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PARTICIPATORY PROGRAMMING OF A CAMPUS CHILD DEVELOPMENT FACILITY

ABSTRACT

The teaching of child care workers has prompted technical colleges to integrate their training with an on-campus child development facility. This project describes a collaborative process where the architect and user group exchange their different areas of expertise to the facility development process.

Beginning with a goal setting process, the staff members and the architect embarked on a series of iterative stages that included children's classroom flow patterns, activity relationships, and activity requirements. Specific gaming techniques were developed to permit a dialogue between all project participants throughout the facility development process.

INTRODUCTION

The increasing demands for trained child care workers have prompted Wake Technical College to formalize a training program to help fulfill a vital community need. A fundamental component of the Early Childhood program is providing relevant experience for students in a laboratory or practicum setting, where instruction received in the classroom is enhanced by actual experience in working with children.

The children's center is similar in concept to a teaching hospital, in which fulfillment of a major role (instruction) results in the additional benefit of needed community training/demonstration site. In addition to its primary instructional role, the child development center would provide services for students, faculty, and staff with young children.

THE PLANNING PROCESS

Planning for the campus child development center has been developed through formal needs assessment that has included a five-part approach:

1. Departmental planning

2. Consultation with child care experts

3. Survey of campus child care centers

4. Site visits to other child care facilities; and

5. Campus survey of student child care needs.

From the needs assessment it was ascertained that of the two hundred colleges and universities around the country who are members of the National Coalition of Campus Child Care, 85 percent offer or are affiliated with child care services either on or off campus. The largest population segment served by the centers was children of students, followed by children of faculty, staff, and the community. In 60 percent of the cases, child care was related to an academic department at the institution.

In 1985, a survey of 2000 Wake Technical College students indicated that 50 percent of the requirements showed an interest in a campus child care facility. Respondents reported more than 250 children under their responsibility presently receiving child care, with 32 percent of the students indicating a need for child care in the future.The highest percentage of respondents indicating a need for child care services were full-time students, followed by part-time students.

Early in the planning process, Wake Tech staff members embarked on a program of visitations to other child care operations. The visitation team "walked through" (Preiser, Rabinowitz, and White, 1988) each facility and reported on the basic features of each facility. The walk throughs consisted of a general briefing session, open-ended interviews with teachers, and observations of layout patterns of different facilities. The staff members were interested in being told about the positive and negative features of the facilities. The most observable problems were identified by the teachers as lack of storage space in classrooms and in administrative offices. However,the visits helped to familiarize staff members with the issues they would encounter during the process of facility development.

A planning team was formed by the College administration which included representation from the College administration, the staff of the early childhood program, and an architectural consultant. It was at this point where the goals that had been loosely stated needed further refinement and clarification. Through a series of brain-storming sessions the following statements were generated by the planning team:

> To provide a "state-of-the-art" practicum location for students in the Early Childhood program as well as a service area for students in nursing, psychology or sociology, and allied health programs;
>
> To respond to community needs for a training facility for the child care community, serving various levels of child

care personnel, and including a parent education component; As an adjunct to its instructional mission, to provide a conveniently located quality preschool program for children of students, faculty, and staff.

Implementation goals for the campus center would be to:

Establish a reputation for providing quality care that would concentrate on fulfilling the physical, social, and intellectual needs of children.

Build a facility that would meet state standards as well as the accreditation of the National Association for the Education of Young Children (NAEYC)

Offer a "visible" program that would intertwine with other departments across campus.

Provide a setting that would serve as an extension of the family through parent education that would include a toy lending library.

BASIC FACILITY CONSIDERATIONS

The most important planning decision for the campus development center is the number of children to be served in one facility. It has been found that the development quality of child-care services drops sharply with increases in the number of children served in one building (Kritchevsky et al., 1969). In centers which served over 60 children, major emphasis tended to be placed on rules and routine guidance. Conversely, teacher emphasis on these concerns were found to be significantly lower in smaller centers. Prescott (1975) found that large centers rarely offered children the experience of participating in wide age-range groups. Mixing of ages in smaller centers offered opportunities for older children to serve as models and enrich the overall play possibilities.

The age groups served by this center would be infants (6 weeks to 12 months), toddlers (12 months to 2 years), and preschoolers (2 to 5 years). In order to achieve the needed critical mass in each age group, a target number was agreed at a maximum of 75 children.

In addition to the total number of children in a child development center, an adequate amount of space available for children's activities is necessary to insure a quality developmentally-oriented program.

A majority of states require a minimum of 35 sq. ft. of usable play space per child, exclusive of eating, napping, circulation, closed storage, etc. Based on a review of six studies of density

and behavior in child-care settings, Prescott and David (1976) recommended to the Federal Government in a commission study a minimum of 40 - 42 sq. ft. of usable floor space per child for Federal Interagency Day Care Requirements. Moore (1978), in conducting interviews as part of his travel research, suggests that 40 - 42 sq. ft. per child provides a much more flexible program, options, active, and quiet pursuits happening simultaneously without disturbing each other. The most desirable social environment occurs at a density of 0 sq. ft. per child. To compliment this area requirement is the need for well defined areas limited to one activity with clear boundaries from circulation space and from other activity areas (Moore et.al., 1979). Well defined activity areas may be characterized by surrounding partitions, storage cabinets, changes in floor coverings, or other visual elements that suggest boundaries. Spatially well defined areas support social interaction, cooperative behavior, and exploratory behavior (Smith and Connolly, 1980).

INTERACTIVE PLANNING PROCESS

The planning process consisted of workshops with small groups that were involved in goal setting and locating relevant activities for different age groups (Sanoff, 1988). This process has been used in the design of other facilities where information exchange between the user and the architect was vital and where an open forum was the vehicle for achieving participation.

This process began by developing behavioral data related to the nature of children's activities. Each activity that infants, toddlers, and preschoolers would engage in was identified and

Infant

To promote well-rounded growth, infants need stimulation to develop their gross motor skills. Level changes, ramps, and pull-up bars provide this form of encouragement. Because their rate of development is so rapid, varying the level of difficulty progressively is important to their large muscle development. Additional cognitive awareness can be achieved by offering surface textures which can be interchangeable. These textures should be incorporated into the network of activities so that they lead from one into the other. Manipulative toys are provided which challenge the infant to investigate and develop autonomy.

Manipulative
Indoor Active
Crawling

Objectives	Equipment	Storage Open	Storage Closed
Fine motor skills	Alternate toys and materials		•
Cognative awareness	Textured blocks large and small	•	
Visual-motor coordination	Vertical hanging toys	•	
Function play	Multi-level low elevation steps	•	
Cognative stimulation for concept development	Horizontal displays and pull-up bar	•	
Sensory stimulation/awareness	Floor display windows		•
Autonomy and positive self-esteem	Open configurative structures		
Exploration of environment	Pillows, mats texture rugs squares	•	
Exercise and stress-management	Mirrors-horizontal	•	
Gross motor development	Swings	•	
	Hanging attachments on ceiling	•	
	Elevated bridges and ramps (low)	•	
	Horizontal display	•	
	Base for small items		•

Design Requirements
•Crawling should connect nodes of stimulation.

Notes
Comfortable flooring-
easily traveled

Quiet
Visual access to other areas

200 square feet

Figure 1. Typical Activity Data Sheet

detailed in a similar manner by the Early Childhood teaching staff (Sanoff, 1981). The staff members currently teaching in the program identified the objectives for each activity, the space requirements, and the visual and acoustic requirements. This spatial inventory served as the basis for the design process to follow. The activity data sheets also contained descriptions of the particular activities that would occur within the larger activity area. The water sand play area, for example, would include activities such as pouring, measuring, mixing, and floating objects, all of which are related to the primary activity.

Since the planning of a child development facility reflects a particular ideology about child development, a space planning process was organized to engage the teaching staff in classroom layout decisions. Graphic symbols were developed to correspond with each of the children's activity areas described as learning centers. Based on the area requirement of 50 sq. ft. per child, scenarios were developed that limited the number of activity centers that could be included in the classroom. The use of realistic constraints encouraged the staff to use trade-offs effectively. They decided which centers were most important. The scenarios were descriptive statements about a typical child's day. These scenarios permitted the staff to determine which activity areas would be fixed for different age groups and which could be flexible. This process of determining appropriate adjacencies between activity areas helped the staff to clarify visual and acoustic privacy requirements between activity centers. It also provided staff members with a conceptual understanding of spatial organization and spatial planning that would make them more effective when evaluating architectural

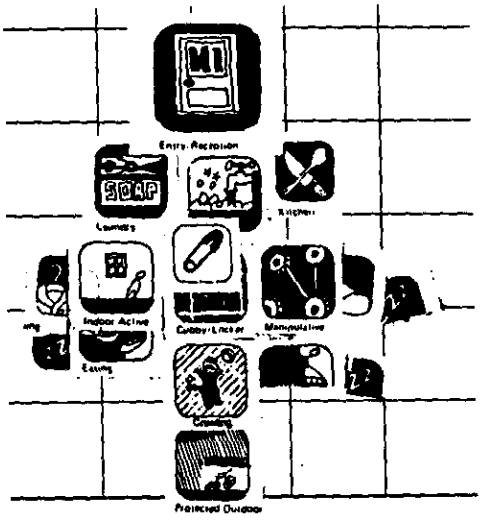

Figure 2. Graphic Symbols Describing the Infant Area

alternatives and subsequently in modifying their own classroom.

The teaching staff worked on the spatial layout for different age groups beginning with the infants, the toddlers, and the preschoolers. Together they outlined the flow process from entering the facility to greeting the child through the manipulation of the symbols. When group members agreed to a set of relationships they glued the symbols to the base, thus representing their decision. The architect then constructed cardboard scale models corresponding to the flow patterns for different age groups of each of the areas of the facility. This second stage of process permitted the teaching staff to reconsider their earlier decisions when they saw the conflicts that arose as they were able to visualize their decisions in a three-dimensional form. Although circulation between activity centers was considered during the process of examining children's flow through the classroom, the model clearly conveyed the need to establish clear boundaries between particular centers that prevented the child's distraction but permitted the care-giver an unobstructed view of all children's play areas.

Although the three scale models included information such as furniture and equipment that was not shown in the symbol diagrams, the pieces were all movable and easily manipulated by the staff members. The activity data sheets provided a ready reference as the modifications were made to the model. When agreement to the best classroom arrangement was reached, the form diagrams corresponding to each activity area were organized to reflect the changes. Although abstract in nature, the diagrams permitted the staff members to gain a clear conceptual understanding of all

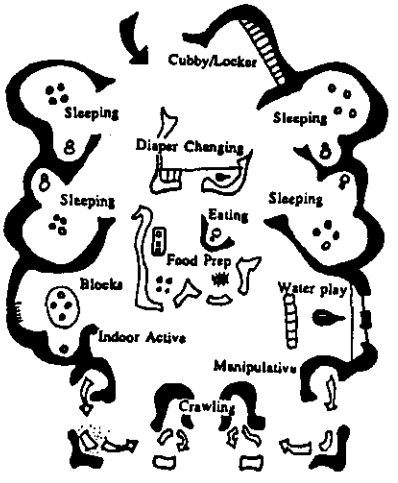

Figure 3. Form Diagram of Infant Area.

understanding of all activity relationships in order for them to effectively evaluate the alternative building concepts and continue the planning process after the building is in use. In a similar manner, a process was developed to explore the relationship of the parts to the whole. Each of the facility's primary activities was identified and listed by the staff and designer. The list contained all the basic areas for the children's facility beginning at the parent's "drop-off" and including the children's protected outdoor area adjacent to each classroom.

The list was organized into a matrix where staff members made decisions about the location of the major parts of the facility The activities generated from the analysis of the children's flow processes, which tracked the different age groups through the facility, were rated on the basis of privacy and closeness or proximity to each other. This diagram guided the development of the building plans though staff members found some difficulty in responding to certain spatial implications of the plan drawings. While they could follow the organization of the classroom, they could not visualize how the "two dimensional boxes" might appear nor the implications of how the classrooms were connected. The continual reference to scale models and perspective drawings enabled the staff to effectively contribute to the design development of the building process.

CONCLUSION AND DISCUSSION

The process embarked upon by the staff and the architect is clearly a departure from the traditional approach to facility development which usually denies the expertise of the user and their involvement in design decision making. Traditional designers also focus on the formal and visual issues and give less attention to the behaviorial issues that can influence the solution. In this project, the architect provided a clear structure which enabled the child development staff to lend their expertise to the initial programming stages of the process. Using activity data sheets, activity symbols, and form diagrams permitted the architect to integrate the knowledge about children's behavior and requirements into a format that was conducive to making space planning decisions.

Involving the expertise of the staff in this guided process helped them to see linkages between child development goals and the types of places where these goals could be fulfilled. Their continual involvement in the process of designing the building encouraged the exchange of ideas and concepts with the architect which facilitated the staff's ability to be effective design team members. The active part of the process terminated with the design development of the children's facility which was the result of the team's involvement.

Although it has been shown that people who participate in design decisions have greater satisfaction from their involvement (Schwartz, 1978), it is evident from this experience that the dynamics of participatory process and product are different than the results of a more traditional design process.

A similar process was utilized with two different child development centers where teaching staff, parents, and administrators were involved in the programming process. When the architect was an integral part of the process, the building design proposals were clearly understood by the user/client constituency. In the instance where the programming document was completed prior to the architect being commissioned for the project, significant communication problems were manifest by the user group and the architect. The language of the program reflects the concepts developed by the teaching staff and conveyed in terms of educational goals and children's activities. The language of the architect, the floor plans and other drawings, which are the interpretation of the verbal concepts, are often foreign to the user groups, especially if they are not developed simultaneously with the program.

Thus, the implications of this work indicates that ownership in the process permits the user/client to exercise free and informed choice. The separation of the programming and design stages limits the users participation which puts at risk, a satisfactory designed product.

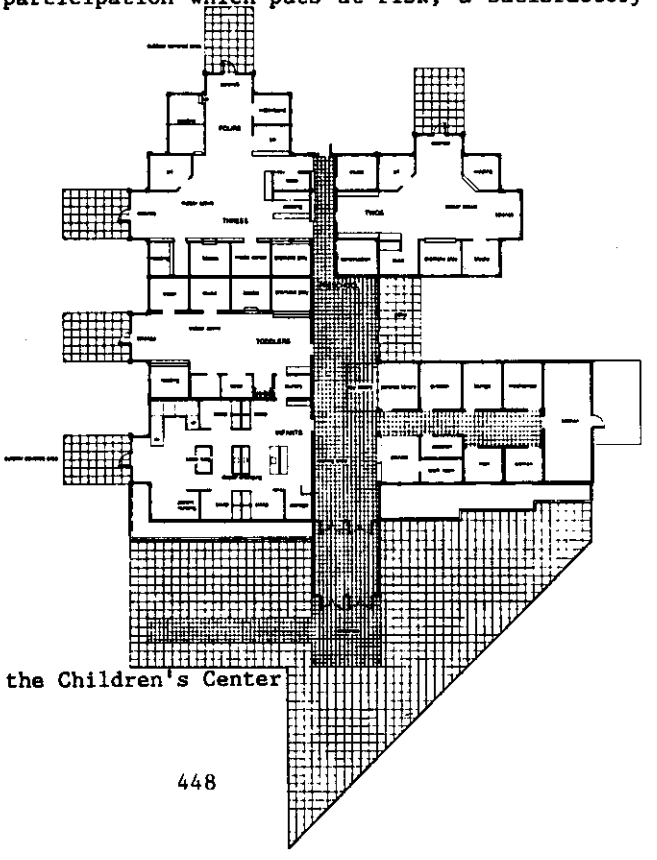

Figure 4.Plan of the Children's Center

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