. size, arrangement, aesthetics, equipment and the intended way of its use) are associated with • the educational and cultural opportunities offered by the child-space relationship • the educational and psychosocial characteristics of the classroom, especially with a) the formation and function of small groups; b) the application of the project method; c) the development of communication and interaction and d) the active role of the child in the classroom. This research course resulted to the creation of a school space design method, based on a combination of educational, architectural and psychosocial criteria that we called "Pedagogical & Architectural Space Design" or "The PASD Method" in short.

### **The objectives of PASD Method**

The main objective of the method is the transformation of the relationship with space for its adjustment to a) cooperative methods of teaching and learning, and b) the

particularities of a multicultural educational environment. This aim is analyzed on three separate parts:

- From a pedagogical perspective, should facilitate the implementation of cooperative methods of teaching and learning, especially, the function of small groups. The cooperative classroom by definition has multicultural characteristics because the concept is oriented to the development of collectiveness through the transformation of conflictive elements appeared in relationships and communication<sup>1</sup>
- From a psychosocial perspective, design of the space must contribute in transforming the traditional classroom into collectiveness that will be based on: a) the development of creativity, pleasure from learning, and democracy; b) the interaction with the social environment.  
In this context, the relationship of space with child's world of imagination is extremely important.
- From architectural point of view, the method should configure a space framework capable in contributing to the development of educational and cultural dynamic of the cooperative classroom.

Each of the points - objectives is connected with the rest ones in interdependent relationships and interacts with them. For this reason design should approach them *all simultaneously*

### **The directions of the Pedagogical Design of School Space**

For the implementation of the objectives mentioned above in school environment, space design should be developed in three directions, both in the classroom and the schoolyard.

#### *First Direction: The creation of a space rich of stimuli*

Space should offer a wide range of stimuli, visual, tactual, audios and kinesthetic. The stimuli of space can enrich the educational environment at three levels:

- The first one is the transmission of information related with a) the direct environment and the phenomena occurring in it, b) the contents of the curriculum and c) with the child's centers of interest.
- The second one is the cultivation of child's sensitivity, which widens the road toward its aesthetical and cultural maturity.
- The third one is the development of activities by the child both educational and spontaneous.

From educational point of view it is interesting to integrate stimuli derived from space to the school environment and to connect them with learning processes and culture cultivation.

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<sup>1</sup> The association of school space redesigning with the cooperative method is mainly based on the approach of brothers Johnson (Johnson, D.W. & Johnson, R.T., 1989 ; Johnson, D.W., Johnson, R.T., & Holubec, J.E., 2004).

*Second Direction: The formation of micro-environments of cooperative communication and interaction*

One of the objectives of the designed space is to support the development of pedagogical and psychosocial aspects of cooperative process. In practice, this leads to the modification of the space organization, its arrangement, its aesthetics and equipment, through the creation of structures that contribute in strengthening the culture of dialogue and cooperation. This objective is reinforced by the reversal of traditional perceptions about the *use of classroom* space, especially through the cultivation of active participation and initiative taken by the child.

The main changes in the levels of organization and use of space are:

- A new arrangement of furniture that aims the formation of micro-environments for class groups. These micro-environments objectives are:
- The formation of a unique space
  - For every group of the class
  - For every child, obtaining in this way personal space.
- The *flexibility* of space, i.e. its attribute to be open to alternative arrangements of the furniture and equipment it contains. The architectural flexibility contributes to the development of many and different shapes of educational and cultural communication and interaction. This fact has great educational usefulness, because it favors the adoption of various teaching techniques applied alternatively in the classroom. So teaching is adjusted every time both to the requirements of the cognitive subject and to the specific conditions that prevail in the classroom
- The contribution of space *aesthetics* in creating a positive psychological environment in the classroom.
- The possibility given to pupils, individually or in small groups, to intervene in space, to arrange and decorate it, and finally, to connect it with their own centers of interest and to appropriate it. This process contributes to the creation of "places" in the classroom space.

*Third Direction: The creation of educational "places" in the space*

The two directions presented above constitute the starting point for creating educational places, through the conversions occurred in space organization and use:

- Regarding the organization of space, the existence of flexibility and the exploitation of stimuli and elements relating to the child's world of imagination, favor frequent changes in space. In their turn these changes can lead to the creation of micro-environments with great educational and cultural significance.
- As far as the use of space is concerned, children's freedom to intervene in their direct surrounding space and to adapt it to their own centers of interest enriches the possibilities that space organization offers to a classroom.

The teacher, either alone or in collaboration with the children, can exploit the possibilities opened up by this transcendence of the relationship with space, to develop educational places associated with classroom activities. Researches on this topic carried out in Greek kindergartens showed the advantages that this process

presents for teaching, especially if educational places operate in the framework of play.

Educational places that have been subject of observation were consisted of a module of space and activities, which included a) a temporary arrangement of space based on the symbolic meanings of the objects that it was consisted of (different than the real ones) and b) an educational play adapted to the demands of teaching concepts that children had to learn.

The contribution of space relations in educational process helped children to gain a space experience associated with the concepts for learning. The educational place became a kind of material environment of learning, being in function with both active participation of child in educational process, and the pleasure it felt from participating in this type of educational process (Germanos, Tzekaki, Ikonou, 1997, Germanos, Georgopoulos, et al, 2002). Similar proposals exist since a long time in international area involving the creation of learning environments (or learning spaces) especially in outdoor areas of both school and city. (Stine, 1997, Department of Education and Science (ed.), 2000, Fisher & Khine, 2006).

#### **Four rules for the implementation of pedagogical design of space**

##### *1st rule: The organization of space in activity areas*

This rule corresponds to an approach of the school space arrangement radically different from the one applied in Greek schools today and has as a result the formation of one-functioning and static places. The 1<sup>st</sup> rule is very closed to the approach applied by the schools of Hi – Scope program in the U.S.A and this approach foresees as well the organization of space in areas correlated with taught subjects for example, the area of mathematics, of reading, of arts etc. (Vogel, 2009 ; Germanos, 2009).

However, our approach differs from Hi-Scope's one, because it is linked with another factor, which is the *situations of coexistence between pupils in cooperative classroom*. We distinguish three situations:

- The parallel occupation during which children are active in the same area, but independently of one another, even if they are sitting side by side,
- Cooperation in small groups,
- Cooperation within the group-class.

The transition from one situation to another contributes to the development of different forms of cooperative communication and interaction in the classroom.

According to the 1<sup>st</sup> rule, the classroom is organized into five areas of activity:

- Two areas where activities for all curriculum subjects can be developed. These areas are:
  - The small group or individual's work area.
  - The large group-class' "living room" area that we called "club"
- Two areas that facilitate the approach to information, in which children can operate either individually or in small groups. These areas are
  - The multimedia area, which can be connected to all aspects of schoolwork

- The library area.
- The creative and leisure time activities area in which can be grown all three coexistence situations mentioned (Picture 1).

According to the research, organization of space in activity areas facilitates the application of different teaching techniques, and, thus, it brings up the significance of space as an educational tool in teacher's hands, instead of limiting his/her ways of working.



**Picture 1**

*Maquette of a kindergarten room after its pedagogical design*

**The areas** A: Small groups or individual activities area; B: Group-class area; C: Creative occupation and recreation area.

**The places** 1: Groups micro-environments; 2: Libraries; 3: The "Small House"; 4: The "House we go when we want to be alone"; 5: The "floor that sinks when we walk upon it" 6: "Windows and Night sky"; 7: The "Kiosk"

### *2<sup>nd</sup> rule: Space flexibility*

Flexibility is space attribute, which allows us to change it without modifying its size, shape or its equipment. School space is flexible when we can use its arrangement and aesthetics in many different ways, mainly by applying alternative equipment arrangements. This allows us to incorporate into classroom's function unpredictable situations of communication and interaction that emerge during the lesson<sup>2</sup>. Flexibility is fighting against stereotypes in two levels:

- in space organization, because it facilitates the application of different teaching methods, each of them has different space requirements

<sup>2</sup> In specialized bibliography flexibility is also referred as "Build-in-variety", provided by the architectural design of space (Dudek, 2000).

- in space usage, because it favors the free and full of imagine use of school space by children.

Consequently, the importance of space flexibility in creating educational places is obvious. However, it could be impossible to have flexibility, if the children and teacher did not have the possibility to use it without restrictions.

*3<sup>rd</sup> rule: Creating a familiar atmosphere that reminds “home”*

Changes in child's relationship with space introduced by the first two rules of pedagogical design, should be combined with the "well-being" of children in school space. Primary factor in this issue is the quality of educational relationship and process. However, space as well has a significant contribution based on interaction between the organization and the use of space, in which children are actively participated.

At the level of *space organization*, school area should be beautiful, ergonomically adapted to the child and pleasant. These generalized requirements become concreted especially through the study of colors and, generally, of the stimuli provided by space, aiming to create an image that refers to home. From the design perspective, home reference is based upon the selection of materials, forms, sizes and colors of furniture and equipment. The same applies to lighting, natural and artificial, aiming to achieve the right level of lighting as well as the creation of a convivial for the child atmosphere in the educational environment (Weinstein, David, 1987). Thus, the organization of space contributes a) to the development of sensitivity and aesthetic maturity, as well as to the cultivation of culture of child and teacher, and b) to the creation of a positive psychological climate in classroom (Picture 2).



**Picture 2**

*The classroom in picture 1*

1: Groups micro-environments; 2: Libraries; 3: The “Small House”; 4: The “House we go when we want to be alone”; 5: The “Kiosk”; 6: “Windows and Night sky”.

At the level of *space utilization*, child must have the possibility to intervene in the aesthetic and identity of space in order to adapt it to its own centers of interest acting alone or in small groups, with or without teacher's cooperation. In this case too, we stand in front of a cooperative process, which would be good to be incorporated in both curriculum and class life (Vayer, Duval, Roncin, 1997, Germanos, 2006).

*4<sup>th</sup> rule: The creation of micro-environments for individual and group*

In classroom's space children must possess micro-environments for themselves or / and their team (due to space organization). If these micro-environments are neither predicted nor exist, it is important for the children to have the possibility to create them (due to the opportunity to use the space). The above facilitates the alternation between individual and group activities

individual ↔ group,

and supports the cooperative and multicultural identity of the class.

Moreover, children have the opportunity to appropriate their space, a process with positive effects on their self-image and socialization. Finally, it is much easier for the child to create personal spaces and participate in the formation of educational places inside class, if it finds itself (child) in a "tailor made" environment. The fourth rule fights against stereotypes that characterize space organization and functioning in Greek school and contributes in creating a positive psychological climate in the classroom.

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