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A comparison of specialized foster home care and institutional care on cognitive development of children with special needs

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**A COMPARISON OF SPECIALIZED FOSTER HOME CARE
AND INSTITUTIONAL CARE
ON COGNITIVE DEVELOPMENT
OF CHILDREN WITH SPECIAL NEEDS**

A Thesis

Presented to

The Faculty of the Department of Occupational Therapy

San Jose State University

in Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Jennifer Shiverick Muise

December, 1994

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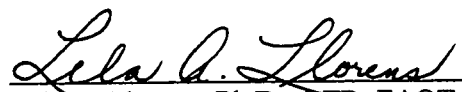
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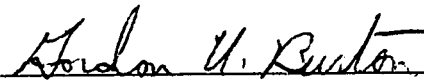
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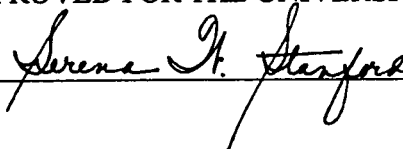


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ABSTRACT

A COMPARISON OF SPECIALIZED FOSTER HOME CARE AND INSTITUTIONAL CARE ON COGNITIVE DEVELOPMENT OF CHILDREN WITH SPECIAL NEEDS

by Jennifer Shiverick Muise

This study examined the quality of learning environments available to children with special needs ages three to six residing in foster home care or institutional care as related to future cognitive development. Ten caregiver-child pairs in the two environments were observed and informally interviewed during daily activities utilizing the Home Observation for Measurement of the Environment (HOME) assessment tool. Data was analyzed in terms of average subscale and total scores, and compared to pre-determined percentile range norms. Findings indicated minimal differences in total care available to children with special needs residing in either environment, demonstrating that each is suited to caring for such children. Subscale scores did differ and this is also discussed in the study. Possible implications of these findings upon placement of children into these settings are discussed, as is the need for future investigation into the learning environments available to children of all ages with special needs.

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The researcher would like to gratefully acknowledge her husband and her family, without whose loving support this would not have been possible. My thanks come from my heart.

This thesis and any resulting change in the care of children with special needs that it may facilitate is dedicated to Amy, the people who love her and all other special children everywhere.

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CHAPTER 1

INTRODUCTION

Purpose

Occupational therapy views cognition as a foundational component upon which future skills and function are dependent. Aspects of environments that support this development were the focus of the present study. The purpose of this study was to evaluate two distinct environments that serve children with special needs who are three to six years of age. The environments studied were a state institution for the multiply handicapped and a foster care agency for children with multiple disabilities. These residential environments were assessed for quantity and quality of social, emotional, and cognitive support available (Bradley & Caldwell, 1979). Each setting was evaluated for the learning environment accessible to children served. Percentages of support for child cognitive development that existed in each environment, according to scores on the Home Observation for Measurement of the Environment assessment tool (Appendix A) are presented.

Statement of the Problem

Research has identified the importance of the environment as a predictor of early childhood cognitive development. In occupational therapy, according to the Occupational Performance frame of reference, cognition is viewed as a performance skill component that allows for the eventual development of self-care, work/education and play/leisure skills (Christiansen, 1991).

The fact that all children, and especially those with special needs, are dependent upon others to create the environments in which they live, makes examination and regulation of the accessible environments essential. Kielhofner (1980) has clearly stated that a child's experience is directly influenced by the environment provided. The idea that opportunity

or lack of opportunity in the environment may affect a child's future exploration and performance made this study both relevant and overdue.

According to some studies, environment is considered to be more influential on later development than both socio-economic status (Aylward, 1992) and family structure (Bradley & Caldwell, 1977). Wachs, Uzgiris and Hunt (1971) developed a model that shows that environmental stimulation may serve to promote or retard certain processes or functions that are crucial for later cognitive development. However, research on environment-development relations is substantially lacking in the area of residential care of children with special needs.

Research Objectives

The objectives of this investigation were to:

1. Evaluate the learning environment available to children with special needs in the institutional care setting.
2. Evaluate the learning environment available to children with special needs in the home care setting.
3. Examine, in each environment, the environmental factors that exist in support of cognitive development for children with special needs, according to the Home Observation for Measurement of the Environment assessment tool (Appendix A).

Question

The question investigated was:

In the learning environments of the institutional care and home care settings, was there discernible support for cognitive development in each environmental factor studied, for children with special needs, according to the Home Observation for Measurement of the Environment assessment tool (Appendix A)?

Definitions

Definitions generated for this study are:

1. Children with special needs - In this study those referred to as persons who, due to impaired physical and/or mental capacities, resided within a state institution or a specialized foster care home. Children in this study had two or more impairments of physical or mental status and were three to six years old.
2. Cognitive development - The creation of a logical method of looking at the world, knowing and understanding. Cognitive development includes the eventual conscious process of awareness and knowledge of objects through perception, memory, reasoning, thinking, and judgment (Tiffany, 1988).
3. Discernible support - A higher percentage of positive over negative responses on the Home Observation for Measurement of the Environment assessment tool.
4. Environmental factors - Discrete aspects of the learning environment as defined by each of the eight subsections of the HOME.

5. Home care setting - Represented by specialized foster care services.
6. Home Observation for Measurement of the Environment assessment tool - [HOME (Appendix A)] An instrument developed by Bradley and Caldwell (1979) that measures the quantity and quality of social, emotional, and cognitive support available to children living in the environments studied. The HOME instrument is standardized and has been found to be both reliable and valid (Gottfried, Gottfried & Guerin, 1986).
7. Institutional care setting - In the present study, represented by an established state institution for the multiply handicapped.
8. Learning environment - The seemingly intangible qualities of person-person and person-object interaction that collectively comprise a child's environment (Caldwell & Snyder, 1978). In the present study, the learning environment consisted of eight discrete aspects of the environment as identified by the HOME subsections.
9. Percentage of support for cognitive development - Percentile range score rankings received in each and all of the subsections identified in the HOME. The higher the score and the ranking, the greater the support for child cognitive development that exists in that environmental aspect.
10. Percentile range score - Score converted directly from subsection and total raw scores. Conversion provided score rankings: lowest fourth, middle half and upper fourth as determined by the HOME scoring system.
11. Specialized foster care - In the present study, identified as an agency set up by the state that deals specifically with multiply disabled children in a home setting.

Assumptions

Assumptions in this study were that:

The researcher who entered into the environment studied did not affect it significantly, and that the researcher was able to observe an accurate representation of the “normal” learning environment available to the child with special needs who resided there.

Limitations

The Sample

The size of this study was small. Generalizations of the findings can not accurately be made to other residential care facilities. Data were gathered in California, limiting any potential generalization to one demographic area. The sample was one of convenience, meaning, the researcher chose facilities within a specific area, not for a specific research purpose.

The Subject Environments

Using facilities that serve a disabled population to determine subjects, one must consider that differences among the children could affect the overall results. The subject environments were chosen for the age of the children, and the presence of children with special needs. Disability was not a selection factor in this study, as the HOME specifically provides a measurement of environment, not of individuals who live there.

The Instrument

The HOME (Appendix A) was developed as a screening instrument for use with children at risk for developmental delay. It is typically used to evaluate the adequacy of

environmental stimulation available and to provide a framework for intervention implementation. The HOME was not designed to account for multiple caregivers. The format of the present study requires acknowledgment that the HOME was not utilized here in its traditional capacity; however, it was used as recommended to assess the environment from the perspective of the child in this investigation.

Significance of the Study

At the time this study was conducted, the literature revealed only a small body of research on the environments available in residential care facilities serving children with special needs. It appeared that with the increasing legislation for the disabled population in the past two decades, this subject had since moved out of the spotlight. One must take the time to realize, however, that although many individuals with disability reaped the rewards of these laws, many children with special needs remained in residential care settings, and many of them are wards of the court. It was these children and the environments in which they resided that appeared to have been forgotten by recent research. It is in these residential care settings that many occupational therapists are challenged to treat children with special needs. One of the most adaptable and influential aspects of the children's care is the environment in which they reside. An optimal learning environment can and should exist in residential care settings.

This study is relevant to occupational therapy in that it portrays an overall picture of two learning environments that exist where children with special needs reside. It delineates the aspects within the home care and institutional care settings that support child cognitive development. The present study can provide occupational therapists, and other concerned professionals and family members, with target areas for intervention and

improvement in the learning environments available to disabled children in residential care. It is these children who may benefit from similar and further investigation into the conditions in which they live.

CHAPTER 2

LITERATURE REVIEW

This literature review initially traces the development of the care of children, with the focus on children with special needs, in America, from the time of its founding to the present. Next, the review provides some background information on topics relevant to this study followed by a description of the conceptual frame of reference that guides it. Cognition is defined, followed by a presentation of the impact and influence of the caregiving environment. The biological and developmental effects of sensory restriction and deprivation are described and competence, as an integral part of development, is presented. The literature review concludes with a summary of these subjects.

Chronological History of the Care of Children in America

A review of the literature by Bremmer (1970, 1971) has facilitated the tracing of the care of children in America from the time of its founding to the present. When floods of colonists fled from their home-lands to find the great new country, "America," children were also an important part of this movement. Approximately one-third of the founders of Plymouth were children and youths. Child care and treatment in the United States began with the original discovery of the land.

Subsequently, in 1619, there was an effort to transport the poor and needy children from crowded areas of England to the colonies. The children were trained as apprentices or utilized as servants. The children were transported whether they wanted to move or

not. If the children resisted, the law of England supported their punishment, disposal, or imprisonment (Bremmer, 1970).

In colonial times, the father ruled the household, and the children were educated at home. A series of laws were designed to encourage parents to meet the responsibilities that society and the bible placed upon them. Parents were required to teach their children to read and to excel in a trade. As always, there were those children that were orphans who were left to care for themselves or taken as slaves. The colonists did attempt to care for the unwanted children and laws were sustained to punish those who gave birth to illegitimate children. Orphanmasters were assigned in each town to care for the children without parents. Orphans were frequently placed in foster homes; however, many problems were encountered when large massacres, natural disasters or epidemics occurred. For this reason, institutional care was created (Bremmer, 1970).

In 1642, in the United States, colonies began implementing laws to protect children, allowing the government to take children out of the homes of neglectful or abusive families. In 1710, many laws were passed that required poor children to be taught to read and write. Schooling moved out of the homes and into the schoolhouses, where attendance was required for all children (Bremmer, 1970).

In 1728, the first orphanage was founded in the United States in New Orleans. In 1731, 49 girls were living there. The French government often contributed funds for the well-being of these children and the orphanage. Poor children were put to work by the county governments if not in orphanages nor in foster care. Work houses were created

for such employment, and children were often taken from indigent parents and placed in these work houses (Bremmer, 1970).

The Age of Self-Help in the United States spanned the period from 1735 to 1820. Children were viewed during these times as individuals with feelings and thoughts of their own. Many colleges were established, and children began to have a voice in their desired futures. Children and youth at this time were considered more valuable than the elderly, as they were considered to hold the keys to the future of the country (Bremmer, 1970).

Industrial child labor began in America at the end of the eighteenth century. New large manufacturing industries would either hire entire families to work in exchange for housing and minimal wages, or would employ the children as part of a boardinghouse operation. Children seven years of age and older were employed under both these systems and worked ten to twelve hours per day. These systems were not regulated by legislation, and the focus on child education steadily diminished. The worth of children increased as it was felt that the more children a family had, the more money they could earn (Bremmer, 1970).

In the late eighteenth and early nineteenth centuries, binding out or apprenticeship remained the preferred way of caring for children who were dependent on the public for support. With the spread of slavery, it became more difficult to find homes for the very young children whose needs were considered to outweigh their worth. After 1840, however, humanitarian sentiment led to greater appreciation for the special needs of very young children. The majority of dependent children were maintained in their own homes

or boarded out at public expense after public auction. During the latter half of the century, the larger cities maintained almshouses which housed hundreds of paupers. Many of these paupers were children (Bremmer, 1970).

Prior to the 1800's, orphan homes or asylums for unfortunate children were rare. The first public state orphanage was founded in South Carolina in 1790. The great age of orphanage founding began after 1830. The orphanages were managed and operated by private associations, but received funding from public sources. Whether maintained at home, in almshouses, or orphan homes, poor children of suitable age were bound out to masters for work (Bremmer, 1970).

In the mid-nineteenth century, almshouse and orphan asylum represented the extremes of care for dependent children. By the 1850's the almshouse was viewed by many as a symbol of mismanagement, political corruption, and public apathy. States began to investigate conditions in these almshouses, and public opinion began to support that even the best almshouses were not appropriate places for children. Between 1847 and 1866 many states contributed large lump sums to private orphanages as a means of removing children from almshouses. Children were often placed in institutions before being moved to foster families as a method of training them and preventing future difficulties (Bremmer, 1970).

In 1865 the thirteenth amendment abolished slavery of any kind. During the second half of the nineteenth century, pediatrics as a branch of medicine and health care began to

develop. There was great focus on decreasing infant mortality as well as caring for the sick children of society (Bremmer, 1971).

Progress with the problems of mentally ill and mentally deficient children proceeded less rapidly than that of general pediatric medicine and health care. Institutions continued to proliferate, and the focus of society was still to get these children out of sight instead of attempting integration. By 1898, a total of twenty-four public institutions for the feeble-minded youth were maintained by nineteen states and one by New York City. Twenty years later, only four states had not supplied some institutional care for mentally retarded children. It was not until the 1920's that the nature of children's mental problems gained general understanding. Mentally disturbed or deficient children were no longer regarded as lost and alien creatures but as individuals with personal problems which demanded solution or alleviation. Institutions dealing with the maladies of children also increased in number. Movements to care, cure, and educate crippled children began in 1897 (Bremmer, 1971).

In 1912 the United States Children's Bureau was established and this began the most significant activity of the federal government in child health work (Bremmer, 1971). Prenatal care was stressed as the most powerful way to prevent infant and maternal mortality. Midwives were being educated. In the early twentieth century, the decrease in infant and child mortality was linked to the increased need for institutionalization and public care of children with special needs. Public opinion supported deinstitutionalization and foster care. It was felt that children were born a few at a time, not in litters, and as

such were not meant to be raised in large groups. The American Academy of Pediatrics which was founded in 1930 advanced pediatric research, and supported continued acceptance for improved standards for children from these years into the present (Bremmer, 1971).

Since the beginning of the twentieth century, there have been many changes in public opinion and legislation regarding the care of 'children with special needs', as they are referred to today. Deinstitutionalization has been the focus several times, and problems in foster care have been evident, yet the institutions and the foster care systems continue to exist and provide care for the children. Since the development of this country, there has been considerable research that has investigated institutional care and foster home care (Anderson, Lakin, Hill & Chen, 1992; Braddock, Fujiura, Hemp, Mitchell & Bachelder, 1991; Harwood & Ebrahim, 1992; Hayden, Lakin, Hill, Bruininks & Chen, 1992; Hirst, 1991; Infant Development Association, 1983; Kates, Johnson, Rader & Strieder, 1991; Lakin, Bruininks, Chen, Hill & Anderson, 1993; Pothier, 1983; Spiegel & Domanowski, 1983; Standiford, Ahlrichs, Carmicle & Wells, 1993), but little that compares the two and considers which is better for individual child development. Both methods of care exist today. They are often the two environments of choice when considering placement of a child with special needs outside of his/her biological family.

Frame of Reference

According to Kielhofner (1980), "The environment includes external objects, people, and events" (p. 574), all of which are considered to influence an individual's action and

performance. Kielhofner's model, the Model of Human Occupation, views the individual as an open system. This open system is composed of input, throughput, and output occurring within three subsystems: volitional, habituation, and performance; and within an environment. Input, or intake, is the process by which an organism takes in information and energy from the environment. Throughput is the conversion of incoming information or energy into some other form that may be used by the organism for maintenance purposes or to generate output. Throughput refers to the organization of incoming information or energy for utilization by the system. Output is the action, production or performance of the system, that which the organism does in and to the environment. Feedback is the return of information from the environment to the organism that delineates consequence or reward based on previous action. Feedback completes the open system cycle.

An open system is differentiated from a closed system by the assumption that an organism possesses an internal organization which determines overall function, that it interacts with the environment on many levels and that it has the ability to maintain or change itself. The open system maintains the potential for growth and for developing complexity (Kielhofner, 1985).

Kielhofner's model views function, not as determined by structure, but as a result of the "built-in or acquired goals of the system, the state of the structure, and the conditions in the environment" (Kielhofner, 1985, p. 5). The system and its environment are seen as inseparable as each continuously affects and changes the other.

According to the Model of Human Occupation, an infant is born already possessing an innate urge to explore and master the environment. From this innate urge, and the variety of opportunities available in the environment, comes the development of interests. From exploration of these interests and feedback from the environment, comes the evolution of

values. Initial interactions with the environment and the subsequent feedback supplied tend to create expectations of success or failure in the organism. Kielhofner labels this developmental pattern the volitional subsystem. A child quickly develops an internal image about self, ideally as a capable and competent agent in the world (Kielhofner, 1985).

The habituation subsystem consists of roles and habits. It guides the performance of routine patterns of behavior. Habits are the typical manners in which an individual performs or behaves. Roles define a person's individuality and the position he holds in society. Roles provide a source of identity. They may be self-defined, or as with young children, they may be defined by the surrounding environment and social systems with which the child interacts. These roles are developed to meet environmental expectation. Roles dictated by an individual's surrounding environment may be adaptive or maladaptive. Roles may encourage the expression of occupational behavior, or they may convey expectations of passivity or negative performance. A role of passivity may eventually lead to feelings and behaviors of helplessness and worthlessness, labels seen historically in reference to chronically ill or disabled populations. The performance subsystem, the last of the three, contains the components, or skills, which allow the individual to produce behavior or to interact with the environment (Kielhofner, 1985).

As an individual matures, "persons and objects within the environment provide the press for development within the subsystems." (Kielhofner, 1985, p.314). When the environment is inadequate, it has the potential to disrupt any or all of the subsystems identified. Ideally, development within each subsystem will provide a balance in an individual's life that will support confidence, competence and functional and adaptive occupational behavior or performance (Kielhofner, 1985).

Cognition

Occupational therapy views cognition as a foundational component upon which future skills and function are dependent. Cognition includes the ability to judge and make decisions, the skills of understanding and knowing, and an overall general environmental awareness. Cognition allows individuals to use and process any information perceived in order to think, reason and act. Common areas of identifiable cognitive deficit include problems in mental flexibility, ability to follow directions, to organize parts into a meaningful whole, to understand cause and effect, insight, initiation, planning and organization, abstraction, attention, memory, problem solving, and calculation abilities (Tiffany, 1988; Zoltan, 1990). Cognitive theorists such as Piaget and Bruner, as cited by Tiffany (1988), link cognitive development to intellectual development. These and other cognitive theorists view the environment as influencing the development and the individual capacity for cognitive functioning (Tiffany, 1988). A seven year longitudinal study by Gottfried, Gottfried, and Guerin (1986), which involved 130 children from middle-class families, found that the home environment provided during the preschool and school entry years was of significant importance to the children's cognitive development and early achievement. The effect of the environment was determined to be unique and could not be accounted for by the children's socioeconomic status or by maternal cognitive ability.

For many years it was thought that demographic variables such as parent education, social class, parent occupation, and family status were relevant to the development of child intelligence and cognitive capacities. However, studies conducted with adopted children have since indicated that substantial correlation between parental factors and cognitive development only occurs when the children are related to the parents (Honzik, 1967). Today, it is the overall average effect of the environment, as well as early stimulation and

biological determinants, that are supported in the literature as affecting cognitive development in children.

Even though research has demonstrated that physical, social, and temporal environments contribute to disability, current pediatric practice models continue to focus on deficit reduction and pay limited attention to the environment (Kalscheur, 1992). Jongbloed and Crichton (1990) stress that environments, both physical and social, can be as disabling as any developmental or performance component deficit.

The Influence of the Caregiving Environment

“With infants and children at risk, the environment, particularly the caregiver-child interaction, is probably the most important consideration, as the young child can develop competently only if the environment fosters development.” (Kielhofner, 1985, p. 313).

Mogford (1977) reported that the child with a mental or motor handicap has limited play resources of his own and is dependent on others to provide the necessary stimuli for play development. Research by Field and colleagues (1982) indicated that caregivers of disabled children tend to intervene more quickly than caregivers of non-disabled children, with the result of increased dependence on this intervention during play.

If the environment does not support or encourage play, or if play is not available, a child with physical disabilities may encounter secondary social, emotional, and psychological disabilities, according to Brown and Gordon (1987) and Missiuna and Pollock (1991). Some resultant secondary disabilities might include: increased dependence on others, decreased motivation, lack of assertiveness, and lowered self-esteem. Missiuna and Pollock (1991) view the child with physical disabilities who is deprived of normal play opportunities as already having a second disability that hinders the potential for independent behavior and performance.

Biological Effects of Sensory Deprivation

Schultz (1965) looked at play components, “including manipulation, exploration, activity, etc., as having in common the bringing about of an optimal level of sensory variation” (p. 30). White proposed that these three drives of manipulation, exploration and activity have much in common and that it is useful to bring them under the single heading of competence (White, 1959). Schultz discusses all such behaviors in terms of a single drive state which he calls “sensoristasis.” According to Schultz, sensoristasis is a drive state of cortical arousal which impels the organism to strive to maintain an optimal level of sensory variation. It is a condition which may vary, but which is relatively constant. Thus, sensoristasis is concerned with a fluctuating range of optimal arousal. The reticular activating system is believed to be the monitor for regulating sensoristatic balance. The reticular activating system effects human attention, perception and motivation. When there is decreased input to this system, its normal relationship with the brain is disturbed, thus producing both behavioral and physiological effects. Following sensory deprivation, humans have demonstrated various effects including impaired cognitive abilities, hallucinations, decreased fine-and gross-motor abilities, physiological changes, affective changes and decreased attention (Zubek, 1964).

Schultz (1965) makes several predictions based on the sensoristatic model that relate to environmental quality. He makes several points. 1) A decrease in sensory input will lead to a change in activation level. 2) The sensoristatic drive is induced by conditions of restricted sensory input and variation. 3) When sensoristatic balance is disturbed, there will be resulting deficits in functioning (i.e., perception, cognition, and learning). 4) Sensory variation and input are reinforcing. 5) Organisms have needs for sensory variation. 6) Patterning of sensory stimulation is as important as the level of stimulation.

Studies on the effects of sensory restriction have verified the importance of sensory input and variation on the overall functioning of an organism. Stimulation from the environment has been shown to be a prerequisite for growth and development.

Hebb (1949) studied the neurophysiological basis of intellectual growth, and concluded that experience is an essential mediator of neural connections and a requirement for the formation of “cell assemblies.” These “assemblies” become relatively fixed functional units whose sequence and phasing in the associative cortex can only be formed by receptor inputs (i.e., sensory experience). Thus, it is the earliest experience or “primary” learning which forms much of the pattern for later information-processing capability in the human system (Hunt, 1964).

Some studies have shown specific neural and structural changes in an organism when stimulation from a particular sense organ is withheld. Most research of this type has been conducted on the eye, however, studies decreasing other sensory inputs have shown structural changes as well (Nissen, Chow & Semmes, 1951). A look at animal studies reviewed by Freeberg and Payne (1967) lend substantial support to the importance of early environment on the development of several factors. Rats reared in darkness take longer to learn pattern discrimination than normal, and chimps reared in a darkened room fail initially to show normal responses to moving objects in the visual field. Pets (cats and dogs) reared in the home perform better in learning situations than laboratory-reared animals. In addition, animals provided with the early experience of living with a variety of objects in their cages perform better in later learning situations and with less emotional interference than animals not exposed to such variations in the stimulus environment.

This improvement is evidenced by “a) superior learning ability on a variety of tasks, (b) neurochemical changes known to facilitate learning, and (c) increased quantity (weight) of cortical tissue in brain areas *specific* to those aspects of sensory stimulation provided by

the environmental variables (e.g., greater development of the occipital cortex was related to greater environmental visual stimulation)” (Freeberg & Payne, 1967, p. 67). The degree and permanence of this retardation depend largely upon the extent of deprivation. It is implied that if stimulation from the environment is too low, that the organism will work to seek the lacking stimulation, and if the stimulation can not be found, that the system will virtually shut down. If stimulation is too excessive either in complexity or energy level, then the organism will withdraw or exhibit disturbed behavior (Riesen & Zilbert, 1975).

Developmental Effects of the Restricted Environment

Evidence suggests that a disproportionate number of children who live in conditions of poverty show developmental retardation. It has been suggested that low quality environmental inputs to the poverty-level child may be an important factor in the etiology of retardation. In a study by Ramey, Mills, Campbell and O'Brien (1975), the environments of 30 infants at risk for developmental delay were compared to the environments of 30 infants from the general population, not considered at risk. The two environments were examined using the HOME (Appendix A). Significant differences were found between the two, all in favor of the general population.

Previous research has demonstrated that environmental deficits may exacerbate biological problems (Bradley & Caldwell, 1979). As these deficits and overall environmental quality may determine to a large degree the actual developmental risk for a child, it would appear that this is a domain that deserves the attention of further research, and consideration by the public.

Competence in Development

Kielhofner (1985) defines competence as “Striving to be adequate to the demands of a situation by improving and/or shaping oneself to environmental tasks and expectations. Competence results in the development of new skills” (p. 65).

Functional performance of work, play and/or self-care is viewed as a measure of competence in Occupational Therapy. In childhood, the prescribed vehicle for work is play (Christiansen, 1991). Play is used as a primary measure of competence and development. It is a major indicator of productive occupational behavior in childhood (Schaaf & Mulrooney, 1989). Traditionally, occupational therapy for children focuses not only on the intervention, but also directly on environmental adaptations that will enhance the competence of the child (Schaaf & Mulrooney, 1989). As facilitators of the play process of children, occupational therapists must consider a variety of factors, including the individual capabilities of the child, the role of caregivers and peers, adaptation of toys, and the impact of environment and setting (Missiuna & Pollock, 1991).

Research by Yarrow and colleagues (1973) indicated that early motivational dispositions that affect acquisition of competence are strongly influenced by environmental factors. White (1959) defined competence as effective interaction with the environment.

Kalscheur (1992) has stated, “competence and autonomy, through the process of development, are learned as children interact within their natural environments.” Rogers described the qualities of the environment as important “enablers” of human performance (Christiansen, 1991). Children develop skills in sensorimotor, cognitive, psychological, and psychosocial performance components in order to achieve competence in task behaviors. Cognitive immaturity may lead to many “illogical” ideas about the world (Papalia & Olds, 1992). Cognitive development may also affect moral development according to a study by Taylor and Achenbach (1975). An optimal environment should

support and encourage the acquisition of competence and autonomy in the individual. Competence, autonomy and environmental support are requisites for any degree of functional independence in children and adolescents with disabilities (Kalscheur, 1992).

Summary

The literature concerning the development of the care of children in America traced the growth of this system from the 1600s into the present. It traced a common coexistence between the institutional care and the home care of children dependent on the government. Kielhofner's Model of Human Occupation supports the idea that the environment affects the individual just as the individual affects the environment in a mutual open system dynamic. According to this model, the individual may only receive what is available in the environment and as such is dependent upon the environment that is provided for input and development. Cognition is defined, and the effect of the environment on cognitive development is stressed. The influence of the caregiving environment was discussed, and the dependence of disabled children on the provision of an adequate learning environment was explored through the literature. The biological and developmental effects of sensory deprivation and restricted environment was also discussed. The review of the literature was completed with a description of the relationship between cognition, competence and development of function. The literature revealed no research comparing the learning environments available to children with special needs in the foster home care and institutional care settings.

CHAPTER 3
DESIGN AND METHODOLOGY

Purpose and Design

The purpose of this study was to evaluate two distinct environments that serve children with special needs aged three to six years and to assess each for quantity and quality of social, emotional, and cognitive support available (Bradley & Caldwell, 1979). Due to the lack of existing research in the area, the intent of the researcher was to gather information from a small sample to determine whether more extensive research would be recommended. This was a pilot study. A non-experimental, case study approach was employed to investigate two environments in which children with special needs can be found.

Objectives

The objectives of this investigation were to:

1. Evaluate the learning environment available to children with special needs in the institutional care setting.
2. Evaluate the learning environment available to children with special needs in the specialized foster home care setting.
3. Examine, in each environment, the environmental factors that exist in support of cognitive development for children with special needs, according to the Home Observation for Measurement of the Environment (Appendix A) assessment tool.

Question

The question investigated was:

In the learning environments of the institutional care and home care settings, was there discernible support for cognitive development in each environmental factor studied, for children with special needs, according to the Home Observation for Measurement of the Environment assessment tool (Appendix A)?

Subjects

This study examined two environments where children with special needs can be found, and five caregiver-child pairs in each setting. The chosen environments of study were a state institution for the multiply handicapped and a foster care agency serving children with multiple disabilities. Letters requesting permission to conduct research (Appendix B) were mailed and permission was granted from these facilities. In order to maintain the confidentiality requested, these letters granting permission have been placed in a confidential file. Appropriate caregiver subjects were selected by program administrators according to the following study criteria: 1) Caregivers must have cared for children with special needs on a weekly basis at minimum; 2) The children for whom they cared must have been between the ages of three and six years; 3) The children must have been multiply handicapped, meaning they had two or more impairments of physical or mental status; and 4) Caregivers must have been eighteen years old or older and must have voluntarily agreed to participate in the study. The child's impairment etiology was not a factor. Gender was not a selection criterion, nor was the length of time a child had resided in the facility. Each caregiver was given and asked to sign a consent form (Appendix C), indicating that confidentiality would be maintained throughout the study. Only those willing to participate in the study were asked to do so by the researcher.

Methodology

Once caregiver subjects had been selected by each facility and had agreed to participate, they were contacted by the researcher by phone in the case of foster care, or contacted in person in the case of institutional care. The method of contact was decided by each facility and caregiver. Once contact was established, the researcher and caregiver subject together set an appointment for the observation to take place, approximately one hour. Caregiver-child pairs were assessed, in the child's place of residence, during some daily activity so that the researcher did not obstruct the "normal" routine. Activities observed included feeding, changing, dressing, and playing.

The instrument used was the Home Observation for Measurement of the Environment (HOME), Preschool Version (Appendix A). Verbal permission to use the instrument in research was attained by the researcher (Appendix D). The HOME was employed in both environments studied. This instrument was developed as a screening tool to assess potential developmental risk in children ages three to six, through measurement of several environmental factors (Caldwell & Snyder, 1978). The preschool version of the HOME has eight subscales. Types of environmental dimensions assessed by this version of the HOME include: stimulation through toys, games and reading materials; "language stimulation"; "physical environment"; pride, affection and warmth; stimulation of academic behavior; "modeling" and encouragement of social maturity; variety of stimulation; and physical punishment. This test is standardized, and has been shown to be both reliable and valid (Gottfried, Gottfried & Guerin, 1986).

Procedure and Instrument

The HOME provides a method by which, through observation and interview, the researcher is able to rate specific aspects of the care environment in a biserial yes or no

format. The HOME inventory (Appendix A) is one of the most widely used environmental process measures (Bradley & Caldwell, 1979). During a single appointment with the caregiver, the HOME was administered. The researcher attempted to find an unobtrusive spot in the caregiving environment from which to observe the caregiver and child interact. From this position, the researcher scored as many areas on the HOME as was possible through observation. Any information that was not gathered from observation alone was asked of the caregiver in an unstructured interview format. The unstructured interview followed the guidelines provided in the HOME instruction manual (Caldwell & Bradley, 1984).

All paperwork created and data collected during each interview contained no identifying information. Each appointment was identified by a single number. Each caregiving environment was identified by one of two colors.

Each appointment with a caregiver subject lasted approximately one hour total. The observation and interview were completed within this time. Each item on the HOME was scored before the appointment ended, to avoid errors in the data sets. The researcher offered each caregiver subject additional time to discuss general information about the study. Specific findings were not revealed at that time. The caregivers and participating facilities were given access to the final study report, if desired.

Data Analysis

When all caregiver appointments were completed, the researcher added each item score to determine the eight subsection totals. These subsection totals were each converted into percentile ranges as demonstrated in the HOME instruction booklet. The subsection raw score totals were also added to determine a total raw score for each caregiver-child pair. This score was then converted to a percentile range.

After scores were recorded for each caregiver-child pair, averages were determined from the raw scores collected for each of the eight subsections. Averages were determined separately for each of the two environments studied. An overall average total raw score was calculated for each.

Finally, average raw scores and percentile ranges were compared between the two environments studied. Individual caregiver scores were not compared. The researcher interpreted the raw scores and percentile ranges in terms of what each environment offered the children served. The percentage of support for child cognitive development, in each environment studied, was examined, according to scores received on the subsections and total HOME. Percentage of support for child cognitive development was determined by analyzing the equivalent differences and similarities using the HOME subscales within the two facilities. An analysis of these similarities and differences is reported in Chapter 5.

CHAPTER 4

DATA AND RESULTS

The eight subsection and total scores of each caregiver-child pair are presented according to type of environment using fictitious initials in table and descriptive formats. Subsections were determined using the Home Observation for Measurement of the Environment assessment tool (Appendix A). The eight subsections include: “learning stimulation”; “language stimulation”; “physical environment”; “affection and warmth”; “academic stimulation”; “modeling”; “variety of stimulation”; and “acceptance.” Results of the study are presented to answer the research question: In the learning environments of the institutional care and home care settings, was there discernible support for cognitive development in each environmental factor studied, for children with special needs, according to the Home Observation for Measurement of the Environment assessment tool (Appendix A). Results of the study are based upon scores received by caregiver-child pairs and total scores received by each of the two care environments during observation and informal interview utilizing the HOME.

Institutional Care Environment

First Caregiver-Child Pair “I-1”

The first caregiver-child pair observed in the institutional care setting received a perfect score in the areas of “physical environment” (7 points) and “acceptance” (4 points). “Acceptance,” as a subsection of the HOME, measures the amount of scolding and/or

physical punishment observed during the assessment. This pair earned nine of a possible eleven points in the subsection of “learning stimulation.” One point each was lost for a lack of toys requiring refined movement, and the fact that the caregiver stated that she never read the newspaper. The children’s unit of the institution was very safe, and each child had a large amount of space to him/herself. The rooms were not overcrowded with furniture, and the entire unit was clean and uncluttered. The first pair observed earned four points of a possible seven for “language stimulation.” Although the caregiver did not speak very much English, her speech was grammatically correct and no points were lost. Points in this subsection were lost for the lack of choice the child had in the meal menu, as well as the method by which the caregiver did her job but did not take time to listen to the child. This caregiver did not encourage the child’s speech nor simple manners like please and thank you. The first caregiver-child pair received four of nine points in the subsection “variety in experience.” Points were lost due to a lack of travel, outside journeys, meals eaten with caregiver, trips to the grocery store, and trips to museums. The four points that were earned were one each for a toy musical instrument, an outing taken every other week, encouragement to clean up toys and the display of the child’s artwork in her room. Three of five points were scored in the subsection of “academic stimulation.” The child observed was blind and as such was not encouraged to learn colors or to read (including any attempt at Braille, etc.). Four of seven points were accumulated for “warmth and affection.” The child was caressed and kissed, the caregiver helped her to demonstrate

Table 1

Institutional Care Setting Data

HOME Subsections (max. score)	I-1	I-2	I-3	I-4	I-5
Learning stimulation (11)	9	7	8	6	11
Language Stimulation (7)	4	4	5	3	6
Physical environment (7)	7	7	7	7	7
Warmth and Affection (7)	4	2	5	2	7
Academic Stimulation (5)	3	4	4	2	5
Modeling Social Maturity (5)	4	4	4	3	4
Variety in Experience (9)	4	4	4	2	5
Acceptance (4)	4	4	4	4	4
TOTAL SCORE (55)	39	36	41	29	49

an achievement, the caregiver held the child frequently and conversed with her at least twice during the visit. The caregiver, however, did not answer the child's vocalizations, respond verbally to her requests, nor praise the child twice during the visit, all important interactions especially when dealing with a blind child. Four of five points were scored for the subsection "modeling." One point was lost when the caregiver did not introduce the child to the researcher. Pair I-1 received a total score of 39 of a possible 55. A summary of the scores for I-1 can be found in Table 1.

Second Caregiver-Child Pair "I-2"

The second caregiver-child pair observed was I-2. This pair received a perfect "physical environment" score in the institutional care environment. In the subsection of "acceptance," this pair earned a perfect score of four. Pair I-2 scored seven of eleven points for "learning stimulation." The child in this pair had access to toys that taught shape, size, and color; he had more than three puzzles, at least five records, ten books and toys to teach numbers. Points were lost for lack of caregiver reading of a daily newspaper, and subscription to a magazine. The child had no access to toys requiring refined movements, or toys permitting free expression. In the subsection of "language stimulation," four of seven points were scored. Points were earned for toys teaching the names of animals, encouragement of the child to learn the alphabet, caregiver's use of grammar, and a positive feeling between caregiver and child expressed in the caregiver's voice. Points were lost due to a lack of teaching manners to the child, the caregiver's

neglecting to listen to the child, and a lack of child choice in the menu. This caregiver-child pair lost several points, scoring two of seven possible points, in the subsection of “warmth and affection.” The child was reported to have been held fifteen minutes a day, and was caressed during the visit, but the child was not praised, responded to, conversed with, or answered during the one hour observation/interview. For the “academic stimulation” subsection, the pair only lost one of five points, that point was lost due to the lack of encouragement for the child to read. In the subsection, “modeling,” one point was lost for excessive use of television throughout the day. All other “modeling” points were earned. This pair earned four of nine points for “variety in experience.” This pair was found to lack trips to the museum or to the grocery store. This child had not traveled on vacation over 50 miles in the past year. This pair lost a point due to the child and caregiver eating meals separately. Pair I-2 received a total score of 36 of a possible 55. A summary of scores for I-2 can be found in Table 1.

Third Caregiver-Child Pair “I-3”

The third caregiver-child pair observed in the institutional setting was unique. In this case one caregiver did not remain with the child for one full hour. Instead, this pair included three to five caregivers who all provided care to this one child during the visit. Scoring was completed as though all five caregivers were combined into one, the points were scored from the child’s experience in the environment. As with the other pairs observed in the institutional care setting, this pair earned a perfect score for “physical

environment” (7 points) and “acceptance” (4 points). Eight of eleven points were scored for this pair in “learning stimulation.” In this case, the child had toys and games to teach numbers and colors. The child had access to more than ten books, and more than five records. The caregivers interacting with this child did, on average, report reading a daily newspaper and subscribing to at least one magazine. Five of seven points were scored for “language stimulation.” Again, the child was not encouraged to learn simple verbal manners nor did she have a choice in menu. Otherwise, all items in this subsection earned points. One point was lost in the “academic stimulation” subsection, due to the lack of encouragement to read a few words. Five of seven points were earned for “warmth and affection,” two were lost by all caregivers in this pair for not holding the child fifteen minutes a day, and for not helping the child demonstrate an achievement during the visit. “Modeling” earned a score of four of a possible five points. Again, television was observed to be used excessively in this environment. In the subsection, “variety in experience,” the pair earned four of a possible nine points, again for lack of travel, visits to museums, and visits to the grocery store. Points in this case were also lost for the child not eating meals with caregivers, and not being encouraged to put away toys during the time of observation. Pair I-3 received a total score of 41 of a possible score of 55. A summary of the scores for I-3 can be found in Table 1.

Fourth Caregiver-Child Pair "I-4"

The fourth caregiver-child pair observed in the institutional care setting also had more than one caregiver who provided care for the child during the hour observation and interview. A perfect score was received by this pair in the subsections of "physical environment" (7 points) and "acceptance" (4 points). Six of eleven points were received by this pair in the subsection of "learning stimulation." This child was not observed to be encouraged to learn shapes, did not have games requiring refined movements, and did not have access to materials allowing for free expression. This child's caregivers did not read a daily newspaper nor subscribe to a magazine of any sort. In the subsection of "language stimulation," this pair earned three of a possible seven points. The child was not taught simple verbal manners, the caregivers did not use correct grammar around the child, nor encourage him to vocalize. The caregivers spoke highly of the child and encouraged him to learn the names of animals and the letters of the alphabet during the hour observation. This pair only earned two out of seven points for "warmth and affection." The points were scored for holding the child fifteen minutes a day and for caressing the child during the visit. Otherwise, the child was not responded to, or interacted with on a purely social level. The caregiver was observed to teach the child throughout the visit; however, the child was not actively assisted in demonstrating some achievement during the observation hour. In "modeling," this pair lost only two points, one for excessive use of television and one for neglecting to introduce child and researcher to each other. This pair earned two out of nine points for "variety in experience," one for owning a toy musical instrument and

another for the complex vocabulary of the caregivers. Otherwise, this child never left the institution, according to the caregivers. Pair I-4 received a total score of 29 of a possible score of 55. A summary of scores for I-4 can be found in Table 1.

Fifth Caregiver-Child Pair "I-5"

The fifth caregiver-child pair earned perfect scores in the subsections of "learning stimulation" (11 points), "warmth and affection" (7 points), "academic stimulation" (5 points), "physical environment" (7 points), and "acceptance" (4 points). This child was verbal. This pair lost one point in the area of "language stimulation" for lack of child choice in menu. One point was lost in the subsection of "modeling," because of excessive use of television during the observation. Five of nine points were earned by this pair in the "variety in experience" subsection. This child was taken on outings every other week, and had a toy musical instrument. She was encouraged to put away toys and had some artwork displayed in her room. This pair lost points for lack of distant journeys, lack of visits to the grocery store, caregiver and child eating separately, and lack of a trip to a museum. Pair I-5 received a total score of 49 of a possible score of 55. A summary of scores for I-5 can be found in Table 1.

Foster Care Environment

First Caregiver-Child Pair "F-1"

The first caregiver-child pair observed in the foster care setting was a four year old girl and her foster mother. This pair received a perfect score in the subsections of "learning stimulation," "warmth and affection," and "acceptance." Six of a possible seven points were earned for "language stimulation." One point was lost in this area for a lack of teaching the child the alphabet. This pair earned five of seven points in "physical environment." The home was in a somewhat rundown neighborhood and there was less than 100 square feet of living space per person. Two out of five points were earned in the area of "academic stimulation." The child was not encouraged to learn colors, spatial relationships nor to read a few words. Four of five points were scored in "modeling"; the child was never introduced to the researcher. Five of nine points were scored for "variety in experience." This child was taken on an outing every week, and had been out of the country on vacation during the past year. She had not been to a museum, however. Artwork produced by this child was not displayed in the home, and she did not eat at least one meal daily with her caregivers. This child was not encouraged to put away her toys, but she was permitted to choose foods at the grocery store according to the caregiver. Pair F-1 received a total score of 44 of a possible score of 55. A summary of scores for F-1 can be found in Table 2.

Table 2

Foster Home Care Setting Data

HOME Subsections (max. score)	F-1	F-2	F-3	F-4	F-5
Learning Stimulation (11)	11	11	8	10	9
Language Stimulation (7)	6	6	5	7	7
Physical Environment (7)	5	6	5	6	4
Warmth and Affection (7)	7	4	5	7	7
Academic Stimulation (5)	2	5	3	5	5
Modeling Social Maturity (5)	4	4	5	5	5
Variety in Experience (9)	5	5	4	8	6
Acceptance (4)	4	3	4	4	4
TOTAL SCORE (55)	44	44	39	52	47

Second Caregiver-Child Pair "F-2"

The second caregiver-child pair in the foster home care setting received perfect scores in the areas of "learning stimulation" (11 points), and "academic stimulation" (5 points). In the subsection of "language stimulation" one point of seven was lost for the lack of choice child had in the menu. One point was also lost in the "physical environment" subsection, for less than 100 square feet of living space per person. Four of seven points were scored for "warmth and affection." The subject child was not held fifteen minutes per day according to caregiver report and was not caressed, kissed or cuddled during the visit. This child was not helped to demonstrate an achievement during the visit. Points in this subsection were earned for the frequency with which the caregiver verbally responded to the child's vocalizations, the praise offered by the caregiver regarding the child, and the caregiver conversing with the child more than two times during the hour visit. In the subsection of "modeling," four of five possible points were earned, one was lost for neglecting to introduce the child to the researcher. Five of nine points were scored in "variety in experience." This child was taken on an outing every other week, had traveled more than fifty miles in the past year on vacation, and was encouraged to put away toys during the visit. Points were lost in this section for not having been to a museum in the past year, not having art work displayed in the home, not eating meals with caregivers, and not having chosen foods in the grocery store. In this caregiver-child pair one point was lost in the subsection "acceptance." This child was verbally scolded twice during the

hour observation, once more than is allowed on this item. Pair F-2 received a total score of 44 of a possible score of 55. A summary of scores for F-2 can be found in Table 2.

Third Caregiver-Child Pair "F-3"

The third caregiver-child pair observed earned perfect scores in the subsections of "modeling" (5 points) and "acceptance" (4 points). Eight of eleven points were scored for "learning stimulation," the points lost were for lack of three or more puzzles, lack of toys permitting free expression, and lack of ten or more children's books. This pair earned points in this subsection for daily reading of the newspaper, subscription to a magazine, encouragement of child to learn shapes, child access to at least five children's records, and toys that teach color, size, and shape. Five of seven points were scored in the subsection of "language stimulation." The two points lost were for not teaching the child simple verbal manners and for not permitting the child choice in menu. Five of seven points were earned by this pair for "physical environment." Having less than 100 square feet of living space per person lost this pair a point, with another point lost for overcrowding with furniture in the home. Five of seven points were earned for "warmth and affection." This pair displayed holding, cuddling, and verbal response to each other, but lost two points for the caregiver's neglecting to praise the child's qualities twice during the visit and not helping the child to demonstrate some achievement during the hour. Three out of five points were scored for "academic stimulation." Points were earned for teaching the child colors, patterned speech and spatial relationships. Points were lost for not encouraging

the child to learn numbers or to read a few words. Four of a possible nine points were earned in the subsection of “variety in experience.” Points in this section were earned for taking the child on an outing at least every other week, for taking a trip with the child fifty miles away or more, and for use of complex vocabulary and sentence structure by the caregiver. Points were lost for lack of travel to a museum, for lack of choice by the child in the grocery store, for not eating one meal daily with the caregivers, for not encouraging the child to put away toys, and for lack of display of artwork by child in the home. Pair F-3 received a total score of 39 of a possible score of 55. For a summary of scores for F-3 please refer to Table 2.

Fourth Caregiver-Child Pair “F-4”

The fourth caregiver-child pair in the foster home care setting earned perfect scores in the subsections of “language stimulation” (7 points), “warmth and affection” (7 points), “academic stimulation” (5 points), “modeling” (5 points), and “acceptance” (4 points). Ten of a possible eleven points were scored in “learning stimulation,” one point was lost for the parents’ report of not reading a daily newspaper. One point out of seven was lost in “modeling,” that point being for less than 100 square feet of living space per person in the home. Eight of nine points were earned by this pair in the area of “variety in experience.” One point was lost for caregiver not eating at least one meal daily with the child. Pair F-4 received a total score of 52 of a possible score of 55. A summary of scores for F-4 can be found in Table 2.

Fifth Caregiver-Child Pair "F-5"

The fifth caregiver-child pair observed in the foster home care setting received perfect scores in the subsections of "language stimulation" (7 points), "warmth and affection" (7 points), "academic stimulation" (5 points), "modeling" (5 points) and "acceptance" (4 points). Nine of eleven possible points were earned for "learning stimulation." Two points were lost due to the lack of child materials allowing for free expression and lack of at least ten children's books. Three of seven points were lost in the subsection of "physical environment" for a rundown neighborhood, less than 100 square feet of living space per person, and overcrowding in rooms with furniture. Six of nine points were scored for this pair in "variety in experience." Points were lost for lack of trips to a museum in the past year, lack of display of child's art work in home, and lack of choice the child has in the grocery store. Scores earned for "variety in experience" included the child's possession of a toy musical instrument, outings taken with the child every other week, a trip over 50 miles away in the past year, daily meals with child and caregivers together, and encouragement of the child to put away toys during the hour observation. Pair F-5 received a total score of 47 of a possible score of 55. A summary of scores received by F-5 can be found in Table 2.

Results

The question to be answered by this study was: In the learning environments of the institutional care and home care settings, was there discernible support for cognitive

development in each environmental factor studied, for children with special needs, according to the Home Observation for Measurement of the Environment (Appendix A) assessment tool?

The environments differed in the amount of support as evidenced by each subsection score for the cognitive development of the children. In “language stimulation” and “academic stimulation,” both environments were shown to score in the middle half of the norm range. In “modeling social maturity” and “acceptance,” both the foster home care and institutional pairs scored in the upper fourth of the norm range established by the HOME (Appendix A). In “learning stimulation,” the institutional pairs scored in the middle half of the norm range and the foster home care pairs scored in the upper fourth of the range. In the subsection, “physical environment,” institutional care pairs scored in the upper fourth of the norm range, while the foster care pairs scored in the middle half of the range. In “warmth and affection,” the foster home care setting pairs scored within the upper fourth of the norm range, while the institutional care pairs scored in the middle half of the range. In the subsection “variety in experience,” the foster home care pairs scored in the middle half of the norm range, while the institutional care pairs scored in the lowest fourth of the range.

In response to the original research question, there was one subsection, “variety in experience,” in which the institutional care facility scored below the middle half of the norm range for the HOME. This was the one environmental factor that did not show

evidence for discernible support for cognitive development in the children with special needs that resided in one of the two environments studied.

Institutional care pairs received an average score of 38.8 of 55. Foster home care pairs scored 45.2 of a possible 55 total points. This would indicate that in each caregiver-child pair observed, there was discernible support for cognitive development. This was indicated by more positive scores than negative ones for the sum of the subscales for each learning environment.

Please refer to Table 3 for calculated average raw scores for each of the two learning environments studied in eight subscales as they compare to percentile ranges as determined by standardization of the HOME.

Table 3

Average Scores Compared to Established Norm Ranges

Subscale	Average Scores Institutional Care	Average Scores Foster Care	Lowest Fourth	Middle Half	Upper Fourth
LEARNING STIMULATION	8.2	9.8	0-2	3-9	10-11
LANGUAGE STIMULATION	4.4	6.2	0-4	5-6	7
PHYSICAL ENVIRONMENT	7.0	5.2	0-3	4-6	7
WARMTH AND AFFECTION	4.0	6.0	0-3	4-5	6-7
ACADEMIC STIMULATION	3.6	4.0	0-2	3-4	5
MODELING SOCIAL MATURITY	3.8	4.6	0-1	2-3	4-5
VARIETY IN EXPERIENCE	3.8	5.6	0-4	5-7	8-9
ACCEPTANCE	4.0	3.8	0-2	3	4
TOTAL SCORE	38.8	45.2	0-29	30-45	46-55

CHAPTER 5
PROFESSIONAL IMPLICATIONS,
RECOMMENDATIONS, AND
SUMMARY

This chapter presents a discussion of the results, impressions, and implications for the practice of occupational therapy. Recommendations for improving the environments evaluated and for additional research follow. This chapter concludes with a summary.

Discussion of Results

According to data collected in this study using the Home Observation for Measurement of the Environment (HOME) assessment tool (Appendix A), both the institutional care and foster care learning environment have specific areas of strength and areas with room for improvement as they relate to future cognitive development in children, ages three to six, with special needs. Please refer to Table 3 for calculated average raw scores for each of the two learning environments studied on eight subscales as they compare to percentile ranges determined by the HOME.

In some categories of the HOME, both the institutional care and foster care learning environments received high scores in this study. One such category was “modeling.” “Modeling” involves the daily routine of the child as dictated by the caregivers (i.e. how much television is watched, how much delay of food gratification is expected), the attention the caregiver provides by introducing visitors to the child, and the understanding

by the caregiver allowing the child to express negative feelings and to hit the caregiver without harsh reprisal.

“Acceptance” was another area in which both the foster care setting and the institutional care setting received high scores, placing them in the upper fourth percentile range according to the HOME. A perfect score of 4 points was received by the institutional care setting in this category and a near perfect score of 3.8 points was earned by the foster care environment. “Acceptance” involves child behaviors that elicit scolding by the caregiver, the amount of physical restraint utilized, and the frequency of physical punishment.

The institutional care setting yielded the highest possible score in the area of “physical environment” (7 points). “Physical environment,” a subscale of the HOME, includes such things as safety, living space allotted per child, esthetics of living space both inside and outside, cleanliness and lack of clutter.

The institutional care setting had one category in which it scored in the lowest fourth quarter of the percentile range according to the HOME. “Variety in experience” was the area in which institutional care settings demonstrated the most room for improvement, scoring 3.8 of 9 points. “Variety in experience” includes outings of which the child is a participant, independence expected of the child, options afforded the child (e.g. choice of food in grocery store), mealtime atmosphere and company, display of child art, and caregiver complexity of language.

“Language stimulation” was another area in which the institutional care setting demonstrated room for improvement (4.4 of 7 points). The institutional care facility evaluated fell within the middle half when compared to the norm range established by the HOME. “Language stimulation” on the HOME includes toys that help teach the alphabet and the names of animals, as well as encouragement of child’s communication by speech, choices the child is permitted to make in daily routine, and caregiver positive feeling and language quality used around the child. In this category, the foster home care pairs also scored within the middle half of the norm range (6.2 points), similarly indicating some potential room for improvement.

Both the institutional care and foster care pairs scored within the middle half of the norm range for the subsection, “academic stimulation” (3.6 points for the institutional care pairs and 4.0 points for the foster home care pairs of a possible score of 5). This category is defined by encouragement of the child to learn colors, patterned speech, spatial relationships, numbers, and to read a few words. Both environments may benefit from increased attention and awareness regarding these learning opportunities.

There were two categories, aside from “modeling” and “acceptance,” in which the foster care environment yielded scores in the upper fourth quarter of the percentile range according to the HOME. Foster care was observed as having strength in the area of “learning stimulation” available to children who reside there (9.8 of 11 points). “Learning stimulation” includes quality, availability and variety of toys, puzzles, books, games, and music as they relate to ownership by the child. “Learning stimulation” also reflects

parental interest in the outside world, i.e. do the parents subscribe to and read a daily newspaper and/or at least one magazine. The institutional care environment studied scored in the middle half of the norm range as established by the HOME (8.2 points). An increase in the variety of toys available and owned by the children would strengthen the institutional care setting score on this subsection.

The observed foster care settings also yielded a high score (6 points of 7) in the area of “warmth and affection.” This part of the observation included time the caregiver holds the child in a day, direct interaction between caregiver and child, caregiver praise of the child, amount of affection afforded by caregiver to the child, and caregiver attempt to help the child demonstrate some achievement to others. In this category, the institutional care pairs scored in the middle half of the norm range (4 points). In this respect, the institutional care setting studied does have room to improve in this area. Increased interaction, both physical and verbal, would benefit the children residing in the institution observed.

The areas in which foster care was observed to score the lowest included: “variety in experience” (5.6 of 9 points), and “physical environment” (5.2 of 7 points), both described above. In both of these categories, the average score for foster care settings fell within the middle half percentile range. These scores, when compared to other scores earned by foster care in this study, indicate two areas for improvement. Scores for neither of these categories fell within the lowest fourth of the percentile range, however.

When the average raw scores for both of the care settings evaluated were totaled, it was clear that given the separate breakdown of scores for each subscale, the total average score for each was similar. In this study, foster care received a higher overall average score, but both the institutional care and foster care learning environment received a total score that fell within the middle half of the percentile range according to the HOME. The foster care environment, not yielding any scores in the lowest fourth of the percentile range, had a higher total score by 6.4 points. Institutional care earned a total average score of 38.8 falling in the middle of the middle half of the percentile range, whereas foster care received a score of 45.2 putting it on the cusp between the middle half and the upper fourth of the percentile range as determined by the HOME. The numerical difference in total average scores was proportionately small. This would indicate that both care environments have a great deal to offer the children with special needs that they serve. Both also bear some room for improvement as their settings and the services they provide relate to future cognitive development of the children with special needs ages three to six that reside there.

Impressions

Impressions derived from the results of this study are that in the learning environments of the institutional care and foster home care settings, there exists discernible support for cognitive development on all environmental factors, but one, according to the Home Observation for Measurement of the Environment (Appendix A) assessment tool. This

impression is drawn from the difference in the number of points scored by each environment compared to those lost on the HOME. There was only one subsection, “variety in experience,” in which the institutional care facility scored below the middle half of the range when compared to established range norms of the HOME. This environmental factor did not evidence discernible support for cognitive development in the children with special needs. Therefore, each learning environment evaluated has strengths that benefit children with special needs and each provides some degree of support for cognitive development.

Today, there are many medical advances that allow disadvantaged, at-risk children to survive. Present technology and medicine continue to decrease the mortality rate of infants, especially those who are medically fragile, premature, born addicted to substances, deformed, or handicapped. Society at large remains hesitant to completely embrace this section of the population. Children with special needs continue to be placed in care settings outside of the biological family. Whether it is the state, the county, or the biological parent that places the child outside of the family, one must consider which alternative environment would benefit the child the most. If not immediately adopted, the options for children with special needs will often be limited to institutional care or foster care. The question remains: if not cared for in the home of the biological parents, in which setting should this child be placed?

This study gives support to the concept that the choice between these two alternative sites of care must be made on an individual basis. Some children may benefit from the

safety, space, and routine which is a strength that may be offered by the institutional care setting, while other children may need the affection, “learning stimulation,” and experiential variety that may be offered by foster care. These choices should most likely be based upon the personality of the child to be placed, the fragility of his/her medical condition, and the level of disability he/she presents. One should consider the child’s strengths and needs in relation to what each environment has to offer.

Implications for the Practice of Occupational Therapy

Occupational therapy views the child and his/her environment as inseparable as each continuously affects and changes the other. Occupational therapy for children focuses not only on the intervention with the child, but also directly on environmental adaptations that will enhance the competence of the individual child (Schaaf & Mulrooney, 1989). As facilitators of the play process for children in treatment, occupational therapists consider a variety of factors, including the individual capabilities of the child, the role of caregivers and peers, the adaptation of toys, and the impact of the environment and the setting (Missiuna & Pollock, 1991). Occupational therapists, as well as other professionals, often strive to provide the best environment possible, the environment most suited for cognitive development in the children they serve in foster home care, institutional care, and other facilities. Occupational therapists, as providers of care to children with special needs, are encouraged to take on a leadership role and encourage change and improvement in these residential environments.

Looking at the results of this study, if each child with special needs who will not be residing with his/her biological parents is placed dependent upon these factors, then society will succeed in offering children with special needs, ages three to six, a good alternative placement which will be related to the support of future cognitive development.

Recommended Interventions for Improving the Environments Studied

Institutional Care

A review of the summary scores calculated from the data collected in this study, listed for the institutional care setting in Table 3, indicates some general areas of strength and others that can be improved. As scores on the subsections and total HOME have been found to be related to child cognitive development (Bradley & Caldwell, 1979), increasing scores on this instrument would yield improved environments. Increased scores, and improvement in environments as guided by these scores, would serve to enrich the learning environments available to children who reside there. The following recommendations to increase scores received by the institutional care setting studied should be interpreted as methods by which to directly improve and enrich the learning environment provided to children with special needs.

Perfect scores were earned in the “physical environment” and the “acceptance” subsections of the HOME by the institutional care facility studied. The area in which this environment received the lowest score on average was that of “variety in experience.” Many of the caregiver-child pairs in the institutional setting lost points for lack of outings

every other week, lack of child travel outside of fifty miles, lack of child eating meals with caregivers and lack of artwork displayed by child in home. Medical fragility may lend itself to some exclusion of these children with special needs from travel, but observation and interview in the foster care homes indicated travel was possible with adequate planning. Although many caregivers interacted with the children who resided in the institutional care setting studied, changing the routine to allow for the child to eat along with one or more caregivers would be a possible adaptation. Another change that the data would support for the benefit of the children would be to display some art work made by each child in the facility, such as in the bedroom and in the main living area. This subsection of “variety in experience” was the only one in which, according to averages of caregiver-child pairs observed, the institutional care setting score fell within the lowest fourth of the percentile range.

One subsection in which the institutional care scores fell on the cusp between the lowest fourth and the middle half percentile ranges was “language stimulation.” In order to improve scores in this category, children in this environment could be provided with more choice in planning the menu, and increased encouragement to use simple verbal manners such as please and thank you. Caregivers could work to increase time spent listening and encouraging speech in the children served. Again, these changes take caregiver time, but may not prove to be costly.

The results related to two other subsections of the HOME indicated that some improvement in the institutional care environment was needed. They were “warmth and

affection” and “academic stimulation.” Verbal response of the caregiver to the child is related to listening time mentioned above, and is an item for which the majority of caregiver-child pairs observed lost points in this setting. Caregivers may want to remind themselves to praise the children frequently and in front of others. Caregivers should converse with children served as often as possible. “Academic stimulation” scores could be improved by working to teach the children colors and to read, even to begin to teach the children to recognize symbols. Scheduling of time spent watching television may be a worthy adaptation.

Overall, the institutional care environment studied had as its’ strengths the “physical environment” and the “acceptance” provided to the children served. Improvement could be made in “warmth and affection,” “variety in experience,” and “academic” and “language stimulation.” Changes recommended after evaluation of data collected in this study to increase scores on the HOME are neither costly nor complicated, but could increase learning environment support available to children for cognitive development.

Foster Home Care

The foster home care environment evaluated in this study demonstrated definite areas of strength and others that can be improved according to average caregiver-child pair scores calculated with the HOME listed in Table 3. As scores on the subsections and total HOME are related to child cognitive development (Bradley & Caldwell, 1979), increased scores on this instrument would indicate improved environments. Increased scores, and improvement in the environment as guided by these scores, would serve to enrich the

learning environments available to children who reside there. The following recommendations to increase scores received by the foster home care setting studied should be interpreted as methods by which to directly improve and enrich the learning environment provided to children with special needs.

Scores falling within the upper fourth of the percentile range were earned in the “warmth and affection” and “modeling of social maturity” subsections. Target areas for improvement in the foster care settings studied would include those that relate to the “physical environment,” and the “variety in experience” subsections of the HOME.

To improve the score on “physical environment” for the HOME, the foster home care environment studied would need to enlarge the living space available to children served. This might be interpreted to mean a physical architectural change in the homes which could be quite costly, or it could be achieved by accommodating fewer people per living area. Two of the homes evaluated in this study lost points in this subsection for overcrowding of rooms with furniture. Moving or organizing furniture in rooms may be a simple adaptation that could be made to enhance the learning environment available to the children served.

In the subsection of “variety in experience,” the majority of the foster caregivers reported taking the children on distant vacations, weekly outings, and to the grocery store. Points lost by the foster care homes in this subsection were most often for a lack of recent trips to a museum, neglecting to display the child’s art work in the home and meals that

were not eaten with the child and caregivers together. Again, these recommendations require a time investment on the part of the caregivers, but should not be costly overall.

Overall, the foster home care environment studied had as its strengths “warmth and affection” and “modeling of social maturity” for the children served. The most improvements needed were in the “physical environment” and the “variety in experience” subsections.

Recommendations for Additional Research

The sample used in this study was small. Findings can not be generalized to other residential care facilities. This study would have benefited and future research may benefit from an enlarged sample of similar subjects. This would provide a wider data base and more generalizable conclusions to be drawn from those data. Data in this study were gathered in one county in northern California, limiting any potential generalization to other geographic areas. Replication of this study could be regionalized or nationalized to create generalizable data. The caregiver-subjects were chosen for the age, the presence of special needs, and the specific environment in which the children they cared for lived. Studying children with special needs of different ages or those who live in alternative environments would provide additional valuable data. Due to the variety of characteristics of each care environment evaluated in this study, the researcher could not directly compare and contrast the institutional and foster care settings. Instead, the HOME was used to provide established norms to which the scores of each environment studied could be compared. Similar studies may benefit from a larger sample within one residential

environment to gain more definitive data about the caregiving environment provided in a specific setting.

Further, the data in this study were gathered from a small sample in 1994. Repeated measures over time could better generate a longitudinal view of the caregiving environments available in specific settings. This study only looked at a caregiver-child pair for one hour of one day. It must be acknowledged that each foster home and each institution, as well as the caregivers in each, differ and that one hour of time spent with each cannot evaluate the overall care that is provided to children with special needs who reside there. Longer term observations or periodic interviews over the course of time may provide additional data.

It should also be noted that many children with special needs between the ages of three and six can be found in hospitals, foster-adopt homes, and small residential care facilities, as well as other places, at any given time. These residential environments were not included in this study, but could be the focus of similar investigations. This study examined one aspect of foster care and institutional care as learning environments supportive of future cognitive development in children ages three to six with special needs. Other development characteristics could be examined as well.

Note for Future Researchers

In conducting this study, several unexpected complications arose. Care was taken to conduct the data collection effort with pure objectivity, but some need for judgment in scoring was required. In some cases the child whose learning environment was being evaluated had a condition or a disability that affected an item on the checklist. For example, the HOME includes a question regarding whether the child is able to choose what he/she eats for meals, but when studying a child who is fed through a G-tube (a tube surgically inserted into the stomach) the disability prohibits this choice. Another example was a child with a disability that included blindness when scored for whether the caretaker encourages the child to learn colors. In all of these and similar cases, the researcher went back to the original intent of the instrument as stated by Bettye Caldwell, the developer, “to get a picture of what the child’s world is like from his or her perspective” (Caldwell & Bradley, 1984, p. 8). Each item was scored for the child, according to his/her world and his/her ability to interact with it. Environments studied were not marked down in score in cases where the disability dictated a negative response unavoidable by any caregiver.

Another difficulty encountered while conducting this study was in the institutional care setting. One caregiver did not spend one complete hour with any one child. The researcher, in one hour, while observing a child’s learning environment, often encountered three to five caregivers interacting with that child. In these cases, the researcher returned to the original intent of the assessment tool as stated above, and looked at the overall caregiving environment as experienced by that child. If three caregivers were present in

the hour of observation and if two provided caresses to the child and one did not, the item reading caregiver caresses, kisses, or cuddles child during visit was scored positively since the child was caressed. If the child had been scolded twice in the hour, even if by two of five caregivers, this item would receive a negative score. This method of observing the environment through the child's experience was used in all observations as it was the hope of the researcher to minimize subjectivity.

Summary

Review of the Problem

The environment has been identified as a predictor of early childhood cognitive development. Cognition, in occupational therapy, is considered a component necessary for the development of individual function in self-care, work/education, and play/leisure. Children, especially children with special needs, are dependent upon others to create an adequate learning environment that supports all development. As the literature revealed no research comparing the learning environments available to children with special needs residing in foster home care and institutional care settings, these environments were evaluated in this study.

The purpose of this study was to evaluate two distinct environments that serve children with special needs who are three to six years of age and to assess each for quantity and quality of social, emotional, and cognitive support available (Bradley & Caldwell, 1979). The intent of the researcher was to gather information from a small sample to determine

whether more extensive research was warranted. The Home Observation for Measurement of the Environment assessment tool (Appendix A) was utilized in this study. A non-experimental, case-study approach was employed in this investigation. The research question that guided this research was: In the learning environments of the institutional care and home care settings, was there discernible support for cognitive development in each environmental factor studied for children with special needs, according to the Home Observation for Measurement of the Environment assessment tool (Appendix A)?

Review of the Literature

Literature was reviewed relevant to the theoretical and practical bases of cognitive development as related to the caregiving environments available for children with special needs. The literature concerning the development of the care of children in America traced the growth of this system from the 1600s into the present. It traced a common coexistence between the institutional care and the home care of children dependent on the government.

A frame of reference for viewing the individual and the environment as parts of an open system was presented. The Model of Human Occupation was described. This model supports the notion that all open systems capable of change take in information from the environment, process that information, behave according to that input, and change behaviors in the future based upon feedback provided. In this model, the individual and the environment are viewed as interrelated. Each is considered to affect the

other. According to this model, the individual may only receive what is available in the environment and as such is dependent upon the environment that is provided for input and development.

The influence of the caregiving environment was presented and the dependence of children with disability for the provision of an adequate learning environment was explored through the literature. Sensory restriction and the effects of a deprived environment were discussed. Deprivation of sensory stimuli in the environment was shown to thwart development in a number of areas. A depleted environment that yields insufficient support for cognitive development was portrayed as potentially affecting individual cognition as well as future competence and function.

Review of the Methods

Caregiver and child subject pairs were drawn from one state institution for the multiply handicapped and one foster care agency that serves children with multiple disabilities. All caregiver subjects were selected by program administrators according to the following study criteria: 1) Caregivers must have cared for children with special needs on a weekly basis at minimum; 2) The children for whom they cared must have been between the ages of three and six years; 3) The children must have been multiply handicapped, meaning they had two or more impairments of physical or mental status; and 4) Caregivers must have been eighteen years old or older and must have voluntarily agreed to participate in the study. The child's impairment etiology was not a factor. Gender was not a selection

criterion, nor was the length of time a child had resided in the facility. Five caregiver-child pairs were selected in each setting.

All caregiver-child pairs were observed in the child's place of residence. The Home Observation for Measurement of the Environment, Preschool Version (Appendix A) was utilized to guide these observations and informal interview was employed to respond to all items not answered by observation alone. Eight subscales make up the HOME. These include: "learning stimulation," "language stimulation," "physical environment," "warmth and affection," "academic stimulation," "modeling," "variety in experience" and "acceptance." Raw subscale totals were determined for each caregiver-child pair. Total raw scores were also calculated. Averages of subscale raw scores and total raw scores were determined for each of the two environments studied, and these scores were compared to established norm ranges provided by the HOME. These average scores and percentile ranges achieved by the two environments studied were compared. They were reviewed in terms of support for cognitive development of the child.

Review of the Results

Overall, the child-caregiver pairs in each environment studied evidenced discernible support for child cognitive development. Foster home care pairs scored 45.2 of a possible fifty-five total average points. Institutional care pairs received a total average score of 38.8 of fifty-five.

In only one subsection, "variety in experience," did one of the settings, institutional care, score in the lowest fourth of the norm range indicating a lack of support for child

cognitive development. In all other subscales, all pairs in either environment scored in the middle half or upper fourth of the norm ranges. The individual strengths and areas for improvement in each environment were discussed.

Results indicated that the numerical difference in total average scores between the two environments studied was proportionately small. This would indicate that both care environments have a great deal to offer children with special needs. Both also have areas that can be improved as their settings and the services they provide relate to cognitive development of children with special needs.

Review of the Conclusions

Impressions derived from this research were that in the learning environments of the institutional care and foster home care settings, there exists discernible support for cognitive development on all environmental factors, but one, according to the Home Observation for Measurement of the Environment assessment tool. Implications for the practice of occupational therapy, especially as related to facilitation of play and development of children, were defined. Suggestions for improving the environments studied as dictated by items on the HOME were discussed. Interventions to enrich the learning environments of children with special needs served in the two settings evaluated appeared neither costly nor complicated.

Results of this study supported the need for further, more extensive research into the learning environments available to children with special needs in residential care. Some

unexpected complications arose while this study was being conducted, and a note for future researchers is included.

The results of this study led to the conclusion that each learning environment evaluated does evidence strengths that benefit children with special needs and that each provides some degree of support for cognitive development. Some children may benefit from the safety, space, and routine which was a strength identified in the institutional care setting studied, while other children may need the affection, “learning stimulation,” and experiential variety that was observed in the foster care settings evaluated.

There remains a large number of children with special needs located in foster care or institutional care throughout the country today. This study evaluated only a small number of these children. Future investigation into the care of children with special needs may serve to improve the environments offered for these children and what these children may then be able to offer society.

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APPENDIX A
HOME OBSERVATION FOR MEASUREMENT OF THE ENVIRONMENT
(HOME) - PRESCHOOL VERSION

Home Inventory (Preschool)

Place a plus (+) or minus (-) in the box alongside each item if the behavior is observed during the visit or if the parent reports that the conditions or events are characteristic of the home environment. Enter the subtotals and the total on the front side of the Record Sheet.

I. LEARNING STIMULATION

1. Child has toys which teach color, size, shape.	
2. Child has three or more puzzles.	
3. Child has record player and at least five children's records.	
4. Child has toys permitting free expression.	
5. Child has toys or games requiring refined movements.	
6. Child has toys or games which help teach numbers.	
7. Child has at least 10 children's books.	
8. At least 10 books are visible in the apartment.	
9. Family buys and reads a daily newspaper.	
10. Family subscribes to at least one magazine.	
11. Child is encouraged to learn shapes.	
Subtotal	

II. LANGUAGE STIMULATION

12. Child has toys that help teach the names of animals.	
13. Child is encouraged to learn the alphabet.	
14. Parent teaches child simple verbal manners (please, thank you).	
15. Mother uses correct grammar and pronunciation.	
16. Parent encourages child to talk and takes time to listen.	
17. Parent's voice conveys positive feeling to child.	
18. Child is permitted choice in breakfast or lunch menu.	
Subtotal	

III. PHYSICAL ENVIRONMENT

19. Building appears safe.	
20. Outside play environment appears safe.	
21. Interior of apartment not dark or perceptually monotonous.	
22. Neighborhood is esthetically pleasing.	

23. House has 100 square feet of living space per person.	
24. Rooms are not overcrowded with furniture.	
25. House is reasonably clean and minimally cluttered.	
Subtotal	

IV. WARMTH AND ACCEPTANCE

26. Parent holds child close 10-15 minutes per day.	
27. Parent converses with child at least twice during visit.	
28. Parent answers child's questions or requests verbally.	
29. Parent usually responds verbally to child's speech.	
30. Parent praises child's qualities twice during visit.	
31. Parent caresses, kisses, or cuddles child during visit.	
32. Parent helps child demonstrate some achievement during visit.	
Subtotal	

V. ACADEMIC STIMULATION

33. Child is encouraged to learn colors.	
34. Child is encouraged to learn patterned speech (songs, etc.).	
35. Child is encouraged to learn spatial relationships.	
36. Child is encouraged to learn numbers.	
37. Child is encouraged to learn to read a few words.	
Subtotal	

VI. MODELING

38. Some delay of food gratification is expected.	
39. TV is used judiciously.	
40. Parent introduces visitor to child.	
41. Child can express negative feelings without reprisal.	
42. Child can hit parent without harsh reprisal.	
Subtotal	

VI. VARIETY IN EXPERIENCE

43. Child has real or toy musical instrument.	
44. Child is taken on outing by family member at least every other week.	
45. Child has been on trip more than fifty miles during last year.	
46. Child has been taken to a museum during past year.	
47. Parent encourages child to put away toys without help.	
48. Parent uses complex sentence structure and vocabulary.	
49. Child's art work is displayed some place in house.	
50. Child eats at least one meal per day with mother and father.	
51. Parent lets child choose some foods or brands at grocery store.	
Subtotal	

VIII. ACCEPTANCE

52. Parent does not scold or derogate child more than once.	
53. Parent does not use physical restraint during visit.	
54. Parent neither slaps nor spansks child during visit.	
55. No more than one instance of physical punishment during past week.	
Subtotal	

*For complete wording of items, please refer to the Administration Manual.

APPENDIX B
LETTER TO FACILITIES

February, 1994

Dear _____,

As you are aware, to meet the requirements for my Master of Science degree from San Jose State University, Department of Occupational Therapy, I am planning to conduct a pilot study to evaluate the learning environments available to children with special needs age 3 to 6 that reside in residential care facilities.

I will be using a standardized assessment tool called the Home Observation for Measurement of the Environment to collect my data. It will consist of a yes/no rating of multiple aspects of the environment. The instrument dictates an observation of caregiver and child that lasts approximately one hour. Any information not gathered in this observation will be obtained through unstructured interview format. At no time will background information be requested of the caregiver or the child. Participating caregivers will be chosen by the institution and provided a consent form indicating that their confidentiality will be maintained. At no time will facility, caregiver or child information be identified with assessment results. Participating institutions will not be named in the final report.

Institutions and participating caregivers will have access to the final study report if so desired. I believe this study is an appropriate and interesting study which will serve to further research in the care of children with special needs. Participants may benefit from an increased awareness of environmental impact on the children they serve.

I would like to request your permission to observe 5 or 6 of your caregivers in their interactions with the aforementioned children. The Human Subjects Institutional Review Board of SJSU requires that I obtain written approval from participating institutions on their letterhead in order to proceed. Again, I appreciate your support.

Sincerely,

Jennifer Shiverick Muise, OTS

(xxx) xxx-xxxx

APPENDIX C
CAREGIVER CONSENT FORM



A campus of The California State University

College of Applied Sciences and Arts • Department of Occupational Therapy
 One Washington Square • San José, California 95192-0059
 Main Office: 408/924-3070 • Fieldwork Office: 408/924-3078 • FAX: 408/924-3088

Caregiver Consent to Participate in Research Responsible Investigator: Jennifer L. Shiverick
 Title of Protocol: The quality of residential care environments as related to cognitive
 development in special needs children

I have been asked to participate in a study investigating the learning environment available to special needs children in residential care. I am aware that if I choose not to participate in this study that no service of any kind, to which I am otherwise entitled, will be lost or jeopardized. My participation is voluntary.

I understand that I will be observed during normal activities with the child for which I am a caregiver, by the investigator, and that any information not obtained through that observation, will be asked of me in an unstructured interview format. I am aware that the observation will take place where the child resides and last approximately one hour.

It has been explained to me that no foreseeable risk exists to me or to the child I care for and that our names, as well as the name of my employer, will be kept confidential. I am aware that the results of the study may be published but that no identifying information will be included.

I will receive no compensation for my participation in this study. I am aware that I may choose to end my participation in this study at any given time. There will be no consequence nor repercussion for this withdrawal. I will have the opportunity to ask questions before and after the observation period. Results of the specific observation will not be shared but in a general manner, and the final results of this study will be shared with me if I so desire. Further questions may be directed to the researcher at (408) 720-0822 or (415) 574-3091.

I may benefit from participation in this study by my increased awareness. The child I care for and other special needs children may benefit in improved available learning environments.

I understand that any complaints about the research may be presented to Amy Killingsworth, Interim Chair for the Department of Occupational Therapy, San Jose State University, (408) 924-3070. Questions or complaints about research, subjects' rights, or research-related injury may be presented to Serena Stanford, Ph.D., Associate Vice President of Graduate Studies and Research, at (408) 924-2480.

I have received a signed and dated copy of this consent form.

Caregiver Signature	Date
Investigator's Signature	Date

APPENDIX D
PERMISSION TO USE HOME

Permission to use the Home Observation for Measurement of the Environment (HOME) in the present study was given per telephone conversation from Bettye Caldwell to Jennifer L. Shiverick on Friday morning, October 8, 1993.

APPENDIX E

HUMAN SUBJECTS APPROVAL TO CONDUCT RESEARCH



A campus of The California State University

Office of the Academic Vice President • Associate Academic Vice President • Graduate Studies and Research
One Washington Square • San Jose, California 95192-0025 • 408/924-2480

TO: Jennifer Shiverick Muise
3406 Spyglass Dr.
San Mateo, CA 94403

FROM: Serena W. Stanford *Serena W. Stanford*
AAVP, Graduate Studies and Research

DATE: May 26, 1994

The Human Subjects-Institutional Review Board has approved your request to use human subjects in the study entitled:

"A Comparison Study of Specialized Foster Home Care and Institutional Care"

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research projects, and with regard to any and all data that may be collected from the subjects. The Board's approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Dr. Serena Stanford immediately. Injury includes but is not limited to bodily harm, psychological trauma and release of potentially damaging personal information.

Please also be advised that each subject needs to be fully informed and aware that their participation in your research projects is voluntary, and that he or she may withdraw from the project at anytime. Further, a subject's participation, refusal to participate or withdrawal will not affect any services the subject is receiving or will receive at the institution in which the research is being conducted. If you have questions, please contact me at (408) 924-2480.