Social Implications of Design in Child Care Centers

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**Abstract**

Early childhood education has a complex nature that concerns on both children’s development and built environment together. The content of development is related to the experiences of children in the physical setting that supports and reflects the social structure. Children learn about the world, within a physical environment that communicates messages to them about the way they are expected to behave. Design of the setting control the social conditions of children’s interactions and involvement in activities. Because children are highly sensitive to the appearance and organization of their surroundings.

The impact of the physical environment of child care settings on social behavior can be assessed at different aspects such as planning, nature of the setting, complexity and types of activities and general characteristics of the space. Planning of a child care center brings out the discussions about open-plan, closed plan and modified open plan facilities. Each type of organization carries its own intention to promote social behavior whether self-directed, exploratory, solitary or group play. Nature of the setting refers to inclusion of soft and hard materials and their relationship to seclusion/inclusion concepts of an activity center. Configuration of the activities are influential on social structure as much as the type and selection of them.

There are different fields of study that are concerned with either with children’s development or with the built environment. Only the early childhood education requires to focus the attention on both of these topics. In response to findings indicating the relation between physical environment in the process of child socialization and development, more interest has been directed to the interface between the socio-physical environment and child development. Environmental professionals such as architects, planners and policy makers need to base design decisions on scientific evidence that describes the characteristics of physical setting on human developmental consequences. Only by developing an adequate vocabulary that bridges that gap between diverse approaches of educators, environmental psychologists and architects can help to provide developmentally appropriate environments for children.

**1. Introduction**

Early childhood care centers are the settings that provide exploration and movement for children. When children strive to master the skills, the environment works as a primary medium for learning. Moreover, children are exposed to variety of groups and social relations that leads to new conceptions about social roles and behaviors. Planning and characteristics of the physical setting communicates the expectations of the educational and institutional policies.
Early childhood care centers are designed as social and physical settings that children involve in a series of activities. For the performance of these activities, children need space to learn through their own actions. To grasp the physical dimension of the child care environment as a pattern, the spaces that the actions of children happen can be called as behavior or activity settings (Gump, 1978). Learning occurs in a continuous relationship between children and the environment, which connotes a set of images, values and meanings. Through the socialization process, children adapt to the social order proposed through the physical characteristics of the setting.

According to the projections, more children are spending their time in child care settings in every year. In many of the developed countries over the world, early childhood education is an important and inseparable part of the educational system. This attitude is based on the recognition of the importance of early years in the life of the children. Since the growth is very rapid in that period, a supportive environment provides a healthy progress in the overall development of children. Child care environment is structured with the relationship between the stated goals of a particular program; the administrative, educational and therapeutic approaches developed to attain these goals, the physical, social, economic conditions in which the programs are implemented; and the final impact on the development of the children that occurs within them. Hence, child development is largely a function of the interaction between basic maturational patterns and encounters the material and social environment. In this sense, all of child development involves socialization (Ingelby, 1974).

The purpose of this paper is to examine the links between the quality of child care setting and its social implications to evaluate the potential contribution of the physical environment of the child care settings. The focus is the behavior of children in performance of activities and peer relations. Conclusively, the nature of research in between the environmental psychology and the physical setting of child care centers is emphasized and some suggestions are proposed for better use of research results of environmental psychology in children’s environments.

2. Research on Behavior of Children and the Physical Environment

In response to findings implicating the physical environment in child development, developmental and environmental psychologists have begun to give more attention to the interface between the socio-physical environment and child development. As a result, a growing literature is available on the interdisciplinary studies of child behavior and physical environment (e.g. Weinstein, 1979; Altman, 1977; Altman and Wohlwill, 1978; Baird and Lutkus, 1982; Cohen, 1982; Liben, Patterson and Newcombe, 1981; Dudek, 1996).

Design decisions of the physical environment in child care settings need to be based on scientific evidence by the environmental professionals (architects, planners and policy makers) who are manipulating human developmental consequences. In order to create an environment-behavior perspective on early childhood development, it seems necessary to discuss various dimensions of the designed environment that thought to have an impact on social and organizational environments. Empirical evidence revealed that there was an association between spatial quality and behavior of children. In centers in which spatial quality was rated high, children were found to be more involved and care givers spent less time and energy in responding to children and fostering social interaction (Preskott, 1987). This discussion will include complex
interactions between physical and social environmental variables such as the teaching styles, and educational programs.

2.1. Organization of the Physical Environment

In order to understand the perspective of environmental psychology in child care settings, the results of different ways of organizing the environment can be reviewed. In one, which is called closed structure (or closed plan), the environment organized with several small interconnecting rooms which are self contained classrooms. A close relationship is observed between the type of organization and the teaching style. Closed plan settings are much like that of the public school. Education is implemented by teacher-directed activities in which all children are expected to participate. Another type of organization is characterized by an unpartitioned space with few or no internal walls. Teacher’s role is to initiate and facilitate cooperative and self-chosen play (Fogel and Melson, 1988; Clarke-Steward and Friedman, 1987). Hence, social behavior of the children is based on not only the type of organization but also the teaching style. Researches made on the effect of organization on behavior of children are far from being conclusive. However, a study by Neill and colleagues (Neill, 1982; Neill and Denham, 1982) reported that children spend less time in educationally valuable activities in the more open plan settings. On the contrary, Prescott (1973) found that children spent less transition time in open plan environments in comparison to those with a closed plan (cited in Moore, 1987). Children were found to be involved in activities in smaller group sizes in open plan environments (Durlak et al., 1972, cited in Moore, 1987). However, more caretaking and greater degree of teacher control is required in open plan organizations. In closed plan centers, more withdrawn and less exploratory behavior is observed (Moore, 1987).

Another approach of organization was proposed as a midway between open and closed plan, termed modified open plan (Moore et al., 1979). In modified open plan space, the environment is organized with large and small activity spaces. Activity centers are open enough to provide the visual access to children for play opportunities, whereas close enough to protect from distractions. When open plan schools are modified in this way, less interruptions were found (Evans and Lovell, 1979, cited in Moore, 1987) and with the modifications of close structures, it resulted a greater social interaction (Burns, 1972, cited in Moore, 1987), though the noise and distractions cannot be totally prevented. In modified open plan organizations, it was also found that children exhibited a variety of behaviors that includes more object manipulative behaviors whereas less large physical activity and less passive behavior. Children in modified open plan organizations are using more activity settings in smaller group sizes by their own initiative behaviors (Moore, 1987).

2.2. Spatial Definition of the Activity Centers

Behavior of the children are also influenced by the spatial definition of the activity centers. The notion can be called as behavior settings that is children’s involvement on different play activities at once. It includes behavior, program and physical characteristics of the activity center. Well defined behavior settings are characterized by clear definition of the boundaries of the behavior setting from the others and circulation space with adequate visual and acoustical separation (Moore, 1987). These behavior settings are arranged to accommodate two to five children and one care giver. Poorly defined activity centers are the ones either too large or too small for the group size in which play materials and work surfaces are not ready for particular activity.
Defining the behavior settings architecturally contributes to exploratory behavior of children. However, it should not be disregarded that social results of well-defined behavior settings should also be evaluated with the teaching style. It is known that more engaged behavior is observed in well-defined behavior settings when accompanied with open educational philosophy (Moore, 1987).

2.3. Play Materials and Activity Centers

It is well established that materials and activities encourage different play behavior. When some are encouraging cooperative interaction, the others foster solitary play such as art activities, water play and manipulative materials (Hendrickson et al., 1981). On the other hand, solitary play has been considered as socially less mature behavior (Parten, 1932, cited in Weinstein, 1987). However, calming effect of solitary play should not be disregarded. Manipulative materials such as puzzles and shape sorting toys, art studies, books, sand and water play and single person large muscle equipment (tricycles, rocking horses) causes less interactive play episodes (Weinstein, 1987).

According to Piaget’s argument (1926), children learn to assume the other’s point of view through the social play that involves interpersonal disputes. Thus, designing classroom spaces to encourage peer interaction both supports the natural developmental progression toward group play, but also enhances opportunities for role-taking experiences and consequently for prosocial behavior. Empirical evidence indicate that interactive behavior occurs most frequently in the housekeeping or dramatic play areas, in the block area, with vehicles (trucks, wagons, carriages) and on “multiple niche” large-muscle apparatus (Shure, 1963, Charlesworth and Hartup, 1967; Doyle, 1975; Hendrickson et al., 1981; Rubin, Maioni and Hornung, 1976; cited in Weinstein, 1987).

Finally, the amount of play material partly influences children’s interactions. Several studies indicated that the play with sufficient number of materials characterized by more interaction, cooperative conversation, role playing and absence of disputes (Weinstein, 1987).

2.4. Configuration of Activity Centers

Juxtaposition of certain activity centers in total configuration of the play space may cause different possibilities of social patterns. It refers to the notion of complexity that is the potential of the setting and its props offered for manipulation and alteration (Preskott, 1987). Range of the variety changes between simple units, complex units and super units. When a simple unit has one obvious use and no subparts or attachment, complex units are comprised of two essentially different play materials that children can manipulate and improvise. Swings, rocking horses, slides and tricycles are the examples of simple units. Examples of complex units are play dough or paints, large hallow blocks together with dramatic play materials, which encourage exploratory behavior and/or have a considerable element of unpredictability. Super units are the most complex play units that are obtained by juxtaposition of more than two types of play materials such as sand pile with digging equipment and water or dough table with tools. Observations have revealed that complex units can accommodate four children at ones and super units can accommodate eight. It is also known that complex units are more continuously interesting for children than simple units (Preskott, 1987). Hence, configuration of the activity centers play a crucial role to promote exploratory and group play. It is essential to consider careful juxtaposition of activity centers and materials so that they reinforce each other spatially and behaviorally. Research has
already shown that by unifying the environment so that the dominated activity centers connect to lesser support areas, the entire use of the space is increased (Shaw, 1987).

2.5. **Size of the Activity Centers**

By providing the options for the size of the activity centers, the social structure of the play can be controlled. Activity centers scaled to accommodate about four children encourage individual participation. These centers work as retreat areas that are crucial for the development of self-concept and personal identity. Larger spaces are required for group play to promote active and participatory games (Olds, 1987).

2.6. ** Provision of Soft and Hard Materials**

A close relationship can be assigned to the provision of soft and hard materials and the social structure in the activity centers. That relationship can also be related to the nature of the place as being secluded and protected from the intruders or being open to distractions. Secluded places are most often designed as “soft” centers and provided the materials such as rugs, pillows, cushions for decoration. Play materials include sand, mud, dough, clay and finger paints. The activity centers which are not including these materials are considered as at the hard end of the continuum.

Depending on the included materials and nature of the activity centers, the noise and mobility level of the children can be predicted. Soft and secluded spaces promote solitary and small group activity whereas social structure may change from small group to large group activities in hard material centers. In general, tranquil activities are observed in warm, soft, textured spaces and expansive activities are in cooler, harder and vibrantly toned places (Preskott, 1987).

2.7. **Setting a Mood: Colour and Other Decorative Qualities**

Through some decorative techniques, a particular mood that matches the level of energy and mobility of children can be set in particular activity centers. The things moving, growing and changing shape such as mobiles, wind chimes, fish, animals or reflecting surfaces (mirror) add visual interest and excitement to the environment.

Colours can be used to stimulate and reinforce the feelings of children in play areas. Activity centers can be coloured to encourage particular type of attitude. In quiet activity places, where children are expected to involve in solitary play, the curves and flowing lines are advised to be used with the predominance of blues, browns and natural colours. On the other hand, the activity places with high physical mobility, sharp irregular lines combined with bright, primary reds and yellows should predominate (Heseltine and Holborn, 1987).

3. **Conclusion**

When analyzing the interface between physical environment and environmental psychology, two perspectives are considered for the conclusion. The first one is based on the evaluation of research methodology for behavioral perspective and the other one is on some recommendations on how to use information of environmental psychology in physical settings of child care environments.

When making researches in the interface between the physical environment and environmental psychology, the nature of the relationship between the physical and social environments should be carefully kept in mind. When child care environments are considered, the interrelationship between the social and physical environments are...
so intermingled that it is quite misleading to disregard their mutual influence. There are many cases that behaviors of children are influenced not only by the qualities of the physical environment but also the nature of the interactions between the caregiver and child. When the concern is to measure the behavior change of children under certain conditions, behavior change is an appropriate outcome measure to be easily controlled. Generally, intervention and institutional studies are designed to answer the questions. However, to make sure that changes are due only to the intervention and not to extraneous factor, either control groups should be used or time series designs can be executed. Another point that should be kept in mind in environment-behavior researches on children’s settings is the individual differences. Children from different socioeconomic levels, ethnic and cultural background as well as from different age and sex may exhibit quite different behavioral reactions to the changing qualities of the physical environment. Individual differences affect how the environment is perceived and used.

A final evaluation issue of methodology concerns the scale of the care environment. Setting type should not be neglected as an influential attribute on behavior of children, since the qualities of physical environment change as being institutional day care or home care environments. (Wolfe and Rivlin, 1987).

The design process of the child care settings should not be seen as a simple relationship between the client (the owner of the care center or school) and a designer (either a professional architect, a teacher, or other person acting as a design decision maker). The designs of children’s environments are the results of various contributions from different expert areas, including codes and standards, safety requirements, accessibility, institutional and program requirements in addition to psycho-environmental expectations. The traditional decision maker, hence the target of all recommendations coming form other expertise is the architect. Environmental psychologists work as the controllers that test the result of all recommendations on causal human behavior and feed the information for design decisions. Unfortunately, research results of environmental psychology are scattered among many publications and accessibility is quiet limited for the architects with its disciplinary jargon. Strategies can be developed to increase the impact of research on the design of children’s places. First, environmental research information can be organized as a database and internationally made available through on-line computer sources. It will help to bridge the gap between diverse approaches of various expert groups. Second, environmental researchers can be involved in all stages of building design and delivery process, to provide a better communication among architects, educators and other policy makers who manage children’s environments.

References


