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ENVIRONMENTAL DESIGN AND THE PROMOTION OF READING
IN THE CHILDREN'S PUBLIC LIBRARY:
DESIGN ATTITUDES, INTEREST, KNOWLEDGE AND PRACTICES
OF LIBRARIANS WORKING IN CHILDREN'S SERVICES

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ENVIRONMENTAL DESIGN AND THE PROMOTION OF READING IN THE CHILDREN'S PUBLIC LIBRARY: DESIGN ATTITUDES, INTEREST, KNOWLEDGE AND PRACTICES OF LIBRARIAN'S WORKING IN CHILDREN'S SERVICES

By

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ABSTRACT

ENVIRONMENTAL DESIGN AND THE PROMOTION OF READING
IN THE CHILDREN'S PUBLIC LIBRARY:
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This study was designed to explore public librarians' awareness, interest, and practices related to environmental design in children's libraries. A self report questionnaire was developed to determine librarians' interest, establish an information base, and identify areas for future research and methods for conveying environmental design information to children's librarians. The survey was mailed to a stratified, random sample of 197 librarians working in children's services in Michigan. Librarians were asked about their education, design knowledge and interest, and the design practices. Descriptive statistics, the chi square test of association, and point biserial correlation coefficient were used to analyze the data of 124 returned questionnaires. Findings indicate that librarians are interested in this topic and that participation in design workshops may affect librarians' awareness and knowledge. Significant relationships were found between library science education and librarians' information sources and interest in using environmental design research data. Recommendations for future actions and research are made.

To my mother and father. Their love and efforts gave us a warm, secure childhood. Their love and support continues. May all children be so richly blessed.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Interest in educating a literate population and concern about increasing illiteracy in America have generated research activities related to literacy issues from multi-disciplinary areas. Traditionally, the librarian is considered to be one of the interested and contributing members involved in this multi-disciplinary research. The individual trained in design disciplines related to the built environment is not considered as such. This study's assumption is that environments can contribute to the reading process and, more specifically, that children's public library environments can contribute to this process. This implies that knowledge and use of environmental design procedures should be included in both research and applied activities directed toward producing a literate population and the promotion of reading. It also suggests that individuals trained in environmental design should be part of this multi-disciplinary effort.

Initiative for the Study

The impetus for the current study resulted from an in-depth, unobtrusive observational study conducted by the author. That early study was designed to look at children's approach avoidance behavior in a public library environment to determine what physical features influence those behaviors.

Using methods suggested by Zeisel (1981), data were collected over a four week period. Fifteen separate visits were made to a children's department in a public library located in a mid-western suburban community. During each visit, three methods of data collection were used. These included:

1. Observing physical traces and recording the information collected in written form by using simple counts, annotated floor plans, and rough sketches.

2. Unobtrusive observations of 30 minutes for each collection period, noting activity, location and interaction, at five minute intervals, of all users entering the children's area.

3. Unobtrusive observations of 30 minutes for each collection period using behavioral mapping procedures and specifically focusing on the pre-reader's picture book area.

Analysis of the data was based on a sample size of 403 library users.

This study (Banduric 1988) indicated that a level of care and concern about the quality of the physical environment existed. However, a number of questions surfaced, and it was decided that more observations at other libraries should be made.

Over a six to eight month period, twelve other children's libraries were visited. These libraries represented different geographic locations, as well as differing population sizes and socioeconomic levels in the Lower Peninsula of Michigan. The libraries were selected through use of convenience sampling, and the researcher was the only individual involved in the data collection. Data collection methods and procedures used in the first study were used in each of the twelve libraries but were limited to two to four visits. A total of 743 additional users were observed in these twelve libraries (Banduric, personal observations, 1988 - 1989).

As in the original study, there was evidence that efforts had been made to decorate and personalize the children's libraries. In addition, analysis of the data supported the original findings. These findings included the following:

1. Of the 1146 total observations, library staff and adults accounted for 30.8% of the users with the remaining 69.2% of users being children.

2. Of the 793 children who were observed, 12% were judged to be seventh to ninth graders, 19% were judged to be fourth to sixth graders, 30.2% were judged to be kindergarten to third graders, 32% were judged to be pre-schoolers, and 6.8% were toddlers.

3. The percentage of observed approach behaviors by age group decreased as the user's age decreased. The percentage of each group's approach behavior was: seventh to ninth graders - 85.3%, fourth to sixth graders - 71.5%, kindergarten to third graders - 52.3%, pre-schoolers - 28.3%, and toddlers - 7.4%.

4. All 13 libraries provided at least a minimum amount of child scaled furnishings and shelving levels. Of the 19 observed displays, 16 were judged to be targeted to varying age groups of children rather than to the adult user. All of the libraries provided picture books, materials, and/or realia (toys, games, puzzles, puppets, etc.) oriented to the early and pre-reader child. All 13 libraries also displayed posters (37 total observed) and other types of decoration. These included such items as mobiles, story book cut outs, figurines, stuffed animals, and live fish and small animals. In five of the libraries, children's personal art work was also displayed.

5. Library staff accounted for 75 of the total number of adult observations. In 31 of these observations, a library staff member was interacting with or had some impact on the physical setting. In 19 of the cases, this involved the shelving or rearranging of books. The other 12 observations involved furniture straightening, housekeeping, changing displays and/or decorations, and rearrangement of overall layout of the area. In addition, 17 anecdotal comments indicated that a library staff member or volunteer was responsible for a specific feature of the physical setting.

6. In seven of the libraries the children's department was not immediately visible and identifiable from the main entry. Four of the libraries did not have the children's department located on the ground floor. In six of the libraries the children's department was not in a separate room. None of the libraries displayed signage that a pre-reader could understand, shelved picture books

with covers facing out, used book bins for picture books and easy readers, or provided soft, flexible furnishings that a young child could move around. Although all of the libraries had adjustable dividers on their book shelves, in nine of the libraries these were used to keep books upright and not placed to maintain small groups of books rather than long, continuous runs. Only two of the libraries had a children's charge out desk equal to or less than 30" high. Opportunities for privacy and/or enclosure were only identified in two of the libraries. Of the 27 displays, posters, and decorations identified as being directed towards the young child, 21 were placed at or above adult eye levels.

The observations related to existing physical settings and the operation and maintenance of the settings lead to the following conclusions:

1. Children's librarians are interested in providing child attracting library environments.

2. After the library has been built and is in operation, librarians have the primary responsibility for operating and maintaining the physical environment.

3. Many library practices conflict with or ignore environmental design research and design recommendations which could be used to create child attracting library environments.

The intent of the original study was to observe children's approach avoidance behavior in children's libraries. However, findings suggested that the physical setting and the role of the librarian should be investigated before further children's library environment and behavior research was conducted.

Overview of the Current Study

"Despite massive infusions of monies . . . large numbers of students are still not reading well enough to meet requirements of school and society" (Karlin 1980, vii). "In a society that places such a premium on literacy, illiteracy has devastating consequences" (Davidson 1988, 215).

The Illiteracy Problem

While estimates of illiteracy in this country vary, depending on the operationalized definition used, the National Advisory Council on Adult Education (Smith et al. 1986) estimates that adult illiteracy affects 2.4 to 5 percent of the country's population. The Council also reports that concerned business experts estimate that programs to improve literacy levels to help workers meet job requirements have cost American businesses ten billion dollars.

The Orton Dyslexia Society (1986) has collected data which indicate there are 23 million functionally illiterate Americans and 35 million more who are only semiliterate. This translates to reading levels of less than fourth and eighth grade respectively. Even more significant in terms of social cost are the Society's figures which indicate that 33 percent of all mothers on ADC, 60 percent of all prison inmates, 75 percent of the unemployed, and 85 percent of all juveniles who appear in court are functionally illiterate. Illiteracy has become a critical issue in America.

Public Library Involvement with the Illiteracy Problem

There appears to be a growing concern about the role of the public library in helping to create a literate America. In his report on the public library in America, Robert Leigh (1950) wrote ". . . librarians should change the intensity, the direction, and even the nature of their services so that they will contribute to the solution of the crucial problems of our times" (p. 49). The public library has provided community outreach, sponsored reading activities, and developed tutorial programs in support of the national effort to create a literate America. The primary focus of these efforts has

been on the adult illiterate and the promotion of youth oriented reading programs. In addition, some attention has been directed to identifying factors which promote young children's reading or contribute to their learning to read.

Public Library Involvement with Children and the Promotion of Reading

A major research project conducted by the Canadian Library Association (Landy 1977) identified 27 factors that differentiated readers from non readers. As Landy states "since most factors . . . are beyond our control to change . . . it becomes necessary to examine the group of variables over which we have some control" (p. 387). Children's use of libraries is one of these variables.

According to the study reported by Landy, it is not simply that children's use of libraries creates readers, but that positive library experiences can be a contributing factor in creating readers. "Librarians must acknowledge the vital importance of children's services in changing reading habits early" (Landy 1977, 387).

Historically, the focus of service to children in public libraries has been on providing good books and knowledgeable librarians in pleasant surroundings in order to promote good literature. In the late nineteenth and early twentieth centuries in America, the children's room in a public library was often the only place where children had access to books, could go to read, or could call their own. Children's service has often been called one of the public library's great success stories (Leigh 1950) and has expanded from providing access to good books to developing programs and activities which promote reading and children's library use. Edmonds (1987) summarizes the American Library Association's response to the national concern about

illiteracy and children's public library service by stating "the promotion of reading and a commitment to producing a literate population must be central to the provision of library service to children in the coming decade" (p. 512).

Statement of the Problem

The services provided by children's libraries have been identified as a contributory factor in the promotion of reading in young children. The American Library Association (ALA) indicates that the provision of accessible and comfortable physical facilities for children is one of the major areas of service. However, it appears that children's librarians do not consider the physical environment as it relates to research and the promotion of reading. It is the intent of this study to explore the public librarian's awareness, interest, and actual practices as they relate to environmental design and children's libraries.

Children's Physical Facilities and Environmental Design Research

According to Veatch (1979, 1987), environmental design concepts, methodologies, and research data have application to the design and planning of libraries and the physical facilities. Although there is not a great deal of research concerning children's environments and behavior (Altman and Wohwill 1978; Baird and Lutkus 1982; Kaplan 1985; Ziegler and Andrews 1987), there is a small body of empirical data which could be useful in guiding evaluation studies or establishing design recommendations concerning the physical facilities of children's libraries. This

includes studies from the fields of environment and behavior, day care and early childhood education, and reading education.

Lack of Library Based Research and Children's Libraries

The review of the library literature indicates that research related to any area of children's services is limited. Research which has been conducted focuses primarily on book collections, materials, activities, and programs. Information related to the physical facilities is even more limited and largely descriptive in nature. A number of individuals working in children's library service have indicated that existing information and recommendations about children's physical facilities are based on tradition, superstition, or assumptions rather than empirical research (Anderson 1978; Chelton 1985, 1987; Edmonds 1987; Krueger 1978; Nykiel 1978). There is limited library-based environment and behavior information and little evidence that recommendations concerning the physical aspects of the library are based on empirical research (Eaton 1991; Evans 1971) .

Purpose of the Study

The review of literature indicates a lack of library based research concerning children's public library environments and the promotion of reading. Several authors (Bennett 1987; Lyles 1972; Veatch 1979, 1987) have stated that environment and behavior research has application to the design of library facilities. As noted in the review of literature, a number of authors also comment on the need for library research related to children's services and children's library environments. The review

of literature also provides anecdotal information regarding children's librarians' interest in the library environment. However, it does not appear that children's librarians have conducted or applied environment and behavior research. The question which arises is why?

Study Objectives

The three basic objectives of this study are:

1. To develop the beginnings of an information base regarding design practices and librarians' awareness of, interest in, and knowledge of environmental design as it applies to the physical setting of the children's public library.

2. To explore the feasibility of further research on children's library environments and the promotion of reading as it relates to librarian attitudes and interest.

3. To identify relationships which may suggest areas for future study and methods which might be used in presenting environment and behavior information to children's librarians.

Research Questions

Specifically, the following research questions guided this study:

1. Do children's librarians believe the library's physical environment can influence outcomes related to library objectives and goals?

2. Are children's librarians (a) knowledgeable about and/or (b) interested in learning about environmental design as it is applicable to the children's library?

3. Do relationships exist between the librarian's education or the librarian's participation in environmental design workshops and the librarian's:

    a. belief that the physical environment can affect outcomes?
    b. interest in learning about environmental design?
    c. source of information about children's library environments?
    d. assessment of their personal design knowledge?

4. Do relationships exist between the librarian's agreement with suggested design practices related to the physical environment and reports of the practices being in place in the children's library?

Assumptions

The theoretical framework of this study and analysis of the observational data collected were used to identify the study assumptions:

1. Environments affect behavior. "The designed environment affects human experience in direct and important ways. It does not *determine* experience, yet in combination with social influences, designed environments can support satisfaction, happiness, and effectiveness" (Friedmann, Zimring, and Zube 1978, 1).

2. "Despite their potential, designed environments often do not 'work' with respect to their impact on human experience. They are awkward, even destructive, rather than being supportive of personal competence and growth" (Friedmann et al. 1978, 1).

3. Children's librarians are interested in promoting reading and positive attitudes towards reading.

4. Awareness of the influence of the physical environment on users is necessary in order to provide environments which support desired behaviors and attitudes.

5. Librarian training does not include the overall combination of social design procedures and investigations which constitute environmental design training (Krasner 1977, 1980).

Definition of Terms

For this study the following definitions were used:

BEHAVIOR is a learned activity which is a response to an individual's internal system of beliefs, attitudes, emotions, and values and external environmental stimuli.

REFLEX is an involuntary activity that occurs without prior learning in response to stimuli.

ENVIRONMENTAL DESIGN refers to activities associated with the planning and interior design of man-made environments which consider sociological, physiological, psychological, and behavioral needs of humans as the basic criteria for making design decisions (Krasner 1977, 1980; Veatch 1979)

CHILDREN'S LIBRARY ENVIRONMENT refers to the activities and programs offered to children by each individual library which includes services, programs, materials, and personnel as well as the physical setting in which these services take place.

CHILDREN refers to the population targeted by The Association for Library Service to Children, birth through the eighth grade, or birth to 12 years of age (Michigan Library Association 1988; Naylor 1987; Sullivan 1974).

PRE-READER is an individual who is not yet ready to read or is too young to be able to read as opposed to NON READER or ILLITERATE.

NON READER is an individual who is able to read or may be ready to read but elects not to read.

ILLITERATE is an individual who is old enough to be ready and able to read but cannot read.

CHILDREN'S LIBRARIAN is an individual assigned to oversee or provide service to children within the children's library environment.

LIBRARY EDUCATION refers to formal college education for which a Master's of Library Science (MLS) degree is earned.

ENVIRONMENTAL DESIGN WORKSHOPS (CED) refers to seminars, programs, or workshops related to the planning, design, arrangement, or operation of the physical environment of the children's library.

Summary

Public librarians have recognized the importance of contributing to the fight against illiteracy in America. They have provided a variety of programs and activities and have recognized the need to seek ways in which their services may be used to help promote reading and create a literate population. The provision of physical facilities is seen as one of the traditional areas of library service, and the behavioral

sciences have begun to establish linkages between environment and behavior. However, the area of environmental design does not appear to be an area that librarians are using or consider applicable to the promotion of reading and literacy. The purpose of this study is to explore the public librarian's awareness, interest, and actual practices as they relate to environmental design and children's libraries.

CHAPTER 2

THEORETICAL BASE AND STUDY MODEL

This study is based on a conceptual framework and models derived from ecological or systems theory. This theory consists of three major components: the individual, the environment, and the interaction between the individual and the environment. While behavior and human development have long been topics of interest, it is only recently that the environment itself in relation to behavior has been studied.

Systems Theory

Kurt Lewin was one of the first to postulate that behavior is a function of both the person and the environment. Building on Lewin's early work, Barker and Wright and Barker and Schoggen contributed to the field of environment and behavior studies by conducting research in naturalistic, real life settings, These studies looked at how specific environments, or behavior settings, influenced the behaviors and development of children (Berk 1989; Conye and Clack 1981; Schiamberg 1988). Figure 1 presents a model of systems or ecological theory which has been further expanded by Urie Bronfenbrenner (1979) in The Ecology of Human Development.

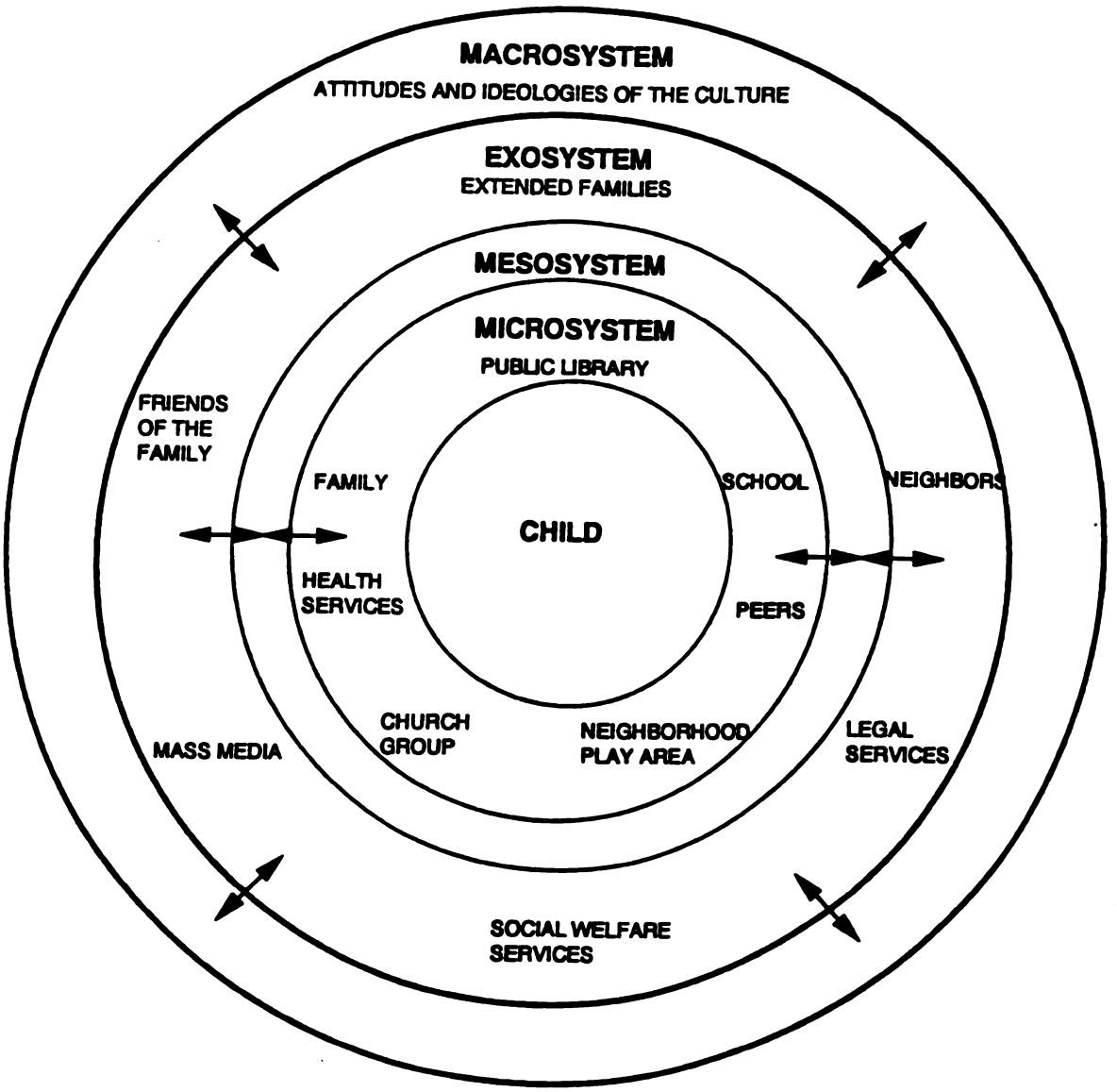


Figure 1.--Bronfenbrenner's Model of Ecology and Human Development. Adapted from Kopp and Krakow (Eds.) (1982). The Child: Development in a Social Context. Reading, MS: Addison-Wesley. p. 648. Reprinted with permission.

Bronfenbrenner believes in the systems theory of person-environment interaction. He also postulates that environmental studies cannot be limited to individual behavior settings but must consider broad, interrelated nested groups of settings. In essence, while the individual and a specific setting interact with one another, multiple settings also act upon the specific setting and the individual. According to Bronfenbrenner, "the ecological environment is conceived as a set of nested structures, each inside the next . . . . at the innermost level is the immediate setting containing the developing person" (p. 3). This expanded view of ecological or systems theory provides a broad perspective of human development and focuses on the interconnectedness between the settings an individual experiences.

A Behavior Setting Model

Rudolph Moos (1979) developed a model (Figure 2) that is useful in examining specific environments, or individual settings, in relation to outcomes. As a social ecologist, Moos provides a theoretical framework for examining the relationship between individual and environmental variables and outcome variables for a given situation or setting.

In systems theory, as shown in Figure 2, two separate systems exist, the personal and the environmental systems. These systems interact with one another and influence the responses (outcomes) to the setting or situation (stimuli). The personal system is a combination of hereditary factors, which include socio-demographic variables, personality factors, and intrinsic and learned skills and abilities.

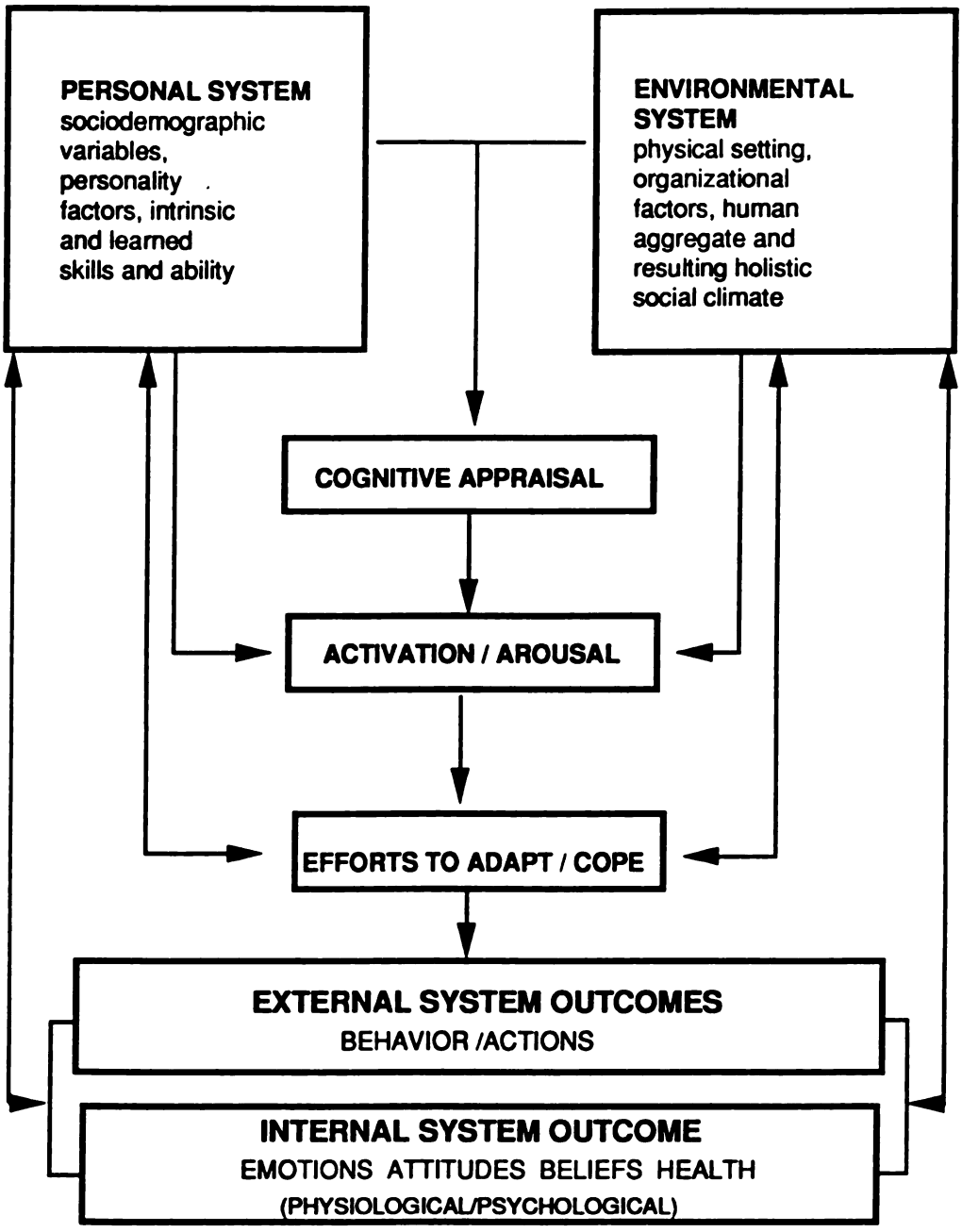


Figure 2.--Relationship of Personal/Environmental Systems to Individual and Situational Outcomes. Adapted from Moos (1979). Evaluating Educational Environments. San Francisco: Jossey-Bass. p. 5. Reprinted with permission.

The environmental system is composed of the physical setting, the human aggregate, organizational factors, and the social environment.

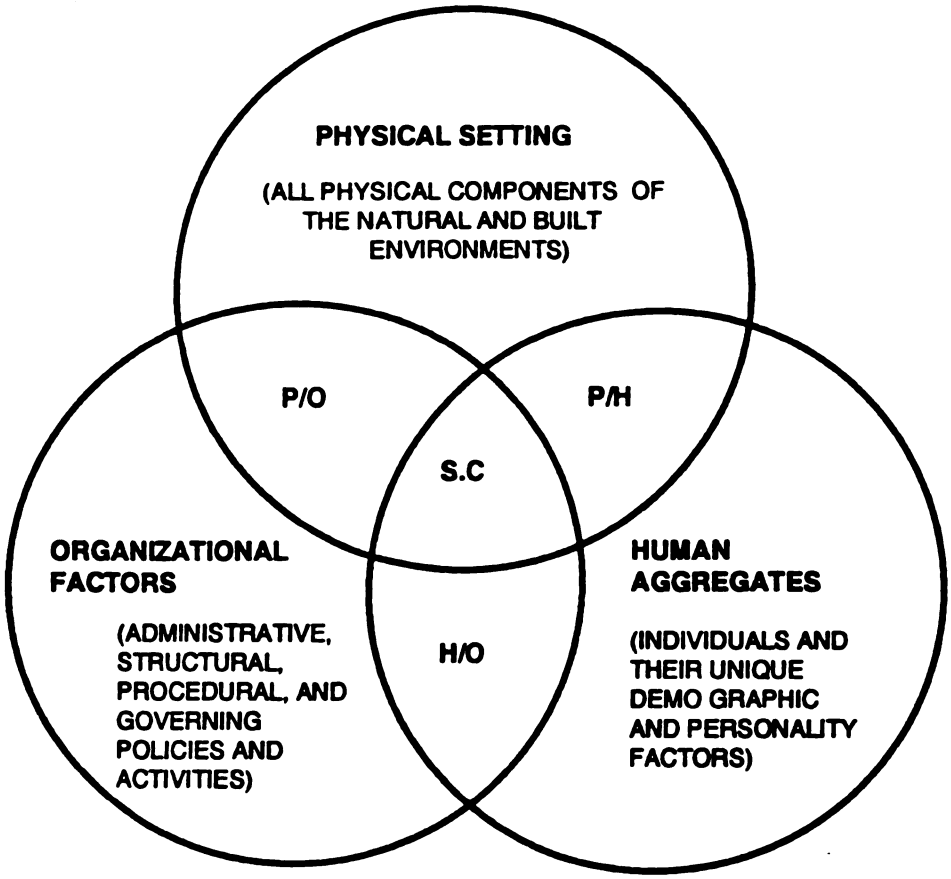
The individual's responses to any stimulus is influenced by these two systems and the intermediating processes of cognitive appraisal and arousal (level of interest or motivation). Simultaneously, the mediating process of arousal is influenced by the personal and environmental systems as the individual responds to the stimuli.

After the individual has become aware of a stimulus and is motivated to respond (arousal), the individual must then make efforts to adapt to or cope with the situation at hand. These efforts influence the final responses and influence the personal and environmental systems as the individual responds to the stimulus. The individual's efforts finally result in responses (outcomes), which may also be influenced by the two systems, and ultimately feed back into the two systems.

These outcomes can be considered to be both external outcomes and internal outcomes. External outcomes can be considered as behaviors or actions and can be observed, while internal outcomes can be considered as emotions, attitudes, values, and health. These internal outcomes cannot be directly observed but are measured by observing behaviors and actions.

The Environmental System

The model shown in Figure 2 indicates that an environmental setting is composed of four components: the physical setting, organizational factors, the human aggregate, and the social setting. Figure 3 depicts the relationship of the components to one another. While three of the four components are individually identifiable, the



P/O - Physical - Organizational environment: interaction and influences of two environmental components

P/H - Human - Organizational environment: interaction and influences of two environmental components

H/O - Human - Physical environment: interaction and influences of two environmental components

S.C. - Social Climate, resulting fourth component from interaction of other three components

Figure 3.--Relationships of Environmental Components to Total Environmental Setting. **Adapted** from Conyne and Clack. (1981). Environmental Assessment and Design. New **York**: Praeger. p. 23. Reprinted with permission.

physical setting, the human aggregate, and organizational factors, the fourth component, the social climate, is not individually identifiable.

This component is created through the coming together and interaction of the other three components. The social climate component is often considered to be the most influential of the components. It is also referred to as the social environment, the ecological climate, or the environment of reference (Conyne and Clack 1981). The other three components are seen as specific dimensions of the social (total) environment.

The three overlapping circles in Figure 3 represent both the relationship of the physical, organizational, and human aggregate components in creating the social climate, as well as the interactions between each two of the components. The physical setting consists of all of the physical components that make up man's environment - both natural and man made. The human aggregate is composed of the individuals within each physical setting and their unique socio-demographic characteristics and personality factors. Organizational factors may be considered to be the formal and informal rules (regulations, policies, laws, procedures) that a culture or society has set down and requires or deems appropriate behavior in any setting or situation. The interaction of these three creates the total environment or the social climate. Each of the three individual components also interact with and influence each other, while the social climate simultaneously interacts with and influences the other three.

Moos' major focus "is on the extent to which the social climate is determined by and mediates the influence of the other domains" (p. 6). The focus of the current study will be on the physical setting itself.

The Focal Problem - The Physical Setting Model

According to Kaplan (1985), "people find certain environments far more attractive than others. Such differences are likely to lead to different degrees of contact with different environments" (p. 19). If people are attracted to some environments more than others, and are affected by the environments that they come into contact with, it is important for designers to examine physical settings. For any particular type of environment, it is also important to be able to identify those individuals who may directly affect the physical design of that setting. In this way, persons who make direct contributions to the design of the setting can be identified:

1. to insure that they have basic awareness and knowledge about environmental design
2. to recognize communication gaps which may exist between all those involved in the design of the setting and between those who have design knowledge and those who may need that knowledge.

Therefore, a closer view of the physical setting itself is critical.

While Figure 3 depicts the total environmental system, the model in Figure 4 focuses on the physical setting. It was developed specifically for the current study (an examination of the physical aspects of children's public library environments and children's librarians' knowledge, interest, and awareness of environmental design) and is based on the structure process approach of environmental design evaluation.

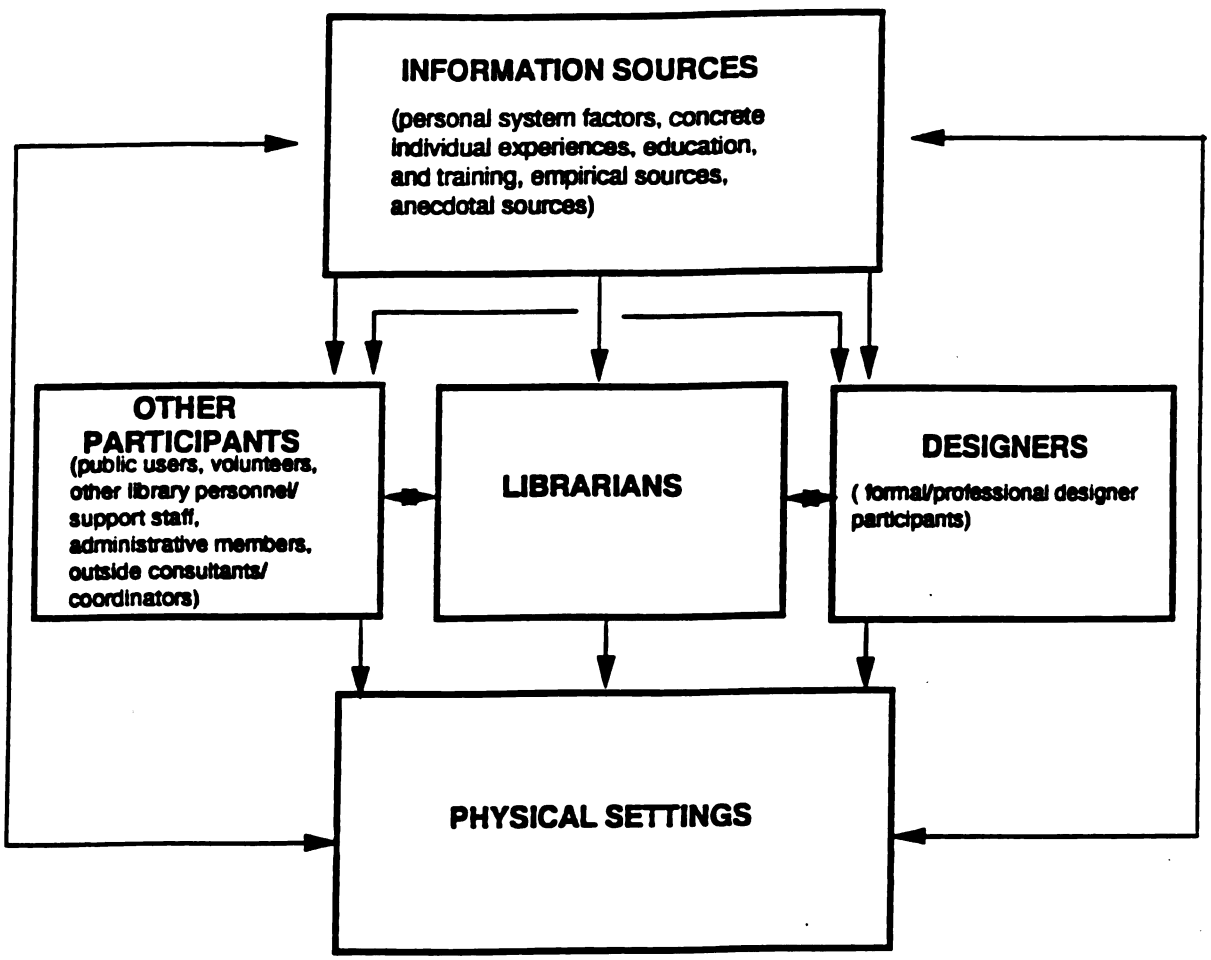


Figure 4.--Focal Problem - Model Relating Design Participants to Outcome of Children's Library Settings

According to Friedmann, Zimring, and Zube (1978), "every evaluation [of a physical setting] contains some relationships of special concern: these form the focal problem" (p. 20). The focal problem can be defined as having two components. These are the elements of interest and their interrelationships. As seen in Figure 4, this study's elements of interest are children's library environments, the librarians involved in the design of these settings, and their sources of information. The model depicts the design of the physical setting, the individuals involved in the design of the setting, the information sources, and their interrelationships.

Information Sources

The information sources in this model consist of each individual's personal system factors, the individual's background, experiences, and training (past sources), and the specific sources, both empirical and anecdotal, to which an individual might turn. Participants derive basic information from their own combination of these various sources. In addition, individuals may choose to use specific sources of information which:

1. present differing and/or conflicting ideas
2. do not present relevant data which may be available.

Individuals draw from these information sources in order to gain ideas, information, and knowledge which will influence the design of the physical setting.

Design Participants

It is likely that children's library environments, as in many other children's environments, have input from adults who by training are not designers. These design

participants use their knowledge to design, create, rearrange, alter, and otherwise maintain the physical setting.

It is important to recognize that the term design is used generically rather than formally. It refers to the planned activities, programs, alterations, and upkeep that ultimately have an impact on the physical setting. These activities may not be recognized or considered as consisting of design when the more traditional definition of design is used. To many people, design means beauty, and it deals with aesthetics, color choices, furnishings, and other visual attributes. To the environmental designer, any decision made about the physical setting which has an impact on the setting and the users of that setting can be considered as design (Krasner 1977, 1980).

In this study, the primary design participants are the librarians directly responsible for the children's library. In addition, individuals with formal design training (professional designers), as well as individuals without design training or direct responsibility for the library environment (other participants) may contribute to the design of the physical setting.

Interrelationships

Not only do participants draw from information sources, but in any given setting, the participants interact with one another and may become sources of information. If participants serve as information sources, it is necessary to make sure:

1. information gaps do not exist (Zeisel 1981)
2. all participants are identified (Kaplan 1978; Stea 1979)
3. clear lines of communication are established and kept open.

The setting, when experienced by users, becomes an information source about future settings, and more importantly, acts as a stimulus in the person-environment systems model seen in Figure 1.

Summary

Ecological or systems theory postulates that human behavior and development (outcomes) is a result of the interrelationships between an individual's personal system and the environmental system the individual experiences. According to Bronfenbrenner (1979), the environmental system consists of multiple, nested environments which interact with the individual and one another.

In any given situation, a single environmental setting may also be considered and evaluated. One component of the environmental setting is the physical environment itself. This environmental component can affect the total environmental system and the outcomes of users experiencing the setting.

> The environment is neither a neutral surround with little or no effect on behavior, nor the only determinant of activity. In order to grow and evolve, a person is continuously taught by his environment . . . it is the nature of that interaction - so continuous and so pervasive in our activities that it is easily unobserved - that we must try to understand (David 1974, 694 - 695).

There are two considerations that must guide the design of children's environments. According to Baird and Lutkus (1982), "young children depend on the good will of adults to satisfy all but their most elementary needs. Without social links to adult society they would not survive" (p. 197). That "children lack power" (Miller 1981) needs to be recognized and clearly understood by all those who have input into the design and on-going quality of children's environments.

It is vital that all those who are in charge of children's environments have an awareness and understanding of the affect of the physical environment and have the information needed to provide the supportive, positive environments which children need.

CHAPTER 3

REVIEW OF LITERATURE

Several common threads run throughout the literature related to children's library service. One of these is the promotion of reading and the fight against illiteracy. The other is a focus on the provision of an inviting and appealing library environment. This chapter reviews the literature as it relates to public library goals, the promotion of reading and literacy, and the role of children's library environments in public libraries.

The literature related to the promotion of reading includes children's attitudes toward reading, the use of libraries, and attitudes toward libraries. The literature reviewed for children's library environments includes an overview of the need for children's environment and behavior research and research related to children's reading environments, as research literature specifically related to children's public library environments is limited. The chapter is organized as follows: (1) Library Goals, (2) The Promotion of Reading, and (3) Providing Inviting Children's Environments.

Library Goals

According to the American Library Association (ALA) Children's Services Division "the major goal of Children's Library Service is the improvement and

extension of service to all children (Weeks 1986, 846). Much of the library literature links the promotion of reading and children's library facilities by stating that the goals of Children's Library Service are to provide good books, inviting library environments and sympathetic staff in order to instill the love of reading in children. These basic goals have guided librarians and public library service to children since its beginnings in the mid 1800's.

Children's library service is based on a history of saving children from illiteracy (Anderson 1987). The goal of service to children through the promotion of reading, the love of good books, and overall service to the well being of children was summarized by Harriet Long (1953) in her classic work Rich The Treasure. Of the six aims that Long identified, four are specifically directed to the promotion of reading, learning, and the provision of good books. In 1966, the Public Library Association/American Library Association (PLA/ALA) adopted the aims identified by Long as the stated objectives for public library service to children. Today, these are still viewed by children's librarians as the objectives of public library service to children (Fasick 1979).

The Promotion of Reading

While the promotion of the love of reading and good books may be the stated goals of children's library service, today's librarians are also concerned about the growing problems of illiteracy and their role in the educational process. Outreach programs, as well as story hours, work with pre-schoolers, and reading intervention activities and promotions, have become standard activities in children's library service.

Librarians recognize the crucial role that they can play in promoting reading (Davidson 1988; Edmonds 1987; Landy 1977; Rovenger 1987;) and helping to break the cycle of illiteracy (Hunt 1970; Locke and Kimmel 1987). Children's librarians, as well as the ALA, are beginning to realize that "beginnings are all important. . . . that the child's whole attitude toward learning" begins before entering school (Johnson 1976, v).

Attitudes and the Promotion of Reading

In order to promote reading, it is necessary to understand the importance of attitudes toward reading. According to Alexander and Filler:

> Attitudes will be considered to consist of a system of feelings related to reading which cause the learner to approach or avoid a reading situation. A learner's attitudes may vary with his personal predisposition and may be affected in unique ways by variables within the learner and his environment (1976, 1).

Brumbaugh (1940) found that even though children could pass a reading readiness test they were not able to read if they had negative attitudes toward reading. Bloom (1964) believes that reading habits develop in the early years of life, and studies by Estes (1971), Heilman (1972), and Huck (1973) found that attitudes toward reading affect reading ability and interest in the later years.

According to Saracho (1984-85, 1987), little research concerning reading attitudes and young children has been done but "individuals who are directly or indirectly involved in the reading process need to develop and maintain young children's positive attitudes toward reading" (1987, 24).

Use of Libraries and the Promotion of Reading

Studies by Clark (1976), Durkin (1966), and Landy (1977) identified certain commonalities and experiences which promoted young children's interest in reading and influenced their ability to read. One of these experiences was the use of libraries.

Clark (1976) and Durkin (1966) studied children, who had learned to read at an early age, to determine what factors might influence young children's interest in and ability to read. In both studies, early readers and their parents reported both children's interest in using the library and regular visits to the library. One finding in Clark's (1976) study was the importance of the local library in catering to and stimulating the interests of the young readers in the study. In the libraries used by these children, accessibility of different reading materials, layout, and flexibility of regulations contributed to the children's reading interest. According to Clark, these findings have implications for libraries who are concerned about promoting reading to all children with potential, especially those who may not have the kind of parental support available to the children in Clark's study.

Landy (1977) found that children's early reading and interest in reading was often related to a "happy, warm association with a library . . . . and demonstrated that certain elements in a child's life can produce, guide, or contribute to attitudes towards reading" (p. 387).

A study by Barass and Reitzel (1972) also supports the value of the public library's contribution to the promotion of reading. Results of this study correlated significant increases in reading interest, desire to read, and development of verbal and social skills with regular attendance by children in a public library program.

Attitudes and Use of Libraries

Four library studies not directly related to the study of children's library environments have implications which can be tied to this investigation. These studies looked at personal characteristics and attitudes of individuals and use of libraries.

Ekechukwu (1972) investigated characteristics of those students who used the elementary school and public libraries and those who did not. The study found a significant relationship between library use and attitudes toward libraries. Children who had positive attitudes toward the library were more likely to use the library than children who had negative attitudes. In addition, Ekechukwu found that children most disliked the rules and regulations set by libraries. These dislikes contributed to the formation of negative attitudes toward libraries, and these attitudes were developed prior to junior high school.

Evans (1970) also investigated attitudes and library use. The study focused on adult users and non users of the public library and sought to determine if attitudes were linked to use of the library. Results indicated that a positive relationship did exist. While the purpose of the study focused on changing attitudes of non users in order to increase library use, the findings provide an important consideration relevant to the current study. There was evidence "in the responses of the non users, that unfavorable attitudes toward the library building . . . [were] more likely to keep people from using the library than . . . [were] unfavorable attitudes toward its staff or collection" (p. 93). According to Evans the implications of the study were "that attitudes toward the library may have an important influence on public library use. . . . increase library use . . . by improving public attitudes toward the library" (p. 116).

Campbell and Shlecter (1979) also investigated library use and levels of satisfaction. Although their investigation involved a university rather than a public library, the study is significant to this investigation for two reasons. It is one of the few studies that has looked at the library setting and behavior and considered the total environment and physical setting. Of equal importance are several of the findings. In the survey portion of this study, users indicated that they had more dislikes than likes (139 dislikes to 105 likes). The physical environment/library organization accounted for 70 percent of the dislikes, while the areas of materials/staff had more likes than dislikes (44 likes to 12 dislikes). This suggests that the physical components of a library environment do affect or have some impact on users. One of the conclusions of the study was that "sources of dissatisfaction with the library may result in avoidance of the library by persons who actually could profit from use of the library facilities" (p. 29).

In a similar study, D'Elia and Walsh (1983) looked at user satisfaction in order to assess library performance. This involved adult users of a public library who were asked to grade the overall performance of the library as well as to rate specific aspects of the library. While the results found no "obvious relationship between the user's use and the [overall] evaluation of the public library" (p. 128) there was one important correlate. "In the case of the library in which this study was conducted, it is apparent that the user's evaluation of the physical facilities was the most important correlate of the user's overall evaluation [grade] of the library" (p. 125).

Providing Inviting Children's Environments

"It is never too early to expose children to the pleasure of books and reading" (Fleet 1973, 14). Many children's librarians believe that "the library may be the only place where a child can . . . read a book . . . surrounded by a learning environment that makes no special demands on [the child's] . . . attention" (Benne 1978, 505). In the past, guidelines for providing these environments in the children's public library were based on descriptive phrases such as "warm and inviting, appealing to the young child, colorful" and designed by "adults who think they know what children like" (Brown 1979, 2). Children's environments research suggests that this should no longer be the case.

Need for Children's Environments Research

While a considerable amount of research literature and information is now available regarding the subject of environment and behavior, there is considerably less research data and information available regarding children (Altman and Wohlwill 1978; Baird and Lutkus 1982; Bunting and Semple 1979; Kaplan 1985; Ziegler and Andrews 1987). Although "it can be safely stated . . . that children, like all living organisms, respond to and are influenced by their environment" (Bunting and Semple 1979, 273) there are several reasons to have a specific body of research related to children's environments, rather than simply drawing from the general body of environment and behavior research which is currently available.

The first reason is that children are different from adults. They differ in "physical size, cognitive development, social competency, [and] personal mobility. . . .

children *act* differently from adults within and upon the built environment. . . . children *react* differently from adults to the built environment" (Ziegler and Andrews 1987, 301). According to Kaplan (1985), there is evidence, although incomplete, "that children and adults differ substantially in the sorts of environmental patterns that are preferred" (p. 19) and there is "little empirical work [which] has examined environmental preferences in children" (p. 20).

The second reason for establishing specific child-environment research is related to ecological systems theory and Piaget's theory of child development. "A dull, uninteresting environment affects the way in which children experience life, how they react to and learn from it" (Curtis and Smith 1974). Piaget developed a learning and developmental theory which is the basis for many child development concepts as well as learning and educational curriculums. Piaget's theory (1983) is based not only on a child's physical developmental stages but also stresses the importance of each child having personal, concrete experiences from which all intellectual, cognitive, emotional, and social development derives. These experiences become the stimulus for personal development and maturation. Thus, child based environmental research can help provide environments which are positive stimuli (Altman and Wohlwill 1978; Boschetti 1987; Wohlwill and Helft 1987). "One primary motivation . . .[for child based environmental research] is the belief that stimulus impoverishment causes perceptual and learning deficits in the developing child. Conversely . . . enriched environments will accelerate the development of perceptual, motor, and cognitive skills" (Baird and Lutkus 1978 p. 5). Altman and Wohlwill (1978) compared evidence of environmental stressors on adults and children and found that "the most deleterious

effects may be reserved for the young . . . . conversely, the opportunity for achieving a positive impact on their development through suitable design of the environment may be correspondingly greater in the case of the young child" (p. 2).

The third reason for establishing research related to children's environments is directly related to the current study. This is the consideration that children occupy spaces which are often designed by adults but have children as their primary or sole users. It is important that adults involved in the planning, design, and/or management of these environments not only recognize that children are different from adults but that these adults have information specifically targeted to children's environments. Children lack power, have limited communication skills, and have limited resources available, and this makes it difficult for them to alter their surroundings in positive ways (Baird and Lutkus 1978; Miller 1981; Ziegler and Andrews 1987). "The physical world surrounding children is usually determined by adults . . . there is rarely an opportunity for children to make their own decisions" (Madeja 1974, 23).

Children's Environments and Reading Research

According to Karlin (1980), children "are not taught how to read . . . but are stimulated by their surroundings and activities to want to learn to read" (p. 145). The classroom environment and library corner have been identified as a variable associated with attitudes toward reading (Alexander and Filler 1976). Teachers and librarians pass along either positive or negative attitudes towards reading, and the physical setting in which independent reading takes place may also affect these attitudes.

Reading research which links behavioral studies related to the physical setting and attitudes toward reading in order to promote reading is limited. Studies are primarily related to the school classroom (library reading corner). These studies (Coody 1973; Huck 1973; Morrow 1982) investigated classroom atmosphere as it related to reading and classroom library corners. The primary purpose was to identify characteristics and features of the physical setting that might be related to children's interest in reading or levels of reading activity. While quantity of books, ease of access, and a generally pleasant atmosphere were found to affect reading interest and activity, Morrow (1982) was able to identify specific features directly related to amount of use of library corners. In addition to ease of access (both visually and physically), Morrow also found that provisions for comfortable seating, diversity (choice) of seating, carpeting, and some degree of visual and acoustical privacy were related to increased use of the books and library corners.

Morrow and Weinstein (1982) conducted research that used findings from these identification studies to conduct intervention research. The study sought to determine if changes in curriculum and physical design within the classroom could increase children's use of literature. The study was designed using control classrooms (no change) and classrooms for each of the three experimental conditions: design change, program change, and design and program change. While all changes showed a significant effect, results indicated that the combined change was not as great as the sum of the changes in the two separate changes. "An unexpected finding was that the single-treatment conditions were as effective in increasing literature use as the combination design/program condition" (p. 135).

Children's Environments and the Public Library

Considering the concepts regarding environmental influences and the teaching of reading, as well as the stated library goals of promoting reading, it would seem that librarians would be concerned about the environments in which service to children occurs. Children's library literature places great emphasis on creating a welcoming and comfortable atmosphere. The literature provides a great deal of advice and anecdotal information on how to do so but little empirical research has been conducted on the physical setting itself.

Anecdotal Information

Numerous children's librarians, as well as library consultants and designers, have written descriptive reports and articles about the design of the children's library. These either describe the author's own successful children's library or identify the features and/or practices which the author recommends for the design of a children's room (Abramo 1978; Brooks and Draper 1979; Cohen 1989; Cohen and Cohen 1979; Fleet 1973; Lushington 1976, 1979; McColvin 1957, 1961; Michaels 1987a, 1987b; Myller 1966; Pierce 1980). These articles and guidelines seem to be based on the belief that "a comfortable, attractive space is the foundation of a successful program for children" (Young 1980, 31).

These guidelines often appear to be based on traditional practices, assumptions, and/or personal opinions as empirically based research data is not presented with the recommendations. In addition, different library information sources frequently present conflicting recommendations.

Examples of conflicting, library-based design recommendations for children's libraries

1. Location:
   a. ground floor/children should be the ones to climb the stairs if the library has more than one floor
   b. separate room/not a separate room
   c. close to adult section/far from adult section

2. Wayfinding:
   a. separate entrance/same entrance as adults but visible from entry
   b. clearly printed signs/provide non print graphics/no signage mentioned

3. Shelving of Picture Books:
   a. Spine out with dividers/cover out/book bins

4. Charge Out Area:
   a. Same desk as adults/separate desk from adults
   b. Desk Height: 36", 30", 29", reachable for a six year old, not too high, no height or recommendation given when discussing charge out

It is not known why librarians adopt specific design practices or which sources of information they choose to use. In addition, there appears to be no evidence of use of specific research which links the practices related to the physical setting in children's library to the promotion of reading or which guides design decisions.

Library Based Environmental Research

The research that is available regarding library service to children deals mostly with children's literature and programming. According to Summers (1977), "literature about children's service programs is largely descriptive and not evaluative" (p. 80) and information regarding children's library settings is largely "what Ralph Shaw once called 'How I run my library good' " (p. 80).

Over the past 20 years, numerous individuals involved in the library profession have called for a children's service research base and have cited the need for studies

focusing on children and the design of library settings (Bennett 1987; Chelton 1985, 1987; Fitzgibbons 1982; Holt 1987; Krueger 1978; Nykiel 1978; Weeks, 1986).

The review of literature located a few library-based research studies which looked at children's services and included the library's physical environment. Although none of the studies directly addressed design practices and recommendations and the promotion of reading, several have implications for the current research.

Barker (1977) studied school and public library media programs. He concluded that the physical facilities could contribute to a program's success or failure but that they were not of crucial importance. According to Barker, a good program can rise above poor facilities.

A dissertation by Brown (1977) was directed towards media centers in elementary schools. Using observational procedures, the study compared intended versus actual use of school media spaces. One finding was that "children did make use of the spaces in ways which differed from the original design intent" (p. 79).

A study by Smardo (1978) was directly related to children's services in the public library. The purpose of this study was to identify specific recommendations related to children's library service for pre-school children. Initial recommendations were drawn from the library literature and suggestions of graduate students in early childhood education. While the study sought information related to all five areas of library service, which includes the physical facilities, Smardo relied solely on the judgments of experts in the field of early childhood education to assess these recommendations. The study has valuable information related to library service for young children. However, it does not have great depth related to the physical

facilities. This may be for two reasons. In the review of literature, Smardo found "neither specific qualitative nor quantitative data based upon empirical research, concerning physical facilities appropriate for young children in public libraries" (p. 30). The second reason may be that the review of literature also included the study by Barker (1977) which may have influenced the limited focus on the physical environment.

Veatch (1979) dealt more directly with aspects of environment and behavior and the design of public libraries. However, the study was directed toward the assessment of the usefulness of design criteria, as evaluated by professional library consultants, for designing public libraries in general. Of the 42 criteria submitted for evaluation as to their usefulness, only two were related to young children, and only one of these was specifically meant for the design of the children's library environment. This criteria concerned eliminating the use of round tables in children's libraries as young children "have a strong sense of territoriality and round tables are more difficult to mentally section off than square or rectangular tables" (Veatch 1979, 172). This criteria accounted for the greatest diversity of responses and the second highest number of not useful ratings from the library consultants. In addition, three consultants added comments regarding the lack of merit or need for considering this as a design criteria.

More recently, two other library-based studies have included the physical environment's influence on user outcomes in the research. McAfee (1981) looked at observable conditions in an elementary school media center and the development of students self-concept. While the total social environment was the primary focus in the

study, a positive media center atmosphere, which included aspects of the physical setting, was one of the variables included. One finding of the study was that all of the observable conditions could affect the self-concept of the user. Eaton (1991) looked at wayfinding and route uncertainty in fifth graders and high school students. One component of this was the physical layout of the library and how users made use of environmental cues. While Eaton focused on spatial skills and developing effective shelf searches, one of her conclusions was that environmental design might be used to promote successful, independent searching strategies. In addition, in the review of literature Eaton also found little available library-based environment and behavior information (Gale Eaton, letter to the author, March 1991).

Current research by Holly Willett focuses on the development of an evaluation scale for the physical environment of children's libraries. However, a preliminary report (Willett 1991) indicates that the evaluation criteria are based on design recommendations derived from early childhood and day care research and are being assessed by children's librarians and library consultants rather than being empirically tested.

No research was located which indicates that practices recommended in the library literature or adopted by librarians are based on empirically tested research which links specific design practices to the promotion of reading in young children. Nor was any research located which indicates if children's librarians are interested in research related to this area of children's service. According to Brown (1978), if children and youth come first in libraries, rather than things, then design decisions should be made "not merely from the standpoint of aesthetics or of function, but . . .

from . . . about how children use space" (p. 82). This requires more than a guess or an opinion but knowledge obtained through observation and testing.

Edmonds (1987) believes that youth services in libraries are often based on assumptions which may get in the way and make it difficult to respond to changing information and knowledge. While library services and reading research is rarely linked "the implications are clearly there" (p. 513). One of these implications is that environments do affect attitudes, and attitudes contribute to the reading process, to children's learning to read, and to learning to love reading. It is then important to consider the design of the physical environment when planning and designing library service to children.

> To serve their clientele, children's librarians must be informed. They must know exactly what constitutes the most favorable atmosphere for reading and browsing . . . . Common assumptions . . . need not be automatically accepted. Library consultants, children's specialists, professional organizations and others in a position to comment on library facilities must address themselves to the specialized needs of youth (Nykiel 1978, 864).

Summary

The review of literature and the theoretical framework have presented information which suggests that environments affect behavior and that behavior is often a reflection of an individual's attitudes. The review also identifies attitudes as having a contributory affect on the reading process. Other information identifies the public library as interested in contributing to the reading process and the promotion of reading as well as being an environment associated with reading.

Considering these concepts, it would seem that the physical environment in children's public libraries would be of primary concern and generate research.

However, the review of literature indicates that little, if any, library-based research or empirical data related to design recommendations for children's library environments exists; it also indicates that children's librarians may still be making design decisions based on assumptions. In addition, the review suggests that children's librarians may be using information sources that do not provide empirically based design recommendations and presents evidence that such data is needed.

CHAPTER 4

METHODS

The preceding chapter indicates that research which studies children's library environments as they affect the promotion of reading and children's attitudes toward reading is needed. In addition, findings from the observational study, reported in Chapter One, and the review of literature suggest that information concerning the role of the children's librarian and the children's library environment is needed. This chapter discusses the procedures used in the research and is organized as follows: (1) The Sample, (2) Instrumentation, (3) Data Collection, and (4) Data Analysis.

The Sample

Librarians working in children's service in public libraries were identified as the primary units of analysis. Due to budget constraints, the decision was made to conduct the survey within the State of Michigan. Therefore, the study population was identified as public librarians working in children's services in Michigan.

This population was identified with the help of the Directory of Michigan Libraries 1990, the Michigan Library Association, and the children's librarian who served as a reviewer for the questionnaire. A total of 644 libraries were found to make up the study population. The constraints of the research budget was one criteria on which to base the size of the sample. In addition, the information from other

library surveys was used as a guideline. Considering these two criteria, the decision was made to draw a sample of approximately thirty percent of the population.

As libraries in the Michigan Public Library system are categorized into six classes of libraries, it was decided that a more representative sample would be obtained if stratified random sampling procedures were used rather than simple random sampling. The population was then identified by library class, percentage calculations were made to identify each class's share of the total population, and then representational samples equal to each of the percentage weights of the library classes were then randomly drawn. Using these procedures, a total of 197 libraries were selected to be used as the Public Library study sample.

Instrumentation

The methodological approach used in this study is the descriptive survey as recommended by Lancaster (1977, 1988). No research study could be located which dealt with the children's librarians' awareness and interest in environmental design as it relates to children's services. Matthews (1978) states "while surveys don't solve problems, they do provide previously lacking descriptions" (p. 255) and according to Bechtel, Marans, and Michelson (1987) "surveys about people can answer questions of who, what, and how" (p. 44) and explain the sentiments and actions of a population. Thus, a survey can provide factual information and deal with people's thoughts, feelings, and their awareness of situations and places.

As no survey studies related to children's librarians, the physical environment, and environmental design were located, it was necessary to develop a survey

instrument. Using the earlier observational studies, the research objectives and questions, and information drawn from the review of literature as guidelines, a self-report, written questionnaire was developed. In addition, four references devoted to social, behavioral, and survey research (Babbie 1986; Bechtel, Marans, and Michaelson 1987; Dillman 1977, 1991) provided ideas for the development, organization, and format of the questionnaire.

The questionnaire was designed to collect information about librarian education, training, attitudes, knowledge, interests, and practices as they relate to the physical environment of the children's library. Questions consisted of multiple choice, fill-ins, and Likert scaling in a closed ended format. Several opportunities were also provided for open ended responses or general comments by the librarians. The questions were organized into four distinct sections within the questionnaire. Part One dealt with information related to the existing physical environment of the children's library and actual practices. Ten specific design practices were included in this section. These were practices related to the physical and visual ease of access for young children. In addition to meeting the condition of access, two other criteria were used to select the specific design practices to be considered. These were:

1. recommendations, either explicit or implied, for these practices were located in the library literature

2. whether the presence or absence of each design practice was observable, could be objectively reported, and did not rely on the subjectivity or interpretation of respondents.

Part Two focused on librarian attitudes, training, and interest in environmental design and the promotion of reading; Part Three asked for information about librarian

agreement with existing design criteria that could be useful in a children's library, and Part Four sought basic demographic information related to librarian education and experience. The questionnaire was specifically organized to move the respondent from the general to the more specific questions. In addition, the presentation also provided respondents the opportunity to answer interesting but non-threatening questions first and to get the librarians thinking about the physical environment.

After the questionnaire was developed and organized it was submitted for review. Ten reviewers were asked to check for content, clarity, and time expended. Reviewers were selected using two criteria in addition to convenience. Familiarity with and basic awareness of public library use and terms and representation of varied levels of education. Three of the reviewers had previously worked as librarians in public libraries and two of these had a formal library education. The literature indicated that educational backgrounds of individuals working as children's librarians differed from library to library. Of the ten reviewers, two were high school graduates, two were undergraduate students, two were graduate students, and four were university graduates who had earned a minimum of a Master's degree.

The reviewers reported little difficulty in completing or understanding the questionnaire. Minor problems of wording (clarity) or order of questions were corrected and a final draft was made. This draft was then submitted to a children's librarian. This reviewer was a current member of the Michigan Children's Library Committee and was recommended by the Michigan Public Library Association. Upon the suggestion of this reviewer, an additional question was added. The final questionnaire was then submitted to the Michigan State University Committee for

Research on Human Subjects for approval before it was printed in final questionnaire format.

The questionnaire (Appendix B) was printed in booklet form. Included on the cover was an abbreviated version of the accompanying letter, information and instructions for answering the questions, directions for returning the questionnaire, and information about contacting the researcher if the need arose.

Data Collection

A mailed questionnaire was selected as the most appropriate method to collect the data. This decision was based on several factors:

1. Budget restrictions and time constraints made it difficult to use random sampling if personal visits and interviews were the methods used.

2. The review of literature indicated that librarians often had negative feelings about evaluations of any of their service areas. It was decided that a guarantee of anonymity might decrease these negative feelings and encourage librarians to respond. A mailed, self-report questionnaire could best provide this anonymity.

Using the ideas and techniques for mailed survey research suggested by Dillman (1977, 1991), a schedule of mailings and list of mailing contents were established. The preliminary mailing, consisting of a cover letter (Appendix A), the questionnaire in booklet form, and a stamped, return envelope, was addressed to The Children's Librarian. Cover letters stressed the importance of the respondent's participation and provided a brief overview of the purpose for the research. In addition, the cover letter promised both confidentiality and anonymity to the respondent and described how this would be handled. Plans called for a second

mailing to be sent out two weeks later. This was to include a revised cover letter, a second questionnaire, and a return envelope. Two weeks after the second mailing phone calls were to be made to the respondents who had not yet returned the survey to encourage participation.

Based on the review of the library literature the expected rate of return was 40 to 50 percent (Calabrase 1977; Dequin and Faibisoff 1983; Hamson 1989). Three days after the initial mailing the first survey was returned, and within less than fourteen days 91 more surveys were returned. Follow-up procedures were deemed unnecessary as a response rate of 63.5 percent was achieved in less than two and one-half weeks.

Approximately one week later, one last survey was returned. This one was not filled in. It was returned, opened but unanswered. During cleaning and coding, one survey, which had been completely answered, had to be eliminated from analysis due to technical reasons. The respondent indicated that a new children's library was being opened and answers were given on existing conditions and anticipated plans. As it was impossible to determine which answers referred to existing plans and which answers were based on anticipated facilities, the responses were not included in the data analysis. A total of 126 questionnaires (63.9%) were returned and 124 (62.9%) questionnaires were useable for data analysis.

As respondents were also offered the opportunity to request a summary of survey results, and the researcher needed to be able to track respondents for follow up mailings, the return envelopes were coded. On the back flap of each return envelope was a number which identified each library selected for the sample. In addition to this

number, a space was included that could be checked if the respondent wanted to have a summary of the survey results. The researcher was the only individual holding the master list which indicated each library's assigned number. In order to provide the guarantee of anonymity, the returned surveys were not opened by the researcher. Once all of the returns were collected they were given to a third party to open and separate. When this was accomplished, all materials were then returned to the researcher. The responding libraries could then be identified, and those requesting survey results were recorded using the empty return envelopes. As the coded envelopes had been separated from the questionnaires themselves, the researcher could not identify answers with any particular library.

Data Analysis

Analysis of the data collected in the questionnaire focused on answering the current study's research questions. The complete survey instrument is presented in Appendix B. Questions used in this study's data analysis are indicated with asterisks. Data collected for the study were treated as follows:

1. An analysis of the characteristics of the respondents and the respective libraries were made in order to describe the study sample and to determine if it was representative of the population.

2. The use of frequency distributions, percentages, and, when applicable, mean scores were calculated in order to determine librarians responses to questions concerning specific interests, beliefs, and practices related to the physical environment of the children's library.

3. The Chi-square test of association and the point-biserial correlation coefficient were used to investigate relationships as posed in research questions three and four of the study. The Chi-square test of association, used with nominal data, can be used as a test of association or relationship between two factors in a contingency table. The Point-biserial coefficient is a simplification of the

Pearson's correlation coefficient. The point-biserial can be used when a dichotomous variable is correlated with a continuous variable (Glass and Hopkins 1984). Point-biserial correlations were used with Research Questions involving a Yes-No dichotomous variable and a variable measured on a five point Likert scale. According to the Office of Statistical and Mathematical Computing, Interdisciplinary Consortium for Statistical Applications at Indiana University, the statistical consultant services used in this research, Likert scales may be considered as continuous measures and used with the point-biserial coefficient.

Summary

This chapter presented the methods used in the study. The sampling methods, development of the instrument, and other procedures were discussed. Children's librarians in Public Libraries in Michigan were surveyed using a self report, mailed questionnaire. Methods used in data analysis were also presented.

CHAPTER 5

PRESENTATION AND ANALYSIS OF THE DATA

This chapter presents the data as they relate to a description of the sample and to the research questions. The data are presented in two sections which are organized as follows: (1) The Sample and (2) The Research Questions. Each section includes a brief overview of the data that are presented and discusses the organization of the subsections.

The Sample

This section presents information related to existing conditions reported by the public librarians working in children's services. The data presented were collected from both closed and open ended responses. The data have been collected to provide descriptive information about the sample and are organized as follows: (1) Library Administrative Structure and Conditions, (2) Children's Librarians, and (3) Children's Library Design Practices.

Library Administrative Structure and Conditions

The public library system in Michigan is divided into six Library Classes. These classes are determined by the size and population of the library's service area. The larger the population service size the higher the Library Class. Library Class information and data related to administrative practices and conditions are presented in

this subsection. These data are: (1) Representativeness of Sample, (2) Location of Libraries, (3) Library Building Type, (4) Weekly Service Hours, (5) Children's Library Staffing, and (6) Children's Service Age Range.

Representativeness of Sample

Table 1 presents a comparison of the population, the sample, and the survey respondents by Library Class. All Library Classes are represented approximately by the same percentage as they occur in the population. As seen in Table 1, Class VI Libraries, defined as those serving populations of more than 50,000, account for the largest number of libraries.

Location of Libraries

In Table 2 the libraries have been categorized according to geographic location. While 17 (13.7%) of the libraries are located in or around large metropolitan areas, the majority of the libraries in the survey, 78 (62.9%), are located in towns and rural areas with populations under 25,000 people.

Building Type

Because the structure of a building can influence the arrangement of interior spaces, librarians were asked to indicate the choice which best described the number of floor levels used for public library service. The majority of libraries in the survey, 72 (58.0%), are housed in one story buildings that do not have basements for public use. As shown in Table 3, 17 (13.7%) libraries are one story buildings that also use a basement for library service to the public. Eight (6.5%) librarians indicated their

Table 1.--Comparison of Population, Sample, and Respondents by Library Class

	Population		Sample		Respondents	
	N	%	N	%	N	%
Class I	99	15.4	30	15.2	14	11.3
Class II	80	12.4	24	12.2	15	12.1
Class III	92	14.3	28	14.2	21	16.9
Class IV	79	12.3	24	12.2	19	15.3
Class V	77	11.9	23	11.7	20	16.1
Class VI	217	33.7	68	34.5	35	28.3
Totals	644	100.0	197	100.0	124	100.0

Table 2.--Geographic Location of Libraries in Survey

	Survey Respondents	
	N	%
Rural Area (Unincorporated)	16	12.9
Small Town (Under 10,000)	49	39.5
Large Town (10,000 - 25,000)	13	10.5
Small City (25,001 - 50,000)	16	12.9
Large City (50,001 - 100,000)	10	8.1
Metropolitan Area (Over 100,000)	17	13.7
No Response	3	2.4
Totals	124	100.0

building type as "other than these". Not all eight specified what the other type was. However, two librarians wrote in that they were housed in "piece meal" situations, and another librarian indicated that the children's library was in a manufactured housing unit ("a trailer").

Table 3.--Library Building Types by Levels Used

Levels	Respondents N	Respondents %
One Story, no basement	72	58.0
One Story plus basement	17	13.7
Two Story, no basement	13	10.5
Two Story plus basement	8	6.5
>Two Story, no basement	2	1.6
>Two Story, plus basement	4	3.2
Other	8	6.5
Totals	124	100.0

Weekly Service Hours

Library Class, as stipulated by the State Library Association and State of Michigan Library, and location influences the number of hours the library is open to the public per week. Librarians were asked to indicate the number of hours per week that the library was open and if the children's department hours were open for the same number of hours. Table 4 presents these responses.

Fifteen (12.1%) libraries are open 30 or less hours per week, 25 (20.2%) libraries are open 31 to 40 hours per week, and 23 (18.5%) are open 41 to 50 hours per week. As shown in Table 4, the largest number, 60 (48.4%), of libraries responding to this question are open more than 50 hours per week.

The great majority of libraries, 120 (96.8%), have the same hours for children's service as for the rest of the library, while 3 (2.4%) libraries have fewer children's hours than regular hours. As illustrated in Table 4, in each of these three cases, the regular library hours are greater than 56 hours per week.

Children's Library Staffing

Children's services depend upon library personnel and staff in order to operate. In relation to children's library environments, personnel are needed for upkeep and decision making. Staffing (shown in Table 5), whether by library professionals or volunteers, may influence the programs and services which a children's library offers.

Library Personnel

Someone must be responsible for what goes on in the environment, maintenance of the environment, and changes within the environment. Most often this is the children's librarian, who is usually working alone or with a limited number of other staff. One of the questions asked in this survey was related to the number of full time equivalent staff who worked in the children's department. While 6 (4.8%) librarians reported that they have five or more full time staff, Table 5 shows that the majority of librarians, 105 (84.7%), reported two or less full time staff working in children's services.

Table 4.--Weekly Hours Library is Open to Public (Library and Children's Department)

	Library Hours		Children's Hours	
	N	%	Same	Less
0 to 30 Hours	15	12.1	15	0
31 to 40 Hours	25	20.2	25	0
41 to 50 Hours	23	18.5	23	0
51 to 55 Hours	14	11.3	14	0
> 55 Hours	46	37.1	43	3
Totals	123	99.2	120	3
No Response	1	0.8		
Total	124	100.0		

Table 5.--Full Time Staff and Use of Volunteers in Children's Libraries

	Libraries Reporting			
	Number of Staff		Use Volunteers	
Full Time Staff	N	%	YES	NO
0 - 2 Librarians	105	84.7	44	61
3 - 4 Librarians	13	10.5	6	7
5 - 6 Librarians	4	3.2	3	1
> 6 Librarians	2	1.6	1	1
Totals	124	100.0	54	70

Use of Volunteers

Table 5 also presents the data related to volunteer staffing. With limited professional personnel, volunteers might offer a way to provide additional staffing and help in children's services. Although 54 (43.5%) librarians reported that they used volunteers in children's services, 70 (56.5%) reported that they did not. There was no association or significant relationship between libraries' use of volunteers and libraries' number of professional librarians on staff, χ^2 (3, $\underline{N}$ = 124) = 1.952, $\underline{p} < .05$.

Children's Service Age Range

The Children's Services Division of the Michigan Library Association (1988) defines children as birth through grade eight. The review of literature indicated that not all libraries may be prepared to serve the youngest of these children and may extend service to those beyond grade eight. Librarians were asked to indicate both the minimum and maximum ages of children that their department was prepared to serve.

All 124 respondents answered the question regarding service to the young child. The great majority, 119 (96.0%), of librarians indicated their children's department extended services to toddlers, while the remaining 5 (4.0%) librarians indicated that preschoolers were the minimum age served. None of the librarians indicated that children's services were limited to school age children only.

Responses regarding the maximum age or grade level to which service is extended were more varied. Although 28 (22.6%) children's libraries provide service only through the fifth or sixth grade, the largest number of libraries, 65 (52.4%), provide service through the seventh, eighth, or ninth grade in their children's

department. Twenty-seven (21.8%) children's libraries provide service to children through high school or twelfth grade. Four librarians did not respond to this question.

Children's Librarians

Librarians were asked to respond to questions regarding their educational background and public library experience. Data presented in this section includes: (1) Educational Levels, (2) Specific Library Education, (3) Environmental Design Workshops, and (4) Children's Library Experience.

Educational Level

While educational levels, shown in Table 6, range from high school graduates to those who have done graduate work beyond a Master's degree, the majority of respondents, 96 (77.4%), have at least one college degree. Librarians with a Master's degree account for 60 (48.4%) of these librarians, and an additional 18 (14.5%) librarians have completed graduate course work beyond the Master's level. As shown in Table 6, only 11 (8.9%) librarians have not had formal schooling beyond high school.

Specific Library Education

In addition to their level of education, the librarians were also asked to indicate if they held a Master's of Library Science degree and, if so, had a specialization in children's services. This data is presented in Table 7.

Table 6.--Children's Librarians' Educational Levels

Educational Level	Librarians Responding N	%
High School Graduate	11	8.9
Some College Course Work	16	12.9
Bachelor's Degree	18	14.5
Master's Degree	60	48.4
Graduate Work Beyond Master's	18	14.5
No Response	1	0.8
Totals	124	100.0

Table 7.--Library and Children's Specialization Education

Specific Library Education	Librarians Responding N	%
Librarians Not Holding an MLS	54	43.5
Librarians Holding an MLS but No Children's Specialization	24	19.4
Librarians Holding an MLS and Had Children's Specialization	45	36.3
No Response	1	0.8
Totals	124	100.0

Of the 123 librarians responding to the query regarding the MLS degree, 69 (55.7%) responded that they do hold such a degree and of those, 68 received their training from an ALA accredited School of Library and Information Science.

Sixty-five percent of the librarians who hold an MLS degree, also indicated that their training had included a specialization in children's services. However, as shown in Table 7, the librarians with specific education in children's services account for only 36 percent of all of the respondents who work in children's libraries.

Environmental Design Workshops

In addition to formal education and schooling, librarians were asked if they had participated in workshops or seminars which focused on environmental design issues related to the physical setting of the children's library. While all 124 librarians included in the survey responded to this question, only 22 (17.7%) librarians indicated that they had participated in this type of seminar or workshop.

Library Experience

Library experience is also a source of education. Librarians were asked about their total years of experience in children's work in public libraries, as well as the number of years they had served in their present capacity.

Librarians were asked to write in the number of years they had worked in children's services in the public library. As seen in Table 8, total years of experience in children's service ranged from one year (9 responses) to 36 years (one response). Although seven librarians did not respond to this question, the average years of

experience for the remaining 117 librarians was almost ten years (9.94) and the median number was eight years.

Table 8.--Librarians' Current and Total Children's Service Experience

	Total Years in Current Position		Total Years in Children's Services	
	N	%	N	%
< 2 Years	25	20.2	9	7.3
2 to 5 Years	21	16.9	21	16.9
> 5 < 10 Years	32	25.8	30	24.2
> 10 Years	43	34.7	57	46.0
No Response	3	2.4	7	5.6
Totals	124	100.0	124	100.0

Table 8 indicates that 25 (20.2%) librarians have served in their current position for less than two years, and another 21 (16.9%) have held the current position for more than two years but less than five years. Of the librarians who have been in their current position for more than five years, 32 (25.8%) have held that position for less than ten years while the other 43 (34.6%) have been in their current position for more than ten years.

As shown is Table 8, more than 45 percent of the librarians have had more than ten years of experience in children's service. Of those 57 librarians, 43 (75.0%) have held their current position for more than ten years.

Children's Library Design Practices

The data in this section are related to conditions in children's libraries which concern the design of the physical setting. The review of literature identified ease of access (both visually and physically) as being directly related to the amount of time children used classroom library corners. Table 9 presents the frequencies and percentages of responses as they relate to the provisions for the ten suggested practices in children's libraries. Analysis of the data is organized and presented by recommendations which are related to specific types of access. These are (1) Physical Accessibility of the Children's Library, (2) Visual Accessibility of the Children's Library, (3) Accessibility of Books for Pre-Readers, and (4) Accessibility of Charge Out.

Physical Accessibility of The Children's Library

Design practices related to ease of physical access for young children are concerned with the entrance, location, and type of area. As stated in the review of literature, conflicting recommendations concerning these and other practices can be found. Separate entrances from the outside for direct access, ground floor locations which eliminate stairs, and separate rooms, which also provide territoriality, can all contribute to easier physical access for young children.

Separate Entry

As seen in Table 9, few libraries provide a separate entry for the children's library. All 124 respondents answered this question and only five (4.0%) libraries

Table 9.--Provisions for Suggested Practices in Children's Libraries

SUGGESTED PRACTICES FOR CHILDREN	PROVISIONS FOR PRACTICE						TOTAL	
	Provided		Not Provided		No Response			
	n	%	n	%	n	%	N	%
Separate Entry	5	4.0	119	96.0	0	0.0	124	100.0
Ground Floor	104	83.9	20	16.1	0	0.0	124	100.0
Separate Room	43	34.7	81	65.3	0	0.0	124	100.0
Fully Visible From Entry	69	55.7	55	44.3	0	0.0	124	100.0
Use Non-print Signage	13	10.5	111	89.5	0	0.0	124	100.0
Use Adjustable Dividers	76	61.8	48	38.2	0	0.0	124	100.0
Shelve Cover Out	10	8.1	112	90.3	2	1.6	124	100.0
Use Book Bins	2	1.6	122	98.4	0	0.0	124	100.0
Separate Charge Out	18	14.5	106	85.5	0	0.0	124	100.0
Charge Out 30" High or Less	28	22.6	74	59.7	22	17.7	124	100.0

have a separate entry for the children's library. Of those libraries using a separate entry, three reported children's services located on the ground floor, in a separate room, one library reported children's services on the ground floor but not in a separate room, and one library reported children's services located in a separate room in the basement.

Location

A large majority, 104 (83.9%), of librarians reported that their children's library was located on the first or ground floor. Seventy-two libraries have first floor children's services by nature of the building type, as shown in Table 3. Of the 52 remaining libraries, 32 have located children's services on ground level even though they are not constrained by building type. As seen in Table 9, this is the most common practice related to physical accessibility reported by the respondents.

Type of Area

Children's libraries are located in separate rooms in 43 (34.7%) of the libraries in the study. Of the 81 (65.3%) children's libraries (shown in Table 9) not in separate rooms, 23 (18.6%) are located in a separate area with obvious spatial dividers and 52 (41.9%) are housed in separate areas but have no obvious dividers. The remaining 6 (4.8%) libraries reported "other" for type of area. Of these, three librarians wrote in brief remarks which indicated that they really didn't have a space, "just some bookshelves" and children "went wherever they could find a space".

Visual Accessibility of the Children's Library

Design practices which provide children with visual access are concerned with the visibility of the children's library and the use of signage. As identified in the review of literature, visual access, or being able to see what is available, is an important factor in promoting and increasing reading activities.

Visibility of Children's Library

Librarian's were asked if the children's library was clearly visible from the children's primary entry into the library. All 124 survey participants responded to this question and 69 (55.7%) indicated that their children's library could be seen from the child's main entrance. Of the 55 (44.3%) libraries (shown in Table 9) not providing clear visibility of the children's area, 28 (22.6%) responded that the area was partially visible from the entry.

Non-Print Signage

The literature indicates that clear, easily identified signage is often lacking in any library. Although explicit recommendations for non-print signage for the early reader is not prevalent in the literature, the implications are there. As seen in Table 9, the majority (89.5%) of librarians reported that their library did not provide signage that could be understood by a pre-reader. Of the 13 (10.5%) librarians reporting the use of signage understandable by pre-readers, only three indicated the use of non-print graphics or pictograms, while the other nine cited the visibility (from the children's area) of identifiable children's artifacts, such as stuffed animals or toys.

Accessibility of Books
for Pre-Readers

Several recommendations for shelving and organizing easy readers and picture books are found in the literature. While all of these are directed towards ease of access for the young child, specific recommendations offer conflicting suggestions. Recommendations range from shelving books in the standard, spine out manner, using adjustable dividers which help keep books upright and in small accessible groupings, shelving books with their covers facing out, and using book bins or book boxes.

As seen in Table 9, the large majority (90.3%) of libraries use the traditional spine out method, as opposed to the cover out, for shelving their picture books and easy readers. Only 10 (8.0%) libraries shelve books cover out and only 2 (1.6%) use book bins instead of standard shelving. Of the 76 (61.8%) libraries using adjustable dividers on the shelves, three are libraries which reported shelving books with their covers facing out. This indicates that 39 libraries shelve books spine out and do not use dividers.

Accessibility of Charge Out

Library terminology refers to the circulation and checking out of books and materials as charge out. The area or desk where this takes place is referred to as the charge out desk. Recommendations related to charge out procedures for children range from the use of a separate charge desk in the children's library to use of the same charge out desk as the adults. In addition, the literature may recommend lowered heights for charge out desks used by children.

Charge Out Area

As seen in Table 9, the majority (85.5%) of libraries do not provide a separate charge out desk or area for children. Of the 18 (14.5%) libraries that do provide an area for children, 11 (8.8%) provide a separate charge out desk and 7 (5.7%) make provisions for a designated children's area at the adult charge out desk.

Charge Out Height

Librarians were asked to write in the minimum height of the charge out area used by children. As seen in Table 9, only 28 (22.6%) libraries have children's charge out areas 30 inches high or less. This height was selected for two reasons.

1. When mentioned in children's library literature, counter heights of 29 or 30 inches are the most often mentioned recommended heights.

2. It lies within the range of recommended low to high counter heights (22.5" - 34") for children six to eight years of age (Diffrient, Tillet, and Bardagjy 1981; Panero and Zelnik 1979).

Reported heights ranged from a low of 18 inches (one report) to a high of 50 inches (two reports). The calculated mean, median, and mode heights coincided at 36 inches within one-tenth of an inch. The 36 inch height was reported 19 times, and the second most often reported height (16 reports) was 40 inches.

Summary of Sample

This section has presented data related to the administrative structure and conditions of the libraries, the children's librarians, and the design practices in children's libraries. The majority of libraries are located in areas which have populations of less than 25,000 people. The children's department is open more than 40 hours per week and is staffed by two or fewer, full time librarians, who hold a

Master's of Library Science degree and have ten years of children's library experience. The children's library is most likely located on the ground floor of a one story library building but is not in a separate room. Non-print signage is not provided, books are shelved spine out, and children use the same charge out desk as adults which is most likely 36 inches high.

The Research Questions

This section presents information related to the research questions. The data presented were collected from both closed and opened ended responses. These data have been collected to provide descriptive information in order to answer questions of what and how, as well as providing information in order to examine questions about relationships between children's librarians' training and attitudes and the physical facilities in children's libraries.

Research Question One

Do children's librarians believe the library's physical environment can influence outcomes related to library objectives and goals? As discussed in the review of library literature, there is limited information about the physical environment of the children's library. Little information is available related to children's librarians' awareness of and interest in the influences of the physical environment and behavior.

Librarians were asked to respond to three statements related to the physical environment and its affect on outcomes. A five point Likert scale was used for each statement with 1 indicating Strongly Disagree and 5 indicating Strongly Agree. All 124 librarians responded to the first two statements. Table 10 presents each statement,

its responses, and descriptive statistics. One hundred and ten (88.7%) librarians agreed with the statement "the environment can affect attitudes" and 115 (92.7%) agreed that "the environment can contribute to the perception of friendly service". Of the 123 librarians responding to "the physical environment can help a library reach its goals", 111 (89.5%) agreed with the statement. As seen in Table 10, mean scores for each of the three statements were almost 4.5. Less than one percent of librarians disagreed with these statements and no librarians strongly disagreed.

Research Question Two

Are children's librarians (a) knowledgeable about and/or (b) interested in learning about environmental design as it is applicable to the children's library? Another purpose of this study was to determine if librarians were knowledgeable about design and/or interested in learning about environmental design. The review of literature did not indicate if librarians believed they were knowledgeable about children's library environments or if they were interested in environmental design information. The literature also indicated that librarians draw from personal knowledge and the "how I done my library good" articles which appear in professional library journals.

Librarian Assessment of Design Knowledge

While the majority of librarians indicate that they are aware of the influences of the physical environment and believe that it can affect outcomes, only a minority agree that they are personally knowledgeable about environmental design. Librarians

Table 10.--Library Agreement with Influence of the Physical Environment

STATEMENT	RESPONSES Disagree				Agree				
	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)	* n (%)	TOTAL N (%)	MEAN	SD
The physical environment that a person experiences can affect the attitudes of that person.	0 (0.0)	1 (0.8)	13 (10.5)	36 (29.0)	74 (59.7)	0 (0.0)	124 (100.0)	4.4758	.7153
The physical environment can help contribute the perception of friendly service.	0 (0.0)	0 (0.0)	9 (7.3)	41 (33.0)	74 (59.7)	0 (0.0)	124 (100.0)	4.5242	.6307
The physical environment of a library can contribute to reaching library objectives and goals.	0 (0.0)	1 (0.8)	11 (8.9)	44 (35.5)	67 (54.0)	1 (0.8)	124 (100.0)	4.4390	.6912

Note: * indicates missing responses

used a five point Likert scale, with 1 for Disagree Strongly and 5 for Agree Strongly, to respond to a statement concerning their personal design knowledge. As seen in Table 11, 62 (50%) librarians do not feel they are knowledgeable about design. Only 18 (14.5%) librarians indicated that they feel very knowledgeable about design. A computed mean of 2.49, median of 2.0, and standard deviation of 1.00 indicates that the majority of librarians do not feel they have a great deal of knowledge about environmental design.

Table 11.--Librarians' Assessment of Personal Design Knowledge

STATEMENT	RESPONSES Disagree				Agree				
	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)	* n (%)	TOTAL N (%)	MEAN	SD
I am very knowledgeable about environmental design	22 (17.7)	40 (32.3)	43 (34.7)	15 (12.1)	3 (2.4)	1 (0.8)	124 (100.0)	2.488	1.003

Note: * indicates missing responses

Interest in Research Data

Librarians interested in learning more about environmental design might also use research data as a source of information. Librarians were asked if they would make use of this type of data to help make decisions about the children's library environment, if such data were made available to them. A comparison of responses in Table 12 shows nearly similar frequency of responses between interest in using research data and interest in attending workshops. While there is a positive relationship between librarians interested in using research data and those interested in attending workshops, χ^2 (4, n = 122) = 18.12, $p < .01$, only 69 of the 124 librarians indicated that they would be interested in both the use of research data and attending workshops.

Interest in Workshops

Respondents were asked if they would be interested in participating in workshops that would help them learn more about environmental design for children's libraries. As seen in Table 12, 86 (69.4%) librarians indicated that they would be interested in attending these types of workshops. Although almost 30 percent of the respondents did

not respond affirmatively to this question, only 3 (2.4%) answered that they would not be interested in attending, while the others were uncertain about their participation.

Table 12.--Librarian Interest in Environmental Design

	Specific Environmental Design Interest			
	Interest in Data		Interest in Workshop	
	N	%	N	%
Yes	87	70.2	86	69.4
Uncertain	34	27.4	34	27.4
No	1	0.8	3	2.4
No Response	2	1.6	1	0.8
Totals	123	100.0	124	100.0

Interest in and Use of Information Sources

The early observational study indicated that children's librarians make decisions and participate in activities which affect the physical environment of children's libraries. The review of literature indicated a lack of research based information about children's library environments. Table 13 shows librarians' responses to questions about their sources of environmental design information. As librarians appeared to be making decisions about the physical environment of the library, their source of information was of interest to the current study. Librarians were asked two questions about the specific types of information sources they used.

1. What is your main source of information about environmental (interior) design and the physical space in your children's department?

2. If you needed information about environmental (interior) design to help change or improve the physical space in your children's department, which one of the following sources would you use?

Table 13.--Children's Librarians' Sources of Environmental Design Information

Sources	Librarians' Responses About Sources of Environmental Design Information for: Main Information N	%	Specific Information N	%
Professional Library Journals	73	58.9	37	29.8
Education/Experience/Workshops	36	29.0	24	19.4
Librarians/Library Consultants	4	3.2	50	40.3
Other Sources	11	8.9	12	9.7
No Response	0	0.0	1	0.8
Totals	124	100.0	124	100.0

* NOTE: 7 of these were either architects or designers

Types of sources

As seen in Table 13, the majority of librarians, 73 (58.9%), reported professional library journals were their main source of information about environmental (interior) design and the children's library environment and 36 (29%) reported the use of past personal and/or educational experiences. When asked what source they would turn to if they needed specific information to help make decisions about changes in the children's library environment, 37 (29.8%) librarians reported they would use professional library

journals and 24 (19.4%) reported they would use prior educational and personal experiences or continuing education courses and workshops. Although architects and designers were suggested as a source for specific children's environment information, only 7 (5.6%) librarians selected either of these as a source, while 50 (40.3%) librarians reported that they would turn to other librarians and library consultants.

Research Question Three

Do relationships exist between the librarian's education or the librarian's participation in environmental design workshops and the librarian's: a) belief that the physical environment can affect outcomes? b) interest in learning about environmental design? c) source of information about children's library environments? and d) assessment of their personal design knowledge? One objective of this study was to identify relationships which might suggest areas for future study or methods for presenting environmental design information to children's librarians. Specifically, the two primary librarian variables of interest are library education (MLS) and participation in children's environmental design (CED) workshops. These are of interest to this study as they are seen as librarian variables which provide greater opportunity for affecting changes, where as levels of education and years of experience are not as controllable.

Environment Affects Outcomes

The point-biserial correlation coefficient was used to test for relationships between having an MLS or not having such a degree and librarian belief that the physical environment can affect outcomes. It was also used to test for relationship between

librarian participation in CED workshops and librarian belief that the physical environment affects outcomes. As shown in Table 14, no significant relationships between library education (MLS degree) and statements related to the affect of the environment on outcomes were found.

As seen in Table 14, a significant relationship (r_{pb} = .194, p < .05) was found between librarian participation in an environmental design workshop and librarian belief that the physical environment can affect attitudes. Librarians who have participated in CED workshops had a mean score of 4.77 (on a five point scale) when indicating agreement with the statement related to environments affect attitudes. The mean score concerning this statement for librarian's not participating in CED workshops was 4.41. In addition, for all three statements greater positive correlations were associated with participation in design workshops than were associated with library education.

Table 14.--Correlations Between MLS and CED and Environment Affects Outcomes

PHYSICAL ENVIRONMENT AFFECT	CORRELATIONS			
	MLS		CED	
	r_{pb}	n	r_{pb}	n
The physical environment can affect attitudes	-.081	123	+.194*	124
The physical environment can contribute to the perception of friendly service	-.107	123	+.049	124
The physical environment can contribute to reaching library objectives and goals	+.046	122	+.103	123

*Significant at p < .05

Interest in Environmental Design

The Chi-square test of association was used to test for relationship between having an MLS or not having such a degree and librarian interest in learning about environmental design. The Chi-square was also used to test for relationship between librarian participation in CED workshops or non participation in such workshops and librarian interest in learning about environmental design. As seen in Table 15, there are no significant differences between participation in CED workshops and interest using design research or attending design workshops at the $p < .05$ level. A significant difference, χ^2 (2, n = 121) = 6.769, $p < .05$, between interest in using design research and library education does exist. Librarians with an MLS are more likely to be interested in using design research, if it is made available to them, than are librarians who have not earned an MLS.

Table 15.--Relationships Between MLS and CED and Interest in Environmental Design

INTEREST IN ENVIRONMENTAL DESIGN	COMPUTED CHI-SQUARES			
	MLS		CED	
	χ^2	df	χ^2	df
If made available, would be interested in using environmental design research data	6.769*	2	1.539	2
Would be interested in attending workshops to learn about environmental design and children's library environments	1.664	2	1.562	2

*Significant at $p < .05$

Information Sources

The Chi-square test of association was used to test for relationship between having an MLS or not having such a degree and librarians' choice of information sources about children's library environments. This test was also used to test for relationship between librarian participation in CED workshops or non participation in such workshops and librarians' choice of information sources about children's library environments. As seen in Table 16, there are no significant differences between librarian participation in design workshops and librarian choices for sources of information. A significant difference does exist, χ^2 (4, n = 123) = 25.954, $p < .01$), between librarian education and the librarians primary choice of information about children's library environments. Those librarians holding an MLS degree are more likely to turn to professional library journals for general children's environment information, while librarians without an MLS are more likely to rely on past educational background and personal experience.

Table 16.--Relationships Between MLS and CED and Choice of Information Source

SOURCES FOR NEEDED INFORMATION	COMPUTED CHI-SQUARES			
	MLS		CED	
	χ^2	df	χ^2	df
Source of information selected for general environmental design knowledge about the children's library	25.954*	4	4.326	4
Source of information selected is specific changes or improvements were to be made in children's library	8.796	6	7.826	6

*Significant at $p < .001$

Design Knowledge

The point-biserial correlation coefficient was also used to test for relationships between having an MLS or not having such a degree and the librarians' assessment of their own design knowledge. It was also used to test for relationship between participating in a CED or not participating and the librarian's assessment of their own design knowledge. As shown in Table 17, while no significant relationship was found between librarian education and assessment of design knowledge, a significant relationship (r_{pb} = .176, p < .05) was found between librarian participation in design workshops and assessment of design knowledge. The mean rating for personal design knowledge of librarians participating in CED workshops was 2.86 compared to a mean rating of 2.41 for those librarians not participating in such workshops.

Table 17.--Correlations Between MLS and CED and Assessment of Design Knowledge

STATEMENT	CORRELATIONS			
	MLS		CED	
	r_{pb}	n	r_{pb}	n
I am very knowledgeable about the topic of environmental design	+.108	122	+.176*	123

*Significant at p < .05

Research Question Four

Do relationships exist between the librarian's agreement with suggested design practices related to the physical environment and reports of the practices being in place in the children's library? Data collected from the observational library visits, which served as the initiative for the current study, indicated that librarians were responsible for the physical environment of the children's library. The review of literature suggested that librarians might base practices related to children's service on personal beliefs or assumptions about what should be provided for children. The review, as well as the observational studies, also indicated that librarians were responsible for the physical setting. This section will present data regarding librarian responsibility for the library environment, librarian agreement with specific practices, and the relationships between the librarian's agreement and the existence of the practices. Specifically, the ten practices related to physical and visual accessibility (reported in the Description of the Sample) will be presented.

Responsibility for Library

The survey asked two questions related to the responsibility for the physical environment of the children's library. One question asked librarians to indicate who was primarily responsible for the design of the space when it was created and the second question asked librarians to indicate who was primarily responsible for the on going quality (day to day) of the children's library environment.

Forty-seven (37.9%) librarians responded that they were responsible for the design of the space when it was created while 44 (35.5%) indicated that a professional architect, designer, or consultant had primary responsibility, and 32 (25.8%) did not know. One librarian did not respond to this question.

In 97 (78.2%) libraries, a librarian working in children's services has primary responsibility for the on going quality of the children's department. The remaining 27 (21.8%) librarians indicated that either no one was charged with this responsibility or the custodial staff was responsible.

Librarian Agreement with
Specific Practices

Analysis of the data is based on librarian agreement with the ten recommended practices reported in the description of the sample. Librarians used a five point Likert scale, with 1 for Disagree Strongly and 5 for Agree Strongly, to indicate agreement or disagreement. Table 18 presents the frequency of responses, percentages, calculated means, and standard deviations of librarians, levels of agreement with these practices. Analysis of the data are presented as in the Description of the Sample: 1) Physical Accessibility of the Children's Library, 2) Visual Accessibility of the Children's Library, 3) Accessibility of Books for Pre-Readers, and 4) Accessibility of Charge Out.

Table 18.--Librarian Agreement with Specific Design Recommendations

SUGGESTED PRACTICE	RESPONSES Disagree 1 n (%)	2 n (%)	3 n (%)	4 n (%)	Agree 5 n (%)	* n (%)	TOTAL N (%)	MEAN	SD
Separate Entry	32 (25.8)	26 (21.0)	50 (40.3)	9 (7.3)	4 (3.2)	3 (2.4)	124 (100.0)	2.377	1.061
Ground Floor	3 (2.4)	1 (0.8)	31 (25.0)	40 (32.3)	47 (37.9)	2 (1.6)	124 (100.0)	4.041	0.948
Separate Room	8 (6.6)	12 (9.7)	30 (24.2)	25 (20.2)	47 (37.9)	2 (1.6)	124 (100.0)	3.746	1.250
Fully Visible From Entry	2 (1.6)	1 (0.8)	27 (21.8)	41 (33.1)	50 (40.3)	3 (2.4)	124 (100.0)	4.124	0.899
Use Non-print Signage	2 (1.6)	11 (8.9)	31 (25.0)	37 (29.8)	41 (33.1)	2 (1.6)	124 (100.0)	3.853	1.042
Use Adjustable Dividers	1 (0.8)	3 (2.4)	24 (19.4)	36 (29.0)	54 (43.6)	6 (4.8)	124 (100.0)	4.178	0.902
Shelve Cover Out	5 (4.0)	23 (18.5)	59 (47.6)	25 (20.2)	10 (8.1)	2 (1.6)	124 (100.0)	3.098	0.940
Use Book Bins	19 (15.3)	33 (26.6)	47 (37.9)	12 (9.7)	9 (7.3)	4 (3.2)	124 (100.0)	2.658	1.096
Same Charge Out As Adults	10 (8.1)	20 (16.1)	58 (46.8)	16 (12.9)	16 (12.9)	4 (3.2)	124 (100.0)	3.067	1.083
Charge Out 30" High or Less	1 (0.8)	6 (4.8)	58 (46.8)	31 (25.0)	20 (16.1)	8 (6.5)	124 (100.0)	3.543	0.869

Note: * indicates missing responses

Physical Accessibility of
the Children's Library

Table 18 presents descriptive statistics related to librarian agreement with recommended physical accessibility practices for children's libraries. These are provisions for a separate entry, location on the ground floor, and a separate room.

Separate entry. While 13 (10.5%) librarians agreed with this recommendation, only 5 (4.0%) libraries provide a separate entry. Fifty-eight (46.8%) librarians did not agree that a separate entry should be provided. As seen on Table 18, of the three recommendations related to physical accessibility, provisions for a separate entrance received the fewest number of "agrees", the most number of "disagrees", and the lowest mean score ($\bar{X}$ = 2.377).

Location. Not only do the majority (87) of librarians agree with the recommendation for locating children's services on the ground floor, but of the three recommendations related to physical accessibility the fewest (4) disagree. Of the three design recommendations, this is also the design practice that the largest number (104) of libraries provide (see Table 9).

Type of area. Seventy-two (58.1%) librarians agree that the children's library should be located in a separate room. As seen on Table 18, the majority of librarians agree that a separate room should be provided. As shown on Table 9, only 43 (34.7%) of the libraries actually provide this type of area for children.

Visual Accessibility of the Children's Library

Table 18 presents descriptive statistics related to librarian agreement with recommended visual accessibility practices for children's libraries. These are provisions for the visibility of the children's library and non-print signage.

Visibility of children's library. Visibility of the children's library from the children's primary entrance into the library is a recommendation frequently found in the library literature. The large majority (91) of librarians agreed with this recommendation and only three librarians disagreed. This resulted in the second highest mean score ($\bar{X}$ = 4.124) of the ten recommendations and the largest number of librarians who agreed with any of the recommendations.

Non-print signage. As mentioned in the description of the sample, only three libraries actually provide non-print signage. A comparison of Tables 10 and 18 shows that six times as many librarians agree with the recommendation for providing non print signage than report the actual practice. While 78 (62.9%) librarians agree that signage should be provided which a pre-reader can understand, as shown on Table 18, only 13 (10.5%) libraries provide this feature.

Accessibility of Books for Pre-Readers

Table 18 presents descriptive statistics related to librarian agreement with recommendations for shelving books for pre-readers. These are provisions for adjustable dividers on shelves, shelving books cover out, and using book bins.

Dividers. As seen on Table 18, 90 (72.6%) librarians agree with the recommendation for using adjustable dividers (which indicates the traditional practice of shelving books with their spines out) with picture books. This recommendation received the second largest number of "agrees" and the highest mean score ($\bar{X}$ = 4.178).

Cover out. Although less than 30 percent of the librarians agree with the recommendation for shelving books with their covers out, an even lower percentage (22.5%) disagreed. A comparison of Tables 11 and 18 indicates that there are more librarians (35) who agree with the practice than there are libraries (10) who have implemented this practice.

Book bins. Only 21 (17.0%) librarians agree with the recommendation of using bins or boxes for picture books for pre-readers, while 52 (41.9%) disagreed. Of the three practices related to shelving books, not only did the fewest number of librarians agree with this recommendation, but this recommendation received the second lowest ($\bar{X}$ = 2.658), mean score and the least number (2) of libraries use this practice.

Accessibility of Charge Out

Table 18 presents descriptive statistics related to librarian agreement with recommendations related to accessibility of charge out for children. These are provisions for the children's charge out area and the height of the children's charge out counter.

Charge out area. Recommendations for children's charge out areas range from a separate desk in the children's area to use of the same counter which adults use.

Librarians were asked if they agreed with the recommendation that children use the same charge out area which adults used. The largest number of librarians (58) neither agreed nor disagreed with this recommendation. This suggested practice resulted in an almost equal numbers of librarians who agreed (32) and librarians who disagreed (30). No other recommendation resulted in as nearly equal number of librarian agreements and disagreements.

Charge out height. Few, 7 (4.8%), librarians disagreed with the recommendation that children's charge out desks should be 30 or less inches high. While 41.1% of librarians agree with this recommendation, only 22.6% (see Table 12) of the libraries actually provide children's charge out areas with counter heights 30 inches or less.

Correlations Between Librarian Agreement and Library Practice

Table 19 presents the correlations between librarian agreement with the ten specific practices and the practices being in place in the children's library. The number and percentage of libraries providing the practice and the number and percentage of librarians agreeing with the practice (total number of librarians who marked a 4 or 5 on the Likert scale) are also given. A significant level of relationship between agreement with the practice and the existence of the practice was found for four of the recommendations. These were provisions for a separate room, use of adjustable dividers on shelves, use of the same charge out desk for both children and adults, and visibility of the children's area from the children's primary entrance.

Table 19.--Correlations Between Agreement With and Existence of Practices

SUGGESTED PRACTICE FOR CHILDREN'S LIBRARIES	LIBRARIES PROVIDING PRACTICE		LIBRARIANS AGREEING WITH PRACTICE		CALCULATED CORRELATIONS	
	n	%[a]	n	%[a]	r_{pb}	n
Separate Room	43	34.7	72	58.1	+.425*	122
Adjustable Dividers	76	61.8	90	72.6	+.416*	117
Same Charge-Out Desk As Adults	106	85.5	32	25.8	+.298*	120
Children's Library Visible From Entry	69	55.7	91	73.4	+.198*	122
Children's Library Has Separate Entry	5	4.0	13	10.5	+.121	123
Easy Reader Books Shelved Cover Out	10	8.1	35	28.3	+.108	122
Children's Library On Ground Floor	104	83.9	87	70.2	+.067	122
Non-Print Signage Used	13	10.5	78	62.9	-.002	122
Charge-Out Desk 30" High or Less	28	22.6	51	41.1	-.019	99
Book Bins Used For Easy Readers	2	1.6	21	17.0	----	----

[a] Percentage calculated on total sample, N = 124

* Significant at $p < .05$

Separate room. Of the ten recommendations, provisions for a separate room for children's service resulted in the strongest correlation (r_{pb} = +.425, $p < .05$). Although this resulted in the strongest correlation, this practice did not have the largest number of librarians who agreed with it nor the greatest number of libraries which provided this recommended practice. A comparison of librarian agreement with the practice (72 agree) to actual practice (43 existing) indicates that only 59.7 percent of librarians who agree with the use of a separate room actually have a separate room for children's services. Library literature which recommends this practice suggests that a separate room is preferable since the noise from children's activities may otherwise place constraints on children's services. Those who do not recommend this practice argue that the separate room promotes segregation and that children may not feel welcome in the adult library and may not grow up to be library users as adults.

Dividers. The use of adjustable dividers is associated with shelving books with their spines out and dividers can be used to (a) keep books upright and (b) arrange books in small, manageable groups. As discussed previously, library literature may recommend the use of book bins or cover out shelving for books for pre-readers. However, when shelving books spine out is discussed, the use of adjustable dividers is almost always recommended. Although provisions for adjustable dividers on shelves resulted in the second highest correlation of medium strength (r_{pb} = +.416, $p < .05$), a comparison of librarians' agreement with this recommendation (90 agrees) to actual practice (76 existing) indicates the broad acceptance of this practice, as 84.4 percent of librarians who agree with the practice provide adjustable dividers for shelving books.

Charge out area. Of the ten recommended practices used for data analysis, use of the same charge out area for children and adults was the most frequently reported (106 reports) existing practice. Library literature which suggests this practice is primarily based on function and existing library conditions. Limited library staff and irregular patterns of use frequently require a single librarian to meet the needs of both the adult and child users. This necessitates a central area, which may be used for charge out, information services, and librarian visibility. While this recommendation resulted in a significant level of correlation (r_{pb} = +.298, $p < .05$), a comparison of librarians who agree with this recommendation (32 agrees) to actual practice (106 existing) indicates that fewer than one-third (30.2%) of the librarians using the same charge out desk for children and adults actually agree with the practice. Although almost no correlation exists between agreement and actual practice concerning the height of the children's charge out desk, note in Table 19 the differences in agreement and actual practice between charge out height and charge out area. A lower charge out height for children is a recommendation based on accommodating children rather than providing for library function. Not only do more librarians agree with the recommendation for lower charge out height than agree with use of the same charge out desk, but almost twice as many librarians agree with the lower height recommendation than report that this is provided.

Visibility of children's library. This recommendation is frequently mentioned in the library literature and addresses issues related to library function and concerns about accommodating children. Clear visibility from the entry can provide children with clear paths, safety, and support wayfinding while providing visual control for

librarians. Of the four practices which resulted in significant levels of relationship, clear visibility of the children's area from the entry resulted in the weakest correlation (r_{pb} = +.198, $p < .05$) but had the highest number (91) of librarians who indicated agreement. In addition, questions concerning the existence of this practice also produced the least clear objective answers. Twenty-eight librarians indicated that the children's area was partially visible. These responses were recorded as being a negative response to the question (not an existing practice) as the response of partially visible was open to individual interpretation.

In addition to the correlations presented in Table 19, several other points should be mentioned. For eight of the ten practices, more librarians agreed with the recommendation than reported that the actual practice was in place in their library. In one of the two cases where more libraries provided the practice than librarians agreed with the practice (use of same charge out desk), the recommendation is based on library needs (function) rather than user needs (accommodation). No correlation is shown for the practice related to the use of book bins for picture books and easy readers. Only two librarians reported the actual use of book bins, and one of these librarians did not indicate a response about agreement or disagreement with this practice.

Summary

This chapter has presented the analysis of the data as it concerns the current study. A description of the sample, which included both the libraries and the

children's librarians, and children's library design practices was reported. Data related to each of the four specific research questions were also presented.

SUMMARY, DISCUSSION, AND CONCLUSIONS

This chapter presents a summary of the study and discusses the findings as they relate to the research questions. Recommendations for future research directions are also presented. The chapter is organized as follows: (1) Summary, (2) Limitations of Study, (3) Discussion of Findings, and (4) Conclusions, Significance, and Recommendations.

Summary

The primary purpose of this study was to develop the beginnings of an information base related to existing environmental practices in children's public libraries and librarians' knowledge, awareness, interest, and attitudes about environmental design and the promotion of reading. This study was also concerned with exploring the feasibility of future research in this area and the directions which such research could take.

The library has long been associated with encouraging the young child to read. Children's librarians have always indicated an interest in producing a literate population, and their service to children is based on the goal of attracting children to the library in order to encourage reading, develop a love of good books, and a lifelong interest in reading. Historically, this has been accomplished through the provision of a good collection, a concerned staff, and more recently community outreach programs

and activities. Over the past twenty to thirty years, research studies in the fields of environmental design and reading theory have gathered evidence which indicates that the environment in which reading takes place must be considered as well. It is a basic assumption of this study that environments affect attitudes, which in turn affect reading interest and ability. Although limited studies have been conducted in this area, available research indicates that elements within a reading environment and the arrangement of those elements, can contribute to a child's interest in reading and affect reading activities.

These ideas, coupled with the interest in promoting reading, would suggest that librarians would be concerned about designing environments which provide a positive influence and, in order to do so, would be interested in applying the knowledge and research from the fields of environmental design and reading education. However, no such studies or information were located. While the proposition of this study, that the physical environment can contribute to the reading process, suggests that experimental studies related to library environments and reading attitude development should be conducted, the lack of an information base necessitated a more fundamental study. This study was exploratory in nature in order to provide normative data and answers to basic research questions on which future studies can be built.

In order to provide this information base, a self report questionnaire was developed and sent to librarians working in children's service in the public library. The survey was designed to collect data related to existing conditions and practices in children's libraries, as well as data related to the children's librarians' interest in the promotion of reading and the physical environment. Using random sampling

techniques, approximately 30 percent of all public libraries in Michigan were selected for the survey. Of the 197 surveys mailed to librarians, 124 usable questionnaires were returned. The data, presented and analyzed in Chapter Four, has been used to answer the research questions and draw some basic study conclusions and develop recommendations for future courses of action and research activities.

Limitations of Study

Due to budget constraints this study dealt only with children's library environments in public libraries in Michigan. The public librarians who responded represent a wide range of levels of education and the majority of respondents had Master's of Library Science degrees. As most of the librarians with a MLS had graduated from Schools of Library Science in Michigan, a wide variety of library science schools was not represented. While the data is considered to be generalizable, a wider national survey would provide a stronger basis for the generalizability of the results.

This study looked at the children's library environment as a whole which provides service to children of all ages and reading abilities - from the youngest pre-reader to the academically advanced twelve year old. While the theoretical framework of this study focuses on the reading environment as it affects the young child's attitudes toward reading, it is difficult to identify the pre and early reader's specific library environments within the larger environment. The public library philosophy promotes freedom of access to services for all users. Therefore, survey research

related to the physical environment must have a holistic approach to provide for the overlapping usages that may occur.

Discussion of Findings

In this section, discussion of the findings are presented as they relate to the each of the four individual research questions. General conclusions and recommendations which are based on these findings will be presented in the last section of the chapter.

Research Question One

Do children's librarians believe the library's physical environment can influence outcomes related to library objectives and goals? Results indicate that librarians do believe that the physical environment can influence outcomes. As seen in Table 10, for each of the three statements related to this question, approximately 90 percent of the librarians indicated their agreement and, in each case, more than 50 percent of the respondents strongly agreed that the physical environment can influence outcomes.

While the large majority of librarians agreed with statements related to the influence of the physical environment, comments made by several librarians suggest that books and staff may still be perceived to be more important than the physical setting. One librarian included as a general comment "the environment can be very important and help or hurt your program but staffing is even more critical. Without adequate staff . . . you can't do much regardless of the magnificence of your

surroundings." Another librarian wrote "friendly service can make the physical environment not as important". Comments such as these may indicate that while librarians agree that the physical environment may affect outcomes, they are not aware of the subtle, pervasive influence (David 1974) which the physical environment may have on users' behaviors, attitudes, and development. These comments also reflect Barker's (1977) study conclusions which emphasized the ability of a good program to transcend poor physical facilities.

These findings suggest that although librarians believe that the physical environment affects outcomes, when considering children's services they do not perceive it as important as programs, materials, and staffing. This may be one explanation for the lack of library-based research related to the physical environment.

Research Question Two

Are children's librarians (a) knowledgeable about environmental design as it is applicable to the children's library? As seen in Table 11, very few librarians agreed that they were very knowledgeable about the topic of environmental design and exactly 50% (62) of respondents indicated that they did not feel very knowledgeable about design for the children's library. Several librarians wrote in comments regarding their personal design knowledge. One librarian indicated strong personal knowledge of environmental design, which was based on experience rather than formal training, and wrote in a comment about the desire to move into children's library design consultation. Four librarians wrote in comments which expressed their lack of design knowledge and the limited exposure to this topic during their library training

and course work (MLS). One of these four librarians, added and circled a "0" (zero) to the Likert scale and penciled in "this topic was never mentioned in my college library training". It appears that as a group, children's librarians do not feel particularly knowledgeable about library design and this may also be an explanation for the lack of library-based research related to the physical environment.

Are children's librarians (b) interested in learning about environmental design as it is applicable to the children's library? It appears that children's librarians are interested in learning about environmental design and its application to the children's library setting. A majority (70.0%) of the respondents indicated that they were interested in using design research if it were made available to them, and a majority were interested in participating in environmental design workshops related to children's libraries. Less than three percent responded that they were not interested or did not respond. In addition, over 55 percent of the librarians indicated that they were interested in both research data and design workshops.

One objective of this study was to help determine if further research about children's library environments is feasible. Librarian interest in this research topic would be one indication that such continued research is feasible. If librarian interest exists, it is likely that librarians would be more receptive to learning about environmental design. In addition, having data about specific types of interest and sources of information related to these interests would also help guide future research.

Approximately 25 percent of the librarians responded that they were uncertain if they would use data or participate in design workshops. Although not conclusive, 13 written comments added by the librarians marking "uncertain" suggest that other

considerations, rather than lack of interest, may account for "uncertain responses". Two librarians who marked "uncertain" as their response to attending workshops commented that "it depends on what the topic would be" and "I would be interested about some subjects but not about others [such as] displays and posters". One librarian wrote in that the response was marked as "uncertain" because it depended on the distance to the workshop, "I would probably attend if I didn't have to travel too far". Two comments related to the use of design research data indicated that the response was marked as "uncertain" because the respondents were not sure if there was any cost involved.

Findings related to librarians' interest in and use of information sources indicate that although librarians are interested in information about the children's library environment, fewer than ten percent of the librarians use other than library-based sources for environmental design information. The sources used by the great majority (90%) of librarians are professional library literature, other librarians and library consultants, or personal library education and experience. This may help to explain the observational finding which concluded that many library practices conflict with or ignore environmental design research and design recommendations. The review of library literature indicated that there was limited environmental design research and information available, yet the majority of librarians report that professional library journals are their primary source for such information.

Research Question Three

Do relationships exist between the librarian's education or the librarian's participation in environmental design workshops and the librarian's (a) belief that the physical environment can affect outcomes? (b) interest in learning about environmental design? (c) source of information about children's library environments? and (d) assessment of their personal design knowledge? Findings indicate that several significant relationships exist. Librarian education (MLS) was found to be related to two variables and librarian participation in environmental design workshops (CED) was found to be related to two variables.

Librarian Education

Librarian education was found to be related to librarian interest in using environmental design research and librarian choice of information source. As seen on Table 15, there is a significant difference, χ^2 (2, n = 121) = 6.769, $p < .05$, in interest in using design research between librarians who have an MLS education and librarians who do not have not had this education. As shown in Table 16, a significant difference, χ^2 (4, n = 123) = 25.954, $p < .01$), was also found in choice of information source between librarians who have an MLS education and librarians who do not have not had this education. Librarians who had earned an MLS were more likely to indicate an interest in using environmental design research data and to use professional library journals as a source of information than librarians who had not earned an MLS.

Environmental Design Workshops

Participation in environmental design workshops was found to be related to librarian belief that the physical environment affects outcomes and personal assessment of design knowledge. As seen in Table 14, a significant relationship (r_{pb} = .194, $p < .05$) was found between librarian participation in an environmental design workshop and librarian belief that the physical environment can affect attitudes. As seen Table 17, a significant relationship (r_{pb} = .176, $p < .05$) was also found to exist between librarian participation in design workshops and assessment of design knowledge. Those librarians who had participated in a CED were more likely to agree or strongly agree that the physical environment affects attitudes and agree or strongly agree that they were knowledgeable about environmental design than librarians who had not participated in a CED.

One objective of this study was to identify areas for future study or methods for presenting environmental design information to children's librarians. The findings related to the MLS indicate that environmental design information applicable to children's libraries should be submitted to professional library journals for publication. Not only do librarians with an MLS use these journals as their primary source of information, but they indicate that they are interested in using environmental design research data. One area for future research is the development of environmental design workshops (CED) for librarians. This might be an alternative method for presenting design information to librarians who do not hold an MLS, as these librarians were more likely to choose personal education and experience as their primary source of information rather than professional library journals. Development

of environmental design workshops for children's librarians could also be used to guide future research. Specific areas to be investigated include:

1. If there is a relationship between participation in a CED and awareness that the physical environment affects outcomes, does such participation affect the librarian's practices in the children's library environment?

2. If there is a relationship between participation in a CED and librarian assessment of their design knowledge, does increased design knowledge affect the librarian's practices in the children's library environment?

Research Question Four

Do relationships exist between the librarian's agreement with suggested design practices related to the physical environment and reports of the practices being in place in the children's library? As one objective of this study was to identify areas for future study, relationships between librarian belief in a practice and that practice being in place were of interest. If such relationships do exist, future studies could focus on these relationships. One consideration of such relationships is the idea that a librarian's belief (or agreement) with a particular practice might determine if that practice was implemented in the children's library. If relationships do not exist, future research could focus on determining what factors might contribute to the implementation of specific practices in children's libraries.

Although data analysis identified four significant relationships, as shown in Table 19, between agreement with a practice and the existence of that practice, findings indicate no identifiable pattern between design recommendations where significant relationships exist and where they do not exist. Neither numbers of librarians who agreed with the practice, numbers of libraries where the practice

existed, or existence of recommendations based on traditional library practices could be identified as a predictor of the existence of a relationship. The strongest correlation, a separate room for children, (r_{pb} = .425, p < .05, Table 19) ranked only fifth in numbers of libraries providing the recommendation and fifth in numbers of librarians who agreed with it. Both location on the ground floor and visibility from the entry are widely used, library-based recommendations. However, no significant relationship was established in the case of the recommendation for a ground floor location, while a significant relationship (r_{pb} = .198, p < .05, Table 19) was found between practice and agreement when visibility from the entry was correlated. The recommendation (same charge out) with the third fewest numbers of librarians agreeing resulted in a significant relationship (r_{pb} = .298, p < .05, Table 19), while the recommendations (on ground floor) with the third largest number of librarians agreeing did not result in any significant relationship. As seen on Table 19, provisions for non-print signage had the fourth highest number of librarians agreeing but resulted in almost no relationship.

Findings do not seem to support the study consideration that librarian's agreement with (or belief in) a design recommendation may result in the implementation of the specific practice. This can be used to guide future research to help determine why practices with which librarians agree are not implemented.

Conclusions, Significance and Recommendations

This section presents study conclusions, significance of the study, and recommendations for actions that might be taken as well as suggestions for future research.

Conclusions

A number of conclusions have been reached based on the information gathered and the review of literature.

1. Librarians are primarily responsible for the on-going quality and maintenance of their children's library environment. They are also interested in providing, supportive library environments for children and in learning about environmental design. They are well educated, and are aware that the physical environment can affect outcomes.

2. There appears to be a lack of communication between professionals in the fields of library science and environmental design. This creates not only misunderstandings but also a lack of research information from being exchanged. Misunderstandings seem to exist between what is meant by design and environmental design. There seems to be a misunderstanding that design involves the aesthetic and how things look. As one librarian included in the general comments section "too much concern is placed on how a library looks rather than how it functions". The review of library literature indicated a lack of research based environmental design information, and yet the survey indicated that the librarian's primary choice for obtaining such information was library literature.

3. Libraries, like all public institutions, have major budget constraints, which often influence what is done and the librarians' perception of what they can afford to do. This may lead librarians to reject or avoid consideration of design related activities and recommendations which might be useful. This stems from a misunderstanding, related to what design is, which seems to have lead librarians to assume that design is expensive. Thirteen general comments by librarians were related to money and staff limitations which they felt made improvements difficult. As one librarian wrote "we would like to provide a good atmosphere for our children but don't have the space . . . or people [staff] we need . . . .Our budget is cut every year".

4. Opportunities for training related to environmental design, either in formal school work or library sponsored workshops, are limited. Course work that does exist focuses more on specific physical features and the facilities aspects rather than on the environmental setting and users' needs. Workshops related to environmental design primarily focus on the creation and implementation of displays and exhibits or furniture selection for the children's library.

5. There appears to be a great deal of interest among librarians in learning about environmental design and how to use this information in the planning and management of their children's libraries. This conclusion is based on both survey responses related to librarians interest in taking environmental design workshops and using available information, as well as a number of comments that librarians included with their surveys.

"I wonder if the issues raised by this questionnaire don't point toward the need for a youth services consultant at the Library of Michigan."

"I'm glad to see a survey like this is being conducted. I hope more people realize how important it is to have an environment that is conducive to children's development and learning."

"Up to now I have not given it a great deal of thought other than the obvious. But after answering these questions, I will be on the alert for ways to improve the environment for my children and to learn more about its importance for when we move into a new building."

Significance of Study

This study can be considered significant for three specific reasons as follows:

1. It provides empirical data which indicates that children's librarians are interested in the physical environment of their children's library, establishes normative data about existing practices and librarian agreement with specific practices, and suggests that future research in this area as it is of interest to librarians is feasible.

2. It appears that it may have contributed to librarian awareness about the affect of the library's physical environment on the children who use this setting. This is important as it may not only directly affect current practices and decisions related to children's library environments but it may also create librarians who are more receptive to future research activities in this area.

3. The study also suggests future directions that this area of inquiry might take. These activities as well as suggestions for research studies are presented in the following recommendations.

Recommendations

Recommendations are based on the findings of this study as they relate to the current study's Focal Problem Model and the review of literature. These recommendations include actions and programs which could be immediately initiated as well as implications for future research directions.

The Focal Problem Model, shown in Figure 4, illustrates the interrelationships between individuals involved in the design of the children's library, their sources of information, and the physical setting. The model indicates that participants communicate, or interrelate with one another, and that they draw from information sources which can provide opportunities for shared knowledge. Librarians reported that they were interested in their children's library setting and would be receptive to environmental design information if it were made available to them. However, findings indicate that communication gaps exist between designers and children's librarians and between the sources of information which these participants use.

The great majority of librarians reported that their primary sources of information were professional library journals and other librarians. The review of literature indicated that environmental design information related to children's environments and the promotion of reading is located outside of the library literature.

Although few librarians (22, 17.7%) reported participation in a children's environmental design workshop (CED), findings indicated that such participation did have an affect on the librarian's assessment of personal design knowledge and belief that the physical environment affects attitudes. In addition to bridging information gaps, such workshops might also serve to heighten librarians' awareness of the affect of the physical environment on user's attitudes and behaviors.

Findings also indicate little correlation between formal library education (MLS) and librarian assessment of personal design knowledge. As more than 50 percent of the librarians in this study have earned an MLS, library curriculum development related to environmental design could also help to establish shared information sources and encourage communication between design participants.

In order to bridge these information gaps and provide a common body of knowledge recommendations for implementation of activities and programs are as follows:

1. Professionals involved in the field of environmental design research should begin to direct available information, applicable to the promotion of reading attitudes and children's library environments, to the information sources most often used by children's librarians, namely, professional library journals, other librarians, and library consultants.

2. Lines of communication between environmental designers and researchers and children's librarians must be established and kept open. Inclusive in this must be the recognition of each discipline's unique knowledge, needs, and contributions as they relate to the promotion of reading in children and the development of a literate population.

3. Opportunities for workshops, and access to information, evaluative research, and consultants related to children's environmental design needs and issues should be made available to all interested librarians.

4. Interdisciplinary research and curriculum development among environmental designers and library educators should be initiated in order to:

   a. Provide wider and more relevant environmental design course work opportunities during formal librarian training.

   b. Stimulate evaluation and related research activities.

   c. Establish a base of specific design recommendations to guide the planning and design of children's library environments.

The review of literature indicated a need for research for all children's environments. Children's environments are most often designed by adults with little input from children (Baird and Lutkus 1978; Madeja 1974; Miller 1981; Ziegler and Andrews 1987). Although there is limited research available related to children's environmental preferences there is evidence that children have different preferences than adults (Kaplan 1985).

Ekechukwu (1972) found that children with negative attitudes toward the library were less likely to use the library and other studies (Campbell and Shlecter 1979; D'Elia and Walsh 1983) found that the physical environment had an affect on user's attitudes toward the library. Reading research (Coody 1973; Huck 1976; Morrow 1982) which focused on use of classroom library corners found that ease of accessibility was related to children's increased use. In empirical research conducted by Morrow and Weinstein (1982), changes in the physical setting were found to increase children's use of literature. In addition, Morrow and Weinstein also found that changes in the physical setting were as affective as were changes in the reading program or curriculum. These findings will be used as a guide on which to base

research related to the physical setting in children's libraries, particularly as they relate to recommended future research questions one and two below.

The findings of the current study indicate that children's librarians provide reading environments for young children although they feel they have limited knowledge about environmental design. The review of literature indicates that librarians' primary sources for design information do not currently provide this type of information. Additionally, the review of literature indicated that little available environmental design research related to the promotion of reading and the children's library environment exists. Although the review of literature provided a great deal of anecdotal information and suggestions related to children's library environments, no empirical data was located to support these suggestions. In addition, suggested practices were often contradictory. Recommended normative practices need to be identified to provide guidelines for the planning, design, and maintenance of children's library environments. Such research must be conducted. Research is needed immediately which answers the following questions:

1. To what extent does the physical environment of children's libraries affect children's attitudes toward reading? Toward the library and the use of libraries?

2. What specific elements, features, and design practices should be included in a children's library environment? What ones should not? Do these practices make a difference in children's attitudes towards reading or use of the library?

3. How can the physical environment in the children's library promote library services, programs, and needs? How can it hinder these services, programs, and needs?

4. Does awareness of children's environmental needs affect librarians' agreement with specific library design practices? Does it affect their implementation of these practices?

5. Are librarians more likely to agree with practices which are drawn from traditional library-based literature rather than practices which are drawn from environmental design literature?

6. Why are specific design practices with which librarians agree not implemented? To what degree does the librarian's budget, awareness, knowledge, or empowerment affect the implementation?

Summary

It is essential for librarians who work with children to examine both the practical and functional ways in which their library environments are designed as well as the influences that these environments have on the attitudes and behaviors of the children. For it is these attitudes which may guide, direct, and even determine the rest of a child's development and adult life. "If the children's library is to be a stimulating center of learning activities that leads to reading, it takes the brainstorming of many people - children, teachers, parents, and citizens who have no children - as well as their time, talents, materials, and know how" (Larrick, 1976, 28).

APPENDIX A

COVER LETTER

Dear Children's Librarian:

At the present time, a survey related to the physical environment and children's library service is being conducted within Michigan Public Libraries. As a librarian working in Children's Service your input is vitally needed. Will you please help in developing a more accurate picture regarding children's library environments by completing the enclosed survey? The survey will take approximately 20 to 30 minutes to complete. While this may extend your already busy work schedule, the information provided may help to contribute to the promotion of reading and other children's library programs directed towards combating the growing illiteracy and school drop out rates.

As a professional librarian you are a member of an increasing number of professionals and lay persons concerned about the growing illiteracy rates in the United States. In an effort to address this problem, attention has been focused on both adult illiteracy programs and programs that promote reading and reading readiness in young people.

One area that has not yet received much attention is the physical environment and the affect it may have on a child's attitudes towards reading. Current research indicates that attitudes toward reading can affect reading ability, and there is also evidence to indicate that the physical environment can affect a person's attitudes and behavior. Researchers in the disciplines of Environment and Behavior, Social Psychology, and Environmental Design are interested in how their knowledge might best be used and also in determining how much other disciplines know about this particular subject.

While there is a great deal of anecdotal information related to the physical environment in children's library departments there is little concrete information available. An intensive review of literature also indicates that the bulk of research information about library design is not directed towards children's service. Your cooperation, while voluntary, will help develop a more accurate picture of existing children's library departments. Participation will also provide the opportunity for your professional input regarding the planning, design, operation, and management of the library's physical environment.

The results of this research will assist environmental designers, library professionals, and others to work together in a more interdisciplinary manner when dealing with children's library environments. This may help promote reading and children's use of library services while ensuring library users for the future. Thank you for your time and assistance.

Sincerely,

Pamela T. Banduric
Specialist, Human Environment and Design

APPENDIX B

QUESTIONNAIRE

READING PLACES:
THE CHILDREN'S LIBRARY ENVIRONMENT
IN THE PUBLIC LIBRARY

This survey consists of four parts. Part I asks for information about the physical features of your library and, in particular, those that concern children's services. Parts II and III are concerned with your opinions, ideas, and input about library environments and how they affect your children's services, programs, objectives, and goals. Part IV deals with your library education and training.

Your input, while voluntary, can greatly enhance the outcome of this survey. The survey is designed to protect the anonymity of each respondent. Codes on the return envelopes will only be used to track returns so that respondents need not be mailed follow-up questionnaires. *No identifying linkages are used to connected respondents with their questionnaires.* Reports of research findings will not associate individual respondents with specific responses or information.

The questionnaire should take approximately 20-30 minutes to complete. You indicate your voluntary agreement to participate by completing and returning this questionnaire. Please return the completed questionnaire in the enclosed stamped envelope. If you would like a summary of results of the survey please check the space marked "SUMMARY OF RESULTS REQUESTED" that is printed on the return envelope.

If there are any questions or further information is needed, please contact the research investigator: Pamela Banduric, 204 Human Ecology, Department of Human Environment and Design, Michigan State University, East Lansing, Michigan 48824-1030, (517) 353-0794 or (517) 351-9341.

Thank you for your time and assistance.

LIBRARY PROFILE: PART 1

The first section of this questionnaire asks for information about the size and physical make up of your library and, in particular, the children's department. Please answer each question as accurately as you can. If there is any other information regarding the physical environment of the children's department that you feel would be helpful to this study please use the space provided at the end of this section to write in additional comments.

1. What is the population size of your library's service area?

___ Under 12,000 (Classes I, II, III)
___ 12,000 - 25,999 (Class IV)
___ 26,000 - 49,999 (Class V)
___ 50,000 - 99,999 (Class VI)
___ 1000,000 AND OVER (Class VI)

* 2. Which of the following best describes the location of your library?

___ RURAL (Open country/No incorporated village)
___ SMALL TOWN (Population under 10,000)
___ LARGE TOWN (Population 10,000 - 25,000)
___ SMALL CITY (Population 25,001 - 50,000)
___ LARGE CITY (Population 50,001 - 100,000)
___ METRO AREA (Population 100,001 - 500,000)
___ LARGE METRO (Population over 500,000)
___ OTHER (Please Identify _____)

* 3. How many hours per week is the library open?

___ 0 to 30 HOURS
___ 31 to 40 HOURS
___ 41 to 50 HOURS
___ 51 to 55 HOURS
___ 56 HOURS OR MORE

* 4. Is the children's department open the same number of hours per week?

___ YES
___ NO, LESS HOURS PER WEEK
___ NO, MORE HOURS PER WEEK

* 5. How many full-time equivalent staff work in the children's department?

___ 0 - 2 EQUIVALENT FULL TIME STAFF
___ 3 - 4 EQUIVALENT FULL TIME STAFF
___ 5 - 6 EQUIVALENT FULL TIME STAFF
___ MORE THAN 6 EQUIVALENT FULL TIME STAFF

* 6. Which of the following physical descriptions best describes your library building?

___ ONE STORE, NO PUBLIC USE BASEMENT
___ ONE STORY, PLUS PUBLIC USE BASEMENT
___ TWO STORE, NO PUBLIC USE BASEMENT
___ TWO STORY, PLUS PUBLIC USE BASEMENT
___ MORE THAN TWO STORIES, NO PUBLIC USE BASEMENT
___ MORE THAN TWO STORIES, PLUS PUBLIC USE BASEMENT
___ OTHER (Please Identify _____)

7. Is the entire building contained within a building that houses other non-library tenants?

___ YES
___ NO

* 8. On what level is the children's department located?

___ BASEMENT
___ FIRST FLOOR
___ SECOND FLOOR
___ THIRD FLOOR
___ OTHER (Please Identify _____)

* 9. In relation to other departments and areas in the library, where is the children's department located?

___ SEPARATE ROOM (with full walls as dividers)
___ SEPARATE AREA (dividers but not full walls)
___ SEPARATE AREA (but no obvious spatial dividers)
___ SEPARATE BUILDING
___ OTHER (Please Identify _____)

10. What is the predominant geometric shape of your children's department?

___ SQUARE
___ RECTANGULAR
___ CIRCULAR/OVAL
___ "L" SHAPED
___ "T" SHAPED
___ "U" SHAPED
___ TWO OR MORE SEPARATE ROOMS
___ OTHER (Please Identify _____)

11. What is the approximate square footage of the physical space that is occupied by the children's department?

___ UNDER 500 SQUARE FEET
___ 501 TO 1000 SQUARE FEET
___ 1001 TO 1500 SQUARE FEET
___ 1501 TO 2000 SQUARE FEET
___ 2001 TO 3000 SQUARE FEET
___ OVER 3000 SQUARE FEET

*12. What is the maximum grade level served by the children's department?

___ THROUGH 5TH GRADE
___ THROUGH 6TH GRADE
___ THROUGH 7TH GRADE
___ THROUGH 8TH GRADE
___ THROUGH 9TH GRADE
___ THROUGH 12TH GRADE

*13. Does your children's department also serve toddlers and preschoolers?

___ YES, BOTH TODDLERS AND PRESCHOOLERS
___ PRESCHOOLERS ONLY
___ NO, SCHOOL AGE ONLY

14. Does the physical space within your children's area have distinct individual areas (space) for the following? (Check all that apply)

___ PICTURE BOOK AREA (Preschoolers and beginning readers)
___ ELEMENTARY SCHOOL AREA (3rd through 6th graders)
___ JUNIOR HIGH AREA (7th through 8th or 9th graders)
___ HIGH SCHOOL AREA

*15. Is the children's department visible to both children and adults from the main entrance?

___ YES
___ NO
___ PARTIALLY VISIBLE

*16. Is there a separate entrance into the children's department from the outside?

___ YES
___ NO

17. From the children's main point of entry into the building can the children's department be reached without passing through any other library areas (except the charge out/circulation desk area)?

___ YES
___ NO

*18. Is signage provided that a pre-reader can understand?

___ YES
___ NO

19. If YES to #18: "Signage is used that doesn't rely upon the printed media", please identify what is specifically used.

_____

_____

_____

_____

*20. How is the circulation of books and other materials in the children's department handled?

___ Separate charge out desk or station in children's department
___ Separate charge out desk or station for children's materials but located in main charge out area
___ One central charge out desk or station but a designated counter area for children's material
___ One central charge out desk or station with no designated area or space for children's materials
___ OTHER (Please Identify _____)

*21. Considering you charge out area used by children, what is the minimum height of the desk or station? (FILL IN NUMBER)

___ INCHES HIGH

*22. Are picture books and beginning reader books shelved with their covers facing out?

___ YES
___ NO
___ NOT SHELVED BUT LOCATED IN BOOK BOXES OR BINS

*23. Are the picture book shelves equipped with adjustable dividers?

___ YES
___ NO
___ SHELVES NOT USED FOR PICTURE BOOKS

24. Does the children's department have exterior windows?

___ YES, PROVIDE LIGHT ONLY, NO VIEW FOR CHILDREN
___ YES, PROVIDE LIGHT AND CHILDREN'S EYE LEVEL VIEW
___ NO

25. What is the floor covering within the children's department?

___ CARPETED THROUGHOUT
___ PARTIALLY CARPETED
(Please specify where: _____)
___ NOT CARPETED

26. Are public restrooms provided in the library?

___ YES
___ NO

27. Are separate restrooms for children provided?

___ YES
___ NO

28. If YES to questions #26 and #27:
Are the child sized fixtures in either/both of the restrooms?

___ YES
___ NO
___ QUESTIONS #26 AND #27 ARE ANSWERED NO

29. Are there provisions such as counter or table area for diaper changing in any of the restrooms?

___ YES
___ NO

30. Are public drinking fountains available?

___ YES
___ NO

31. If YES to question #30 above:
Are fountains mounted at heights reachable by young children?

___ YES
___ NO
___ QUESTION #30 IS ANSWERED NO

*32. Do you use volunteers in your library within the children's department?

___ YES
___ NO - GO TO QUESTION #34

33. If YES to #32:

Do the volunteers contribute to the physical environment in any of the following ways? (Please check all that apply)

___ DESIGN AND PLANNING OF THE SPACE
___ CREATE AND SET UP DISPLAYS AND/OR EXHIBITS
___ CONTRIBUTE AND/OR SELECT FURNISHINGS
___ CONTRIBUTE AND/OR SELECT ACCESSORIES
___ ARRANGE FURNITURE OR SPACES
___ MAINTENANCE OF SPACE
___ OTHER (Please Identify _____)

*34. Who is primarily responsible for maintaining the quality (day to day) of the interior spaces and physical environment in your children's department? (Please check only one)

___ SELF
___ OTHER LIBRARIANS ON STAFF
___ CUSTODIAL STAFF
___ LIBRARY AIDES
___ PROFESSIONAL DESIGNER
___ LIBRARY ASSOCIATION OR COOPERATIVE CONSULTANT
___ VOLUNTEERS
___ NO ONE CHARGED WITH RESPONSIBILITY
___ OTHER (Please Identify _____)

*35. Considering the children's department as it is today, who was primarily responsible for the design of the space, including finishes, furnishings, and arrangements when it was created? (Please check only one that apply)

___ ARCHITECT
___ PROFESSIONAL LIBRARY CONSULTANT
___ SELF
___ OTHER LIBRARIANS ON STAFF
___ PROFESSIONAL INTERIOR DESIGNER/SPACE PLANNER
___ UNCERTAIN
___ OTHER (Please Identify _____)

36. Please check the description that best fits the color scheme found within your children's department.

___ ONE OVERALL COLOR SCHEME THROUGHOUT THE DEPARTMENT
___ SEVERAL COLOR SCHEMES WITHIN THE DEPARTMENT
___ NO COLOR SCHEME
___ UNCERTAIN
___ OTHER (Please Identify _____)

37. What is the best physical feature in your children's department?

_____

_____

_____

_____

38. What is the worst physical feature in your children's department?

_____

_____

_____

_____

39. If you have any other information or comments about the physical environment of your children's library that you would like to add, please use the space provided.

_____

_____

_____

_____

_____

_____

_____

_____

LIBRARIANS ATTITUDES AND OPINIONS: PART II

Current library and education literature seems to indicate that the public library should play a role in promoting reading readiness, learning to read, and literacy skills. Please read and consider the following statements. For each statement decide if you **"DISAGREE STRONGLY"** (#1), **"SOMEWHAT DISAGREE"** (#2), **NEITHER AGREE NOT DISAGREE"** (#3), **"SOMEWHAT AGREE"** (#4), **STRONGLY AGREE"** (#5). Please circle the number which indicates how you feel about each statement. (Circle only one number for each statement)

		DISAGREE STRONGLY				**AGREE STRONGLY**
1.	I am interested in attracting children to the library.	**1**	**2**	**3**	**4**	**5**
2.	The library should be a place which encourages children to browse and spend time in the library.	**1**	**2**	**3**	**4**	**5**
3.	The public library has a role in helping to promote reading readiness in children.	**1**	**2**	**3**	**4**	**5**
4.	The public library has a role in helping to promote children's positive attitudes towards reading.	**1**	**2**	**3**	**4**	**5**
5.	The library should be a place for children to get books and materials, check them out, and leave.	**1**	**2**	**3**	**4**	**5**
6.	A child's attitude toward reading is an important factor in the child's learning to read.	**1**	**2**	**3**	**4**	**5**
* 7.	The physical environment that a person experiences can affect the attitudes of that person.	**1**	**2**	**3**	**4**	**5**
* 8.	The physical environment can help contribute to the perception of friendly service.	**1**	**2**	**3**	**4**	**5**
* 9.	The physical environment of a library can contribute to reaching library objectives and goals.	**1**	**2**	**3**	**4**	**5**
*10.	Architects and designers are more concerned with library aesthetics than the functions, objectives, and goals of librarians.	**1**	**2**	**3**	**4**	**5**
*11.	I am very knowledgeable about the topic of environmental design.	**1**	**2**	**3**	**4**	**5**

		DISAGREE STRONGLY				AGREE STRONGLY
12.	It is important to provide the following features within the physical environment of a children's library department:					
A.	Elbow room for a child (personal space)	1	2	3	4	5
B.	Ability for each child to establish his/her own "turf" (territoriality)	1	2	3	4	5
C.	Arrangements that provide for individual nooks and/or enclosure (privacy)	1	2	3	4	5
D.	Space that invites a child to explore the surroundings (exploration)	1	2	3	4	5

THE NEXT SEVERAL QUESTIONS ARE CONCERNED WITH LIBRARY AND ENVIRONMENTAL DESIGN INFORMATION. PLEASE CHECK THE ANSWER THAT YOU FEEL MOST ACCURATELY ANSWERS EACH QUESTION.

*13. What is your main source of information about environmental (interior) design and the physical space in your children's department? (Please check one only)

___ PROFESSIONAL LIBRARY JOURNALS
___ COLLEGE CLASSES AND COURSE WORK
___ PERSONAL EXPERIENCE
___ LIBRARY AND ASSOCIATION SPONSORED WORK SHOPS AND PROGRAMS
___ CONTINUING EDUCATION COURSES
___ TEACHERS AND EDUCATION SPECIALISTS
___ CHILDHOOD DEVELOPMENT SPECIALISTS
___ OTHER LIBRARIANS
___ NONE
___ OTHER (Please Identify _____)

*14. If you needed information about environmental (interior) design to help change or improve the physical space in your children's department which one of the following would you use? (Please check one only)

___ PROFESSIONAL LIBRARY JOURNALS
___ PRIOR EDUCATIONAL BACKGROUND/PERSONAL EXPERIENCE
___ WORKSHOPS, PROGRAMS AND/OR CONTINUING EDUCATION COURSES
___ TEACHERS AND/OR EDUCATION SPECIALISTS
___ CHILDHOOD DEVELOPMENT SPECIALISTS
___ OTHER LIBRARIANS
___ LIBRARY CONSULTANTS
___ READING AND LEARNING SPECIALISTS
___ ARCHITECTS
___ INTERIOR DESIGNERS
___ NONE OF THE ABOVE
___ OTHER (Please Identify _____)

15. Do you feel that you need more physical space in your children's department? (Larger children's department in terms of square footage)

___ YES
___ NO

16. Have you or your library every conducted an evaluation of the library's physical environment in the children's department?

___ YES - PLEASE GO TO QUESTION #17
___ NO - PLEASE GO TO QUESTION #21

17. What method(s) were used to collect data? (Check all that apply)

___ USER SURVEYS
___ PERSONAL INSPECTIONS BY LIBRARY STAFF
___ INFORMATION COLLECTION OF USER COMMENTS (Anecdotal data)
___ OBSERVATION OF USERS
___ COLLECTION OF PHYSICAL TRACES (Evidence of use)
___ OTHER (Please Identify _____)

18. Have you published or otherwise made available a summary of the information collected in this evaluation?

___ YES - PLEASE GO TO QUESTION #19
___ NO - PLEASE GO TO QUESTION #21

19. If YES to question #18 please cite publication data or other data related to availability of this information:

_____

_____

_____

20. If you have conducted such an evaluation but have no published or made the results available would you be willing to do so?

___ YES
___ NO
___ UNCERTAIN

21. If you answered NO to #16 (NEVER CONDUCTED AN EVALUATION) please check the reasons why you have not: (Please check all that apply)

___ TOO COSTLY/NO ALLOCATION IN BUDGET
___ NOT ENOUGH TIME
___ NOT ENOUGH STAFF
___ NEVER THOUGHT TO EVALUATE PHYSICAL SETTING
___ NOT SURE HOW TO CONDUCT ONE
___ NO STANDARD INSTRUMENT AVAILABLE
___ NOT IMPORTANT TO DO SUCH AN EVALUATION
___ OTHER (Please Identify _____)

22. If the reasons that you checked in #21 above could be resolved would you consider conducting an evaluation of the physical environment in your children's department?

___ YES
___ NO (Please specify why not _____)
___ UNCERTAIN

*23. If research data were available to help you make decisions about the design, planning, and use of the physical environment in your children's department would you make use of it?

___ YES
___ NO
___ UNCERTAIN

*24. If offered at a convenient time and location would you participate in programs or workshops to help you learn more about environmental design and how to apply that knowledge in your children's department?

___ YES
___ NO
___ UNCERTAIN

25. Have you ever used the services of professional interior designers for your children's department?

___ YES
___ NO

26. If NO to question #25:

Please check the answers that best reflect why not: (please check all that apply)

___ TOO COSTLY
___ DON'T KNOW ANY DESIGNERS
___ DESIGNERS DON'T KNOW ABOUT CHILDREN'S LIBRARY NEEDS
___ HAVE ENOUGH INFORMATION/TRAINING MYSELF TO DO JOB
___ OTHER (Please Identify _____)

27. If provided at no extra cost to your library would you use the services of a trained interior designers to help you crate and maintain the physical space in your children's department?

___ YES
___ NO
___ UNCERTAIN

28. Would you be more likely to take the advice of a trained interior designer if recommendations were supported with research data?

___ YES
___ NO
___ UNCERTAIN

29. To your knowledge is empirical (formal, scientific or proven) research data used as a basis for making decisions related to the layout and management of the physical environment in the children's department?

___ YES
___ NO
___ UNCERTAIN

30. On a scale of 1 to 7, with one being **"INFERIOR"** and 7 being **"SUPERIOR"** how would you rate the physical environment of your children's department?

1 2 3 4 5 6 7

31. Other than your own library, are you aware of children's departments within the Michigan Public Library system that you consider to be excellent and provide supportive, positive library environments for children?

___ YES (Please Identify _____)
___ NO

32. Does the physical environment in your children's department have any special or unique features which contribute to the overall quality of the department and environment?

___ YES (Please Describe _____)
___ NO

LIBRARIAN ASSESSMENT OF SUGGESTED DESIGN DIRECTIVES: PART III

As a children's librarian your ideas and assessments can provide information which could be helpful in establish design guidelines for children's libraries. The following lists contains suggestions and ideas that might be used in the design of a children's library department. Please read each statement carefully and consider whether you **"DISAGREE STRONGLY"** (#1), **"SOMEWHAT DISAGREE"** (#2), **NEITHER AGREE NOT DISAGREE"** (#3), **"SOMEWHAT AGREE"** (#4), **STRONGLY AGREE"** (#5). Please circle the number which indicates how you feel about each statement. (Circle only one number for each statement)

		DISAGREE STRONGLY				**AGREE STRONGLY**
1.	Small nooks (private spaces) should be provided within the children's department.	**1**	**2**	**3**	**4**	**5**
* 2.	Signage, understandable by pre-readers, should be in place in all areas of the library used by pre-readers.	**1**	**2**	**3**	**4**	**5**
3.	Multiple seating options to accommodate different seating preferences should be provided.	**1**	**2**	**3**	**4**	**5**
4.	Slope top reading tables with stools or benches should be included in the children's department.	**1**	**2**	**3**	**4**	**5**
* 5.	Children should use the same charge out desk that adults use.	**1**	**2**	**3**	**4**	**5**
6.	Soft, flexible furnishings that children can move around should be provided in the children's area.	**1**	**2**	**3**	**4**	**5**
7.	One major color scheme should be used throughout the children's department.	**1**	**2**	**3**	**4**	**5**
8.	Multi level areas within the children's department should be created for their use.	**1**	**2**	**3**	**4**	**5**
9.	Round tables should not be placed in the children's department.	**1**	**2**	**3**	**4**	**5**
10.	Small, child size, tables and chairs should be provided in all areas of the children's department.	**1**	**2**	**3**	**4**	**5**
*11.	Picture books and beginning reader books should be shelved with their covers facing out.	**1**	**2**	**3**	**4**	**5**

		DISAGREE STRONGLY				AGREE STRONGLY
12.	The flooring in the children's department should be hard surfaced rather than carpeted.	1	2	3	4	5
*13.	The children's department should be located in a separate room.	1	2	3	4	5
*14.	The children's department should be located on the ground floor.	1	2	3	4	5
15.	Spaces within the children's department should be arranged to allow the librarian visual control of all children using the area.	1	2	3	4	5
16.	All viewers should be able to see some portion of each display set up in the children's department.	1	2	3	4	5
*17.	The children's department should be visible from the child's primary entrance into the library.	1	2	3	4	5
*18.	There should be a separate entrance into the children's department from the outside.	1	2	3	4	5
*19.	The charge out desk used by children should be 30" high or less.	1	2	3	4	5
*20.	Picture books should be placed in book bins or boxes rather than on shelves.	1	2	3	4	5
21.	The library should have restrooms that are easily accessible to children.	1	2	3	4	5
*22.	Shelves used for picture and beginner reader books should have adjustable dividers.	1	2	3	4	5
23.	If adjustable dividers are used on picture book shelves they should be spaced approximately 6" apart.	1	2	3	4	5
24.	In the children's department, exterior windows should be placed at children's eye levels.	1	2	3	4	5
25.	Coat racks, at varying child heights, should be provided in children's department.	1	2	3	4	5
26.	Provisions within the physical environment of the children's department should be provided for children with disabilities.	1	2	3	4	5

LIBRARIAN DEMOGRAPHICS: **PART IV**

To complete the questionnaire please answer the remaining questions which deal with your education and professional experience as a librarian.

* 1. What is the highest level of education that you have completed?

___ SOME HIGH SCHOOL
___ HIGH SCHOOL GRADUATE
___ SOME COLLEGE
___ B.A./B.S.
___ MASTER'S
___ POST GRADUATE WORK
___ PH.D./ED.D
___ POST DOCTORAL WORK
___ OTHER (Please Identify _____)

* 2. Do you hold a Master's Degree in Library Science?

___ YES - PLEASE COMPLETE QUESTIONS #3, #4, #5, & #6.
___ NO - PLEASE GO TO QUESTION #7

3. If you answered YES to #2 please fill in the name of college/university which granted the degree:

_____

_____

* 4. At the time you received this degree was the program ALA Accredited?

___ YES
___ NO
___ UNCERTAIN

5. Is the program still ALA accredited?

___ YES
___ NO
___ UNCERTAIN
___ PROGRAM NO LONGER IN PLACE

* 6. Did your formal library training include a specialization or concentration in Children's/Youth Services?

___ YES
___ NO

7. Have you had specific course work in any of the following subjects? (Please check all that apply and if they were required for your degree).

TAKEN		REQUIRED
___	Educational Psychology	___
___	Child Development & Behavior	___
___	Learning Theory	___
___	Reading Theory & Development	___
___	Social Psychology	___
___	Non Verbal Communication	___
___	Environment & Behavior (Environmental Psychology)	___
___	Human Factors (Ergonomics)	___
___	Environmental Design (Space Planning & Interior Design)	___

* 8. During your professional career as a children's librarians have you taken any short term seminars, workshops, etc. directly related to the planning, design, arrangement, or operation of the physical environment of the children's department?

___ YES
___ NO - GO TO QUESTION #10

9. If YES to #8:

Please indicate the topics that were covered in these seminars and workshops (please check all that apply):

___ DISPLAYS/EXHIBITS
___ FURNITURE SELECTION
___ SPACE PLANNING
___ PHYSICAL ENVIRONMENTAL NEEDS OF CHILDREN
___ OTHER (Please Identify _____)

*10. How long have you served in your present capacity?

___ LESS THAN TWO YEARS
___ MORE THAN TWO BUT LESS THAN FIVE
___ FIVE OR MORE YEARS BUT LESS THAN TEN YEARS
___ TEN YEARS OR MORE

*11. How many total years of children's library experience within public libraries do you have? (Write in number of years)

___ YEARS

12. As a librarian, in what role(s) do you serve within your library? (Please check all that apply)

___ DIRECTOR
___ HEAD OF CHILDREN'S LIBRARY
___ CHILDREN'S LIBRARIAN

13. Do you plan to continue to practice within Children's Service during your professional career?

___ YES
___ NO
___ UNCERTAIN

*14. Please add any other concerns or comments you would like to share regarding children's library service and the planning, design, operations, and management of the physical environment within public libraries.

THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY.
YOUR TIME AND EFFORT ARE GREATLY APPRECIATED AND YOUR THOUGHTFUL INPUT MAY HELP TO IMPROVE CHILDREN'S LIBRARY SERVICE & CONTRIBUTE TO THE PROMOTION OF READING AND LITERACY.

IF YOU WOULD LIKE A SUMMARY OF SURVEY RESULTS, PLEASE BE SURE TO CHECK THE BACK OF THE SELF ADDRESSED STAMPED ENVELOPE
SURVEY RESULTS SHOULD BE AVAILABLE BY THE END OF 1992.

LIST OF REFERENCES

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