**Abstract**

The literature reviewed here indicates that all environments are occasions for learning and that the open plan approach to school design can best provide for fluid interaction between the child and his physical surroundings. The idea of enhancing a learning process through enhancing the physical environment is not new. What is new, however, is an increasing awareness of the extent to which individual differences among children relate to the ways in which they learn in any given environment. Accordingly, writers more often seek to offer architectural suggestions and to explicate educational rationales than to offer guaranteed solutions and philosophies. Topics covered in this review include vitalizing the environment, realizing the concept, planning and standards, resources, and bibliographies. Twenty of the cited documents are available from EDRS. (Author)
Gradually it has become apparent that day care services offer an unparalleled opportunity to do two humane and profitable things at one time: (1) release many women from child care responsibilities so that they can work, improve their standards of living, and, in many cases, go off "relief"; and (2) at the same time provide their children with better care and greater opportunities for growth than they could receive in their homes.

Waligura and others (1971)

It is now acknowledged that preprimary learning programs can contribute significantly to preparing children for entrance into elementary school. The success, during the last decade, of Head Start and related programs for the very young proved that early preparation of the economically and culturally disadvantaged and the physically or mentally handicapped can greatly assist such children in realizing their maximum educational potential. Today, educators and parents are beginning to plan preschool learning centers to serve all children. What was experimentation in the 1960s is becoming method and conviction in the 1970s.

This new appreciation for the learning potential of the very young is indicated in the use of public and private funds for a wide variety of programs. Successful early learning is now occurring in renovated homes, storefronts, and warehouses, as well as in classrooms and buildings especially designed for preschool children. The diversity of programs and facilities for preprimary learning is characteristic of the plurality of American society and of the contemporary
The point of view that a child learns by interacting with a variety of environments underlies Loeffler's (1968) discussion of the "prepared environment." She selects five broad educational concepts relating to early childhood education (dependence, independence, and interdependence; early stimulation and learning; manageable complexity; play; and teacher role) and identifies their architectural implications for the design of a preschool learning facility. After elaborating on the educational rationale behind each concept, she presents specific architectural interpretations whereby the concept can be realized in a learning environment.

Osmon (1971) relates multiple environments to thirty-five separate sets of design criteria in an illustrated discussion of the daily physical and program needs of a group child care facility. These design requirements, or "patterns," are organized according to distinct parts of the physical environment. Osmon offers them as foci for a continuing dialogue between early childhood educators and architects, stressing that the patterns are subject to modification and change as new ideas and insights arise.

The patterns are somewhat idealized in that their realization depends on adequate building funds and a degree of design freedom that may not necessarily be available in every situation. Since Osmon's fundamental intention is to stimulate dialogue and to provide an environmental perspective for architects and educators, the patterns may serve as parameters for the evaluation of any given structure or design proposal. These patterns center about physical activity spaces (kitchen, entry, action area of the play yard, and so forth), parts of the building (lighting system, flooring, materials, and so forth), and overall design issues such as a multirealm environment designed for both adults and children and a transition space for mother and child.

Waligura's (1971) extensive analysis of environmental criteria for preschool day care facilities reflects contemporary concern for special consideration of the handicapped or otherwise disadvantaged child. His guidelines for the planning and design of pre-
primary facilities summarize current trends in day care services and describe learning characteristics and curriculum objectives for retarded, culturally deprived, and normal children. He identifies the corresponding methods and activities necessary to achieve these educational objectives and discusses at length the kinds of supporting physical environments that might facilitate early learning.

In considering the component parts of the physical environment, Waligura takes care to indicate where attention should be given to accommodating the special needs of the disadvantaged child. He also stresses, however, that "the similar physical, social, emotional and intellectual characteristics which children share as children are greater than their individual differences" (p. 7). Light, color, acoustics, climate control, interior surfaces, space, and flexibility are examined individually and as they interrelate to influence all children's learning. Suggested planning and design requirements for the preschool facility cover the education/training, ancillary, and administrative areas as well as storage, furniture, and safety. In conclusion, four hypothetical case studies illustrate the planning and design process necessary for realizing the guidelines the author has presented.

Rasmussen (1958) treats various techniques for vitalizing the learning environments of young children. Her presentation is amply supplemented with photographs, line drawings, and descriptions of ways to arrange rooms with centers of interest for science, art, dramatics, library, and other areas. She focuses her discussion primarily on techniques for solving crowding and space problems through the careful arrangement of furniture and equipment.

Papers by Emlen (1970) and Henderson (1971) deal with various environmental and psychological factors relating to preschool centers. Although neither document focuses specifically on the physical requirements of such facilities, both provide substantive theoretical discussion for educator-architect dialogues on vitalizing early learning environments.

Emlen questions public attitudes of disparagement toward child care that is privately arranged in neighborhood homes. He cites research to show that the widespread nonuse of organized facilities is based on realistic alternative patterns of day care behavior. He discusses various determinants of day care use and suggests that an understanding of utilization behavior is the key to developing quality day care of different kinds.

Henderson's report specifies how certain psychological principles may be used to provide an effective learning environment for the young child in a variety of settings. The carefully prepared learning environment can encourage the young child to move freely and easily between individual activities and small group activities as his needs and inclinations demand. The physical environment should subtly aid this important mobility as well as enabling the child to become self-sufficient and gradually less dependent on the adult for many of his needs. Loeffer (1968) p. 9
for young children. These principles include the use of modeling in observational learning situations and the use of environmental cues for behavioral modification. He points out important assumptions in the program: responsibility for learning must rest with the student, and an effective learning environment must reinforce children's purposeful and constructive behavior.

REALIZING THE CONCEPT

Trends in educational facilities planning reflect a strong desire to individualize the learning environment to suit particular needs and occasions. Many authors of early childhood documents specifically state that their treatment of the subject is intended to serve as resource data rather than as rigid guidelines for the planning and design of such centers. For this reason the educator may find it valuable to “shop around” by consulting those documents dealing with existing facilities, or those proffering recommended equipment and furnishings.

Seventeen European child care facilities receive attention from Utzinger (1970) in his narrative and photographic account of such facilities in London, Copenhagen, Stockholm, Uppsala, and Zurich. He presents prototype plans, diagrams, and pictures of playrooms and playgrounds in the various day nurseries, nursery schools, playgrounds, and recreation centers encountered on his study tour. Thirteen general recommendations and forty specific observations regarding indoor and outdoor play areas conclude the monograph.

Abramson (1970) illustrates a wide range of creative answers to society’s demands for early education facilities. His treatment reflects the current interest in dynamic learning environments for young children and documents unique solutions to a number of different kinds of program needs and budget restrictions. He describes new centers constructed specifically for early education and old facilities, such as storefronts and warehouses, successfully remodeled to meet today’s preprimary needs and standards.

In each center, Abramson identifies specific educational criteria in terms of operating architectural solutions. Among the facilities surveyed are a prototype for a commercial child care center and an old house renovated to meet a neighborhood’s child care needs. He also reports an experiment in balancing the child’s freedom of choice with his basic capacity for learning through the arrangement of selected environments offering maximum freedom of physical movement within carefully designed play areas. Other creative approaches include concentrating on developing a sense of intimacy within a

There can be no doubt that greater learning opportunities must be offered to two-, three-, and four-year-old children. And in many cases, such opportunities can best be offered in a school situation. The problem then becomes twofold: to develop programs that will not limit children in their development, and to create facilities in which easy learning can take place. Abramson (1970) p. 3
large building environment, using a storefront and an old refrigerator warehouse to meet child care needs of urban areas, and designing a school to obtain maximum economic benefits without sacrificing quality.

Abramson concludes his presentation with a discussion of an alternative early education approach designed for communities where funds or public opinion limit the development of early education centers. This approach involves a toy library where educational play materials are loaned for use in private homes or in neighborhood cooperatives.

Molloy (1972) gathers information on current developments in the planning and use of educational facilities into a resource catalog of interest to the early childhood educator. Many of the materials and techniques described can assist in the implementation of a multirealm environment preschool. Significant innovations are supplemented with sketches and photographs wherever possible. Information sources include names and addresses of individuals and organizations whose experiences qualify them to provide the most accurate information available.

Kohn (1970) describes structural, functional, and design features for a Montessori school. His heavily illustrated presentation emphasizes use of a precast concrete building system and the need for flexibility in early learning center spaces.

A brief paper by Haring and others ([1968]) describes the physical facilities of the education unit of the Child Development and Mental Retardation Center at the University of Washington. A floor plan supplements the text.

An article in Modern Schools (“The Learning Place” 1972) describes a one and one-half acre learning center with a total electric, three-level preschool offering, among its multiple environments, an operable weather station, a boulder-strewn “adventure village,” a scribble wall, and a vegetable garden.

An early learning center in Brooklyn and a day care center in Washington, D.C., designed on the premise that a child’s preprimary environment can enrich his educational, cultural, and social experiences, receive attention in an article published in Progressive Architecture (“Learning through Design” 1972).

Gordon (1969) presents a developmental setting for disadvantaged preschool children and recommends a physical layout for an
early education classroom. The classroom’s basic physical design is described, showing units for adult use, including an observation room for parents and staff, and children’s features such as a window unit, special handrail, and housekeeping unit. He concludes that teachers and staff for such a center should have theoretical and practical experience with normal children’s learning and behavior before evaluating and educating handicapped children.

Howse (1971) reports on the use of mobile facilities in preschool instruction programs. She surveys three major mobile programs delivering preschool instructional materials to rural and migrant children. In addition to a physical description of the mobile unit, she includes descriptions of the population served, program operation, staffing, and curriculum of the three mobile systems.

**PLANNING AND STANDARDS**

In a manual designed to facilitate the planning of day care centers, Sale (1970) relates day care goals and principles to programs for infants, toddlers, and preschoolers. After giving special attention to staff, parents, and community aspects of such centers, she discusses equipment, supplies, and various architectural components influencing the successful operation of child care facilities. In addition, she includes a partial list of resources for the purchase of equipment and supplies and supplements her presentation with practical suggestions for designing and constructing interior furnishings.

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The truth is that there is no one answer to the problems of early education. The needs, the desires, and the attitudes of children and parents differ, and so the programs to be offered must differ. Nor is there total agreement that early education schools are really useful for young children. As one skeptic put it, “Unfortunately, school turns kids off. Why take turned-on three-year-olds and dump them in a school, until we have made sure that the school is going to stimulate their learning and creativity, rather than crush it?” Abramson (1970) p. 3

The University of Georgia (1969) published a conference report on various aspects of the planning and development of pre-primary facilities. The report discusses the educator’s role in the planning process and what the architect needs to know for planning kindergarten facilities. Other topics include goals and programs for early childhood education, environments for learning, planning processes, parent-child education centers, facilities conversion and modernization, financial resources, facilities for preparing professional staff, and discussion of a Montessori school.

A “total approach” to educating disadvantaged preschool youngsters is presented by Hamlin and others (1967). Their discussion identifies learning environment characteristics and includes a treatment of language experiences, concept development,
and various administrative issues relevant to a center of this kind.

According to Deutsch and others (n.d.), early childhood centers can significantly assist the disadvantaged child in overcoming his or her learning deficiencies. Guidelines are recommended for such areas as manipulative toys, reading and listening, dolls and housekeeping, art, and outdoor play, together with descriptions of the block above, tutoring booth, cubicles, toilets, storage, and observation facilities. The authors also give detailed information concerning the square footage, contents, purposes, and adaptability of these elements and describe educational objectives as they may relate to the physical environment of an early learning program. To illustrate their guidelines, they describe and present floor plans for three existing facilities: a remodeled public school classroom, and a newly designed early childhood education center.

Jacob's (1971) substantive manual on the organizing, financing, and administering of day care centers in New York City provides a centralized source of information on how to start a day care center. He surveys site selection, various sources and methods of funding, health programs, accounting and management techniques, personnel selection, characteristics of the day care classroom, instructional materials, and equipment.

The Illinois State Department of Children and Family Services (1970) lists minimum standards required for licensing day care and nighttime centers in that state. In addition to a section dealing with the physical plant, the publication includes standards for organizing and administering such centers. Basic standards for quality day care of children under three years of age are published by the American Academy of Pediatrics (1971). Included in the manual are discussions of basic principles, administration, personnel, records, programs, health services, nutrition, and facilities.

Assessing the responses of English children to different environments in their play, Holme and Massie (1970) draw conclusions of interest to the urban planner, educational administrator, teacher, and parent. The authors take their materials from three complementary approaches: a neighborhood substudy of two contrasting areas, one very old and one fairly recently developed; 132 playgrounds from different local authority areas; and existing facilities for children's play in twenty different local authority areas. They examined the comparative attractiveness of a playground in terms of how far children will travel to get to it, its popularity, diversity of equipment, size, and environmental setting. In addition to presenting data concerning children's play needs and facilities requirements, the report discusses the administration and financing of children's recreational facilities.

RESOURCES

The Education Development Center (n.d.) has published a three-part materials list for those teachers setting up classrooms based on the open approach to education. The materials are divided into those that can be "scrounged," obtained at little or
A school for young children should entice the child to learn through carefully presented stimuli that beckon the child to explore, to question, and to assimilate knowledge and understanding through his own experimentation. Loeffler (1968) p. 13

Equipment and supplies tested and approved for use with preschool and school-age children receive attention in a catalog published by the Association for Childhood Education International (1968). The first section of the catalog suggests equipment suitable for nursery school, kindergarten, primary, or intermediate groups. Equipment lists are broken into classifications—art and craft, audiovisual, basic classroom, computing and measuring, music, play, and science. Each listing includes manufacturer's designation, distributors, and age range. The catalog concludes with a directory of manufacturers and distributors.

The first of a series of bulletins published by the Rhode Island State Department of Education (1969) considers the importance of a physical environment planned especially for kindergarten children. The document gives suggestions for creative furnishing of interest spaces such as housekeeping, science, and painting areas. Guidelines for selecting equipment list specific materials needed for academic activities, water and sand play, and science experiences. Also considered are outdoor equipment, audiovisual aids, and standard classroom materials. An overall cost estimate for the equipping of a kindergarten supplements the text.

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RESEARCH HIGHLIGHTS

Current thinking on day care facilities stresses the child's learning through interacting with a variety of environments. (Loeffler 1968)

The effective learning environment must reinforce children's purposeful and constructive behavior. (Henderson 1971)

Early education centers have been successfully established in private homes, storefronts, and warehouses. (Abramson 1970)

Private day care centers in neighborhood homes can offer realistic alternatives to organized public facilities. (Emlen 1970)

Mobile learning facilities can provide preschool instructional materials to migrant and rural children. (House 1971)

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