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Effects of an Interactive, Literacy-Rich Environment on the Social, Language, Cognitive, and Literacy Development of Young Children with and without Special Needs

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THE EFFECTS OF AN INTERACTIVE, LITERACY-RICH ENVIRONMENT
ON THE SOCIAL, LANGUAGE, COGNITIVE, AND LITERACY DEVELOPMENT
OF YOUNG CHILDREN WITH AND WITHOUT SPECIAL NEEDS

A DISSERTATION

submitted by

Jeanne M. Canelli

In partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

LESLEY COLLEGE
November, 1999

THE EFFECTS OF AN INTERACTIVE, LITERACY-RICH ENVIRONMENT
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ABSTRACT

Play and literacy teaching practices are documented in this study of four young children, two with typical development patterns and two with mild to moderate special needs, who attended the same early childhood program for one school year. Data from year long videotaped and teacher observations, information from parents and previous teachers, and initial and end of the year formal and informal assessments are organized into four child studies. Conclusions from the data suggest that children with mild to moderate special needs initiate and engage in play activities by themselves and, in time, with other children. The data further suggest that when young children with and without special needs are immersed in an environment that includes reading and writing materials and interactions with peers and adults, they incorporate literacy activities into their play. Combined teaching strategies from both early childhood and special education support each child's participation, development, and progress.

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INTRODUCTION

The purpose of this dissertation study is to identify play and literacy practices that are useful in an inclusive early childhood classroom and to demonstrate how these practices contribute to the development of all children, those with and without disabilities. Chapter 1 presents an historical and theoretical context for the study of child development. Different theories of development have influenced practices in early childhood and special education. From an early childhood education and developmental perspective, play is viewed as a way to enhance the development of children with and without disabilities and has a critical role in children's literacy development. Research on play and literacy is reviewed in Chapter 2. The purpose of the chapter is to establish a theoretical foundation for studying play and the emergence of reading and writing behaviors in young children with and without disabilities.

Questions for research and the statement of the problem are described in Chapter 3. As more young children with special needs are included in programs designed for typically developing children, early childhood and special educators, for different reasons, question whether or not children with and without disabilities can be served in an inclusive program. Chapter 4 describes the research methodology for this dissertation study. Data are organized into child or case studies which describe the cognitive, social, language, and literacy development of four young children, two with typical developmental patterns and two with mild to moderate special needs, enrolled in the same early childhood classroom during one school year. Qualitative research methods were chosen to allow for important dimensions of each child's development to emerge. The four child studies are presented in Chapter 5. An analysis of the data from the child studies is presented in Chapter 6 with emerging patterns or themes that relate to all four children. Chapter 7 details the conclusions from the data as

well as suggestions for teaching, recommendations for the preparation of teachers to work in inclusive early childhood programs, and possibilities for future research.

CHAPTER I

THE STUDY OF CHILD DEVELOPMENT IN THE UNITED STATES DURING THE TWENTIETH CENTURY

During the early part of the twentieth century psychologists, responding to social concerns about children's welfare, began scientific research investigations of children's development and learning. There were two different research directions. Psychologists interested in the nature of child development studied features, dimensions, and intrinsic variables of organismic growth. The resultant theories based on the developmental perspective provided the theoretical foundations for programs serving typically developing children. Researchers interested in behavior and learning investigated the effects of environmental variables on learning and behavior. Behaviorism, a form of learning theory, has been the primary influence on programs for children with disabilities.

The purpose of this chapter is to identify the contrasting as well as common theoretical foundations of early childhood and special education. The first section of the chapter describes concerns about children that were prevalent in the early part of the twentieth century. Social concerns about children's physical and psychological welfare formed the basis for the scientific study of child development undertaken during the middle of the century. The second section of the chapter describes the research directions taken by psychologists interested in child development and the theories of development and learning proposed during the middle of the century. The third section of the chapter presents additional research undertaken during the last part of the century. The latest research has implications for the structure of programs designed to meet the needs of typically developing children and

children with disabilities in inclusive early childhood settings.

CONCERNS ABOUT CHILDREN IN THE UNITED STATES: 1900-1920

Concerns for Children's Physical and Psychological Welfare

At the turn of the century, social concerns about child labor, infant mortality, and childhood diseases became focal issues for reformers, physicians, and the general public (Anastasiow & Nucci, 1994). Pediatric clinics were established where physicians and public health workers provided medical care for children and combated infant mortality and childhood diseases. Social reformers addressed child labor practices, advocating for laws that would ban the hiring of children for long hours in industrial shops. Child guidance clinics were established in an effort to remediate not only children's medical problems, but psychological conditions as well. Child guidance clinicians addressed the interdependence of physical, psychological, and social variables of behavior and recognized them as important components of development. The prevailing punitive approach of Calvinist tradition was challenged as Sigmund Freud's psychoanalytic theory suggested alternative ways to understand and work with children (Fagan, 1992).

Social reform efforts for children in the early 1900's were part of a new economic, political, intellectual, and psychological era in the United States. There was a "prevailing belief that the reconstruction of American society must begin with the child" (Smuts, 1985). Different from other reform movements the "crusade for children, which became broader and bolder, adopted the exalted aim of improving lives not only of the disadvantaged but of all children" (Chambers, 1963, pp. 13-14). "Many believed that social science research and

education would transform social practices for children. However, it was apparent that child welfare activities were fast outstripping the research on which they should be based” (Smuts, 1985, p. 110).

The turn of the century was a period of change in the United States. New ideas affected thought and practices in science, psychology, philosophy, and education. There was a new emphasis on direct observation for the collection of data, influenced by Charles Darwin’s *The Origin of Species* (1859). “Darwin’s book lessened faith in a fixed and knowable truth and put in its place thoughts of change, adaptation, development, and survival” (Weber, 1984, p. 47). Ideas about learning and knowledge changed from a faith in intuitive and introspective analyses to a faith in scientific observations. Psychologists wanted to make the study of child development a focus of scientific research. They believed that research on child development would be “preventive politics...a significant break with the fatalistic attitudes of the past and the most effective method for dealing with social difficulties” (Smuts, p. 111). The scientific study of child development would provide information to parents and educators about the physical and psychological growth of children, improve education and the social conditions of children.

Addressing Social Concerns: Establishment of Child Research Programs

Programs for the scientific research of child development in the United States were practically non-existent in the 1920s. “Systematic, institutionalized study of children’s growth and development was not even in sight” (Smuts, 1985, p. 110). Most scientists who studied children were generalists in the field of psychology who occasionally studied childhood

(Jones, 1956). By the end of World War I (1918), there was only one institute dedicated to research on child development, the Iowa Child Welfare Research Station at University of Iowa.

In the mid-1920s and continuing through the 1930s and '40s, with funding from philanthropic organizations, major universities and child welfare organizations began longitudinal studies to understand how children developed physically and psychologically. Harvard University, the Bush Foundation, the University of California, the Fels Institute, the Iowa Welfare Station, and the Yale Psychological Clinic, to name a few, began their own research studies (Anastasiow & Nucci, 1994). "Early childhood programs were founded within the institutes for research and pedagogic experiments" (Singer, 1992, p. 80). In particular, the Iowa Welfare Research Station and the Yale Psychological Clinic established laboratory schools. The laboratory schools housed preschool and kindergarten programs on campus where young children were observed and future teachers and researchers had opportunities for practical training and experience (Singer, 1992).

The studies undertaken by the universities and research centers investigated and documented various aspects of learning and development. The goal of the research undertaken in the 1920s and 1930s was to contribute information about children's normal development to help parents in raising their children and improve education. Descriptive studies of children's behaviors, the establishment of age standards, and the development of assessment techniques were all subjects of early American research on child development (Braun & Edwards, 1972).

Although children's welfare was the focus of social concerns in the early decades of

the twentieth century, early research did not focus on the development or learning of children with disabilities. The major focus of research during this time period was on normal development. “Serious research attention was not yet given to the potential benefits of early intervention to ameliorate mental retardation or other developmental disabilities” (Anastasiow & Nucci, 1994; Sears, 1975). The presence of disabilities in children inspired medical intervention by physicians and experimentation with instructional strategies by teachers rather than research. Instructional strategies for children with disabilities focused on deficits, impairments, pathology, and deviance which linked special education to medicine, clinical psychology, and special therapies rather than with research (Safford, Sargent, & Cook, 1994).

TWENTIETH CENTURY RESEARCH DIRECTIONS IN CHILD PSYCHOLOGY

Two major directions in psychology impacted the subject matter of research on children in the twentieth century. The research directions were the study of the nature of child development and the study of behavior and learning. Although psychologists differed significantly in their emphasis, studies in each area “adhered to rational scientific tradition” (Weber, 1984, p . 172). Both fields of research were dedicated to recording objective, observable findings and relating them to a theoretical framework. Researchers interested in the nature of child development described and identified features, dimensions, and organismic variables of the normal development of children. Studies on learning and behavior investigated the effects of environmental, mechanistic variables on learning as shown by test scores and other quantifiable, behavioral measures (Singer, 1992).

The descriptive research studies undertaken during the 1920s and '30s presented detailed images of children's behavior. Charlotte Buhler (1933), for example, described how infants (birth - 6 weeks old) imitate each other and how babies (6 - 10 months old) communicate with each other by touching, pulling, pushing, and exchanging toys. Dr. Arnold Gesell, researcher at the Clinic of Child Development at Yale University, developed tests and observations of young children to describe growth in various areas. The main purpose of his investigations was to identify maturity traits, various aspects of development, and gradients of growth (Gesell, 1940; Singer, 1992). Gesell was interested in the organismic, intrinsic nature of growth and development.

In contrast, research on behavior and learning focused on animal research and the effects of extrinsic or environmental factors. In the first decade of the twentieth century, Ivan Pavlov, a Russian psychologist, investigated animal behavior and made associations between stimulus and response. Pavlov's experiments were an example of classical conditioning where reflexive or elicited behavior can be affected by an unconditioned and/or a conditioned stimulus. Edward Thorndike, Pavlov's American contemporary, demonstrated associations between stimuli, responses, and emitted behaviors. His famous cat in a puzzle box experiments showed that cats exhibit many different kinds of behavior to get out of a puzzle box and get food. In his experiments, Thorndike demonstrated an association between behavior that was cued by external stimuli and the resulting reinforcement. The learned response, then, was instrumental in obtaining a reward (food). Thorndike explained learning as a process "wherein a specific response was allied to a specific stimulus by a physiological bond in the neural system" (Weber p. 65).

John Watson, an American psychologist and founder of behaviorism, extended his scientific, laboratory work to humans. He emphasized that infants learn complex behaviors as the result of the interrelationship between associated reflexes (responses that do not depend on conditioning) and conditioned responses. (Watson, 1928). Watson viewed the child as passive in an environment that acts on him. Behavior or change is more the result of environmental forces rather than of intrinsic or organismic forces. From Watson's viewpoint, behavioral change is more quantitative, additive, and continuous (Bornstein & Lamb (Eds.), 1992). Conditioning of responses, according to Watson, results in changes of behavior.

Theories of Development

During the mid-twentieth century, psychologists proposed several different theories of development. These theories have influenced teaching and practice in early childhood education and special education. In the following sections, maturational, psychosocial, and cognitive theories of development are described and summarized. Each theory assigns primacy to a different domain of development and presents a perspective from which to understand the developmental process. When considered together, the theories are complementary and establish a framework from which to understand children's social, emotional, cognitive, physical, and language development.

Maturational Theory

As a result of his work at the Clinic of Child Development at Yale University, American researcher Arnold Gesell developed principles of growth based on biological

functions. His principles detailed traits of normal children in various age groups. From these descriptions, Gesell developed the Behavior Profile. The Profile gave parents and educators “a picture of the kind of child with which the culture has to deal at a certain age of his maturity. In brief, informal narrative, the profile outlines the manner in which culture makes practical provisions for fostering growth and the activities of the child” (Gesell & Ilg., 1943, p.2). Gesell proposed three tenets of development: (1) development is a product of genetics; (2) every child has a unique pattern of growth; (3) there is a correlation between body type and personality (Gesell, 1940). Gesell explained that the child’s development is directed from within, by the action of genes, a process he called maturation. According to his theory, proposed in the 1940s, all children proceed through the same sequence but vary in rate. Any differences in development are internal as children learn when they are biologically ready (Gesell & Ilg, 1943). Gesell’s concept of readiness continues to influence early childhood and special education practices today. Educators interpret readiness as a sequential, biologically determined process that can not be forced. Mastery of subskills must precede learning more complex skills. In educational terms, readiness denotes a child’s preparedness for reading, writing, listening and other academic endeavors. If a child has not mastered all the prerequisite skills, then she can not move on to the next skill or grade level.

Psychosocial Theory of Development

Erik Erikson, in the late 1950s, extended Freud’s psychosexual theory by proposing a psychosocial theory of development. Freud’s theory described the development of the personality as contingent upon the individual going through a series of specific stages marked

by emotional and experiential factors. The way in which a child's needs are met by his parents determine how the personality will develop. Erikson's theory of psychosocial development, in contrast, introduces the idea that the healthy personality emerges from distinct stages of crises and conflict within the context of family and society. Although Erikson's stages of psychosocial development parallel Freud's psychosexual stages, he believed the socialization of the child within a culture is a determining factor in the development of the individual. Erikson's theory details the biological and maturational aspects of development within the social culture. Individuals develop within the context of a society, according to Erikson, beginning with the intimate family relationship and continuing within a cultural context of expanding relationships and new challenges (Erikson, 1959).

Erikson's contribution to the study of child development includes an emphasis on the development of the healthy personality. He emphasized how children's individual experiences shape their development and highlighted the role of both the social culture and biological maturation. Psychosocial theory is based on the premise that interactions with the environment produce specific major crises arising from the child's maturational status and societal demands. The crises must be resolved to achieve ego identity. The outcome of resolving psychological crises in each of the early stages of development sets the groundwork for lifelong development. The individual with a healthy personality or ego identity is able to accept both the inner and outer self. As the personality develops trust, autonomy, initiative, and a belief in one's own abilities (industry), a foundation for learning and accomplishment is established. Each person's interactions with family and society are unique and are defining factors in the development of personality. Erikson emphasized that healthy, psychological

development is fostered by predictable, reliable care within a social environment. A consistent environment that provides routine, warmth, caring, and support helps the young child control emotions and impulsive behavior (Erikson, 1968).

Erikson's contributions to the field of early education include an emphasis on understanding the whole child and her developing healthy personality. Educators understand that each child's early experiences are unique and shape development. The tenets of Erikson's theory are incorporated in an early childhood classroom with the establishment of a consistent classroom schedule and an environment that provides predictable, reliable care. Early educators recognize the importance of the teacher. It is the teacher who encourages and supports the learning process and provides an emotional atmosphere where the gains of earlier stages- trust, independence, and competence - can be fostered.

Theories of Cognitive Development

The science of child study in the United States had focused on children's physical, social, and emotional development. With the rediscovery in the United States of Jean Piaget's work, in the late 1950s and early '60s, interest shifted to the study of young children's cognitive development. Piaget's theory of cognition presented a different perspective from which to understand intellectual development. Piaget, a Swiss biologist and philosopher, had been studying cognition since the 1920s. He became interested in how children think after he worked on standardizing intelligence tests in Alfred Binet's laboratory school in France. Piaget was curious about children's thinking processes behind incorrect rather than correct responses on the tests. As he observed, listened, and questioned children about their

responses, Piaget found patterns in the way children, at different ages, understand and solve problems. He hypothesized that children learn in a different way from adults, constructing their own knowledge from experiences with the environment (Inhelder & Piaget, 1955). Piaget proposed his theory of cognitive development based on detailed observations of his own children and interviews and observations of other young children. From his observations and subsequent writings, Piaget proposed a theory of cognitive development which detailed how children acquire and construct knowledge from infancy through their own initiative (Piaget, 1952).

Piaget's theory of intellectual development presents stages that emphasize the interactions of the child with the environment. He outlined the importance of the first stage of development as the sensorimotor period. In the sensorimotor period, the child continually adapts actions to the surrounding environment as he organizes information and abstracts meaning from observation and experience. During the preoperational thought period, what the child experiences through the senses, what he perceives, becomes the basis for reasoning. The child learns about the characteristics of objects and how actions on these objects relate to particular outcomes. As the child progresses through this period, he begins to use language to communicate and socialize with peers. In the concrete operational thought period, the child continues to construct knowledge by discovering properties of materials within his environment. The child begins to master mental operations and applies them to problem-solving tasks. Each of Piaget's stages represents "hierarchical integrations. The lower stages do not disappear but become integrated into, and, in a sense, dominated by the new broader frameworks" (Inhelder & Piaget, 1955, p. 108). In each stage, the child is learning about the

environment and himself.

Piaget's concepts about the child as an active learner has influenced early childhood education teaching practices. Educators prepare classroom materials and areas that are accessible and encourage exploration. As children explore and play, the teacher facilitates learning rather than directs it. While children are playing, the teacher may ask questions or add something to the play for the children to think about and explore. Children discover or begin to recognize new relationships and meanings as they explore materials and activities on their own.

Piaget's method of collecting data was at first criticized by the American psychological establishment. The criticism was directed towards Piaget's observational methods which did not rely upon sampling techniques, experimental controls, and testing reliability. Piaget's methods renewed and reinforced the ideas of contemporary research practices influenced by pragmatic beliefs in scientific observation and knowledge as the result of human experience. During the 1960s and 1970s, other researchers used Piaget's observational methods as the basis for their own work. During this time period, a large body of research, stimulated by Piaget's work, focused on children's intellectual development (Anastasiow & Nucci, 1994). Harvard professor Howard Gardner (1983), for example, elaborated on Piaget's theory and proposed his own theory of multiple intelligences. Early childhood specialist Constance Kamii (1993) wrote about how Piaget's theory of cognitive development can be applied in the classroom.

Piaget's work also impacted research on infant development by detailing how cognition develops, beginning at birth. In the 1960s and '70s, Jerome Bruner, professor at

Harvard and presently research professor of psychology at New York University, building on Piaget's theory, studied the intellectual development of infants. Bruner wrote about how "learning and thinking are always situated in a cultural setting and that they are always dependent upon the utilization of cultural resources" (Bruner, 1996, p. 4). Bruner's studies on infant development detailed how the reciprocal parent-infant relationship supports the child's emerging skills. The child learns in a supportive, nurturing environment that includes language, relationships, and opportunities to learn from others. Variations in cognitive development, according to Bruner, can be attributed to the different opportunities each culture provides a child (Bruner, 1996).

Piaget's work also stimulated interest in other theories of cognitive development. L.S. Vygotsky (1896-1934) influenced American psychology with the publication, by two of his students, of *Mind in Society* (1978). Vygotsky, a Russian cognitive psychologist, wrote about the social-cultural dimensions of cognitive development. He stressed the importance of the people within a child's culture in supporting intellectual development. He stated that "learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers" (Vygotsky, 1978, p. 90). Vygotsky's cognitive learning theory emphasized the importance of the environment, including the care giver, in supporting and shaping a child's intellectual functioning. The caregiver helps the child coordinate and generalize sensorimotor patterns through language. Language and thought, according to Vygotsky, become indistinguishable. The child begins to control his actions and initiates further learning through the help of the adult or more-advanced peers. Learning experiences that are just beyond what the child has

mastered, that is, in the child's zone of proximal development, are appropriate areas for instruction (Vygotsky, 1978).

Vygotsky's emphasis on the social-cultural dimension of cognitive development also influenced early childhood education practices. In early childhood programs, the teacher establishes the social environment of the classroom. Interactions with peers and adults are recognized as important opportunities to support children's intellectual development. Vygotsky viewed play as an essential aspect of children's social learning. In the early childhood classroom, teachers provide play opportunities understanding that, in play young children acquire the motivation, skills, and attitudes necessary for social participation. In the application of Vygotsky's theory, teachers recognize that play supports children's cognitive development and use of imagination.

While both Piaget and Vygotsky proposed theories of cognitive development, Piaget presents a stage theory that emphasizes the interactions of the child with the environment which results in the construction of knowledge. Intellectual development, according to Piaget, is a continuous series of stages not determined by ages but by individual development. The child uses previously constructed knowledge to understand his own capabilities as well as new objects and ideas. Vygotsky, in contrast, emphasizes the importance of language and the social nature of learning. Young children's intellectual development is influenced by those around them. "Learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with peers" (Vygotsky, 1978, p. 90). Vygotsky believes that learning is the process of developing culturally organized, specifically human, psychological functions.

The Study of Behavior and Learning

Psychologists interested in behavior and learning in the early twentieth century took a different research direction from those interested in the nature and causes of development. In the 1920s and 1930s, there was a growing movement in the field of psychology to reject the more intuitive and philosophical approaches of the previous century such as those offered by Locke, Rousseau, and Pestalozzi. Psychologists were interested in learning and the extrinsic variables that affected learning. Researchers interested in behavior and learning wanted to make the study of learning scientifically rigorous with quantifiable data based on observable behavior. Although the majority of the research on learning and behavior was done on animals in the early to mid-twentieth century, it was extended to learning in humans by researchers such as B.F. Skinner, who used precise scientific methods in his experiments with animals.

Learning Theory

In the 1930s and '40s, B.F. Skinner, an American psychologist and Harvard professor, reviewed research studies on learning, behavior, and conditioning by Pavlov, Watson, and Thorndike. Skinner concluded there were two types of conditioning: respondent (or classical) conditioning where a response is elicited by a known stimulus (Pavlov and Watson); and operant conditioning where a response is not elicited by any known or obvious stimulus (Thorndike). Most of Skinner's research was directed towards discovering the principles underlying the learning of operant behaviors and elaborating procedures for bringing about this type of learning (Lefrancois, 1982).

Skinner's experiments were clearly defined in precise language with quantifiable, observable results. He conducted experiments with animals to learn more about emitted and elicited behaviors and operant conditioning. Emitted behavior is the occurrence of a response without a specific stimulus. Elicited behavior is the reliable production of a response by a stimulus in unconditioned or conditioned reflexes. Operant conditioning, as defined by Skinner, "refers to the fact that the behavior operates upon the environment to generate consequences" (Skinner, 1953, p. 65). He theorized that the stimulus that follows behavior increases the probability that the behavior will occur again. Learning, according to Skinner is "the reassortment of responses in a complex situation caused by the repeated associations between the response and the reinforcement" (Skinner, p. 65). Reinforcement increases the probability that the behavior preceding it will recur. Behavior can be shaped in small increments by reinforcing a series of successive approximations of behavior, which will "bring a rare response to a very high probability in a short time" (Skinner, p. 92).

Two categories of reinforcements, positive and negative, can increase the likelihood that an organism will repeat the same act in a similar future circumstance, according to Skinner. A positive reinforcement presents a pleasant consequence for a response. Decreasing the probability of a behavior recurring is accomplished by two methods, negative reinforcement and punishment. Negative reinforcement stops an ongoing unpleasant consequence which is terminated by the desired response. Reinforcement, positive or negative, increases the probability that the behavior that preceded it will recur. Punishment differs from negative reinforcement in that it is an aversive or unpleasant consequence that follows the response. Skinner found in his experiments that punishment does not always

work to decrease the behavior. When he punished rats in his experiments, for example, Skinner found it only stopped their response temporarily. If the punishment was too severe, it seriously inhibited all behavior and disrupted further learning. Skinner objected to punishment and believed withdrawal of reinforcement was more effective to extinguish undesired behavior (Skinner, 1953).

Skinner assumed that human behavior follows the principles of learning in animals. All aspects of human behavior, according to Skinner, must be analyzed before assigning genetic or emotional reasons for the causes. An analysis of the environment, he stated, may provide an understanding of the associations between stimuli and subsequent behavior (Skinner, 1953). Skinner's adherence to scientific methods of defining behavior and all the conditions associated with it, established a model for objectively describing and studying human behavior. His learning theory is broad in scope, based on animal research, and extended to learning in humans. His research techniques and systematic study of the environment established the framework for future research studies and theories of learning (Skinner, 1953).

“Since the late 1960s, special education instructional practices have been dominated by behavioral concepts, particularly as derived from operant learning theory” (Mahoney & Wheatley, 1994, p. 119). In special education, teacher's observations and children's test results determine objectives for students with delays and disabilities. Teachers specify and operationalize objectives for each child, design and implement teaching strategies that shape behavior and desired responses, and evaluate how the child responds. Instruction is based on designing teacher-directed activities that relate to educational objectives. Reinforcement (a reward) encourages children to perform predetermined behaviors and respond in the desired

manner to instructional activities (McConnell & Hardman, 1988). Behaviorism is a highly positive and activist-oriented educational model, grounded in the belief that all persons, including persons with disabilities can learn and change (Mahoney & Wheatley, 1994). From the 1960s to the present, behaviorism provided an alternative to ineffective practices that were being used in schools with children with disabilities.

Social Learning Theory

Albert Bandura, influenced by Skinner, presented the concept of observational learning as the way in which children learn complex behaviors quickly. This mode of learning was not explained by learning theory. Bandura, an American social learning theorist and psychologist, believed “one of the fundamental means by which models of behavior are acquired and existing patterns are modified entails modeling and vicarious processes” (Bandura, 1969, p. 118). Bandura describes vicarious processes as the “observation of rewarding consequences which generally enhance similar performances, while witnessing punishing outcomes inhibits the effects of the observed behavior” (Bandura, p. 30). Included in Bandura’s social learning theory, proposed during the late 1960s, are the basic tenets of stimulus-response learning to which he added elements of cognitive learning theory. Social learning theory describes the process of acquiring new behaviors never attempted and the influence of vicarious reinforcement and punishment on future actions (Bandura, 1969).

Social learning theorists believe “modeling, observational learning, and vicarious learning are means by which the child adds to a repertoire of actions by seeing or hearing someone else perform the behavior rather than overtly carrying out the behavior” (Bandura,

pp. 118-120). Language serves as an important symbolic system that helps the child recall and self-direct steps in attempting to reproduce complex behavior. Observational learning is a complex multi-process phenomenon. The child is an active mediator in the environment, determining what behavior to imitate and with what frequency and intensity. Social learning theory is based on learning theory principles as the human being uses “an internal information-processing system to help in the reproduction of behaviors” (Bandura, 1969).

Elements of social learning theory are applied in early childhood education as teachers understand the importance of peer role models on children’s learning. Pairing children with peers supports each child’s observation and participation in activities. Social learning is fostered as children listen to and observe others play and participate in various classroom activities. As the child observes, she learns how her peers participate and how they are encouraged to do so. The development of social learning theory represents one arena in which the cognitive-developmental and the behaviorist perspectives are, in some ways, combined.

OTHER TWENTIETH CENTURY RESEARCH DIRECTIONS

Research on Children in Institutions

As child development research continued in the 1950s, other areas of investigation began to have important implications for educators. Research in learning behavior and the study of child development began to converge with studies questioning the constancy of intelligence and the effects of institutionalization. An analysis of current research about the influence of the environment on the developing brain was presented by J. McVicker Hunt in his seminal book, *Intelligence and Experience* (1961). Hunt reviewed and analyzed research

and theory about development and learning. He concluded that “assumptions that intelligence is fixed and that its development is predetermined by the genes are no longer tenable” (Hunt, 1961, p. 362). Hunt argued that children’s cognitive development is determined by the amount and quality of early experiences and that intelligence can be modified.

In a study that also discussed the influence of early experiences, Harold Skeels (1966), a researcher at the Iowa Child Welfare Station, published his long-term investigation of children in orphanages. Skeels’ pioneering, descriptive research detailed the development of intelligence in children from infancy to middle childhood (Skeels, 1966). Skeels studied two groups of children in an orphanage. Both groups of children showed signs of mental retardation when they first entered the orphanage. As part of the study’s design, the children in the experimental group were placed in a nursery school program five times a week. “The program of nurturance and cognitive stimulation was followed by placement in adoptive homes that provided love and affection and normal life experiences” (Skeels, 1966, p. 58). The development of the children in the control group “was so delayed that adoptive placement was out of the question and they remained in the orphanage” (Skeels, p. 53). After two years, Skeels reported that the children in the experimental group showed an increase in mental growth. The children in the control group, who remained in the orphanage, showed progressive mental retardation during the same two years. In the analysis of his study, Skeels advocated for early intervention for disadvantaged children. He believed early intervention would “counteract the devastating effects of poverty, sociocultural deprivation, and maternal deprivation” (Skeels, p. 57). The prediction of intelligence, according to Skeels, could not be based on the child’s first developmental status or results of intelligence tests. Skeels noted

“there is a need for further research to determine the optimum modes of intervention” (Skeels, p.59).

In the 1970s, Dorothea and Benjamin Braginsky, college professors, researchers, and social scientists, conducted one of the first studies of the environment and culture of children in mental institutions. They stated “the descriptive aspect of our research with the mentally ill primarily dealt with portraying the mental patient as he behaved both within and outside of the hospital”(Braginsky & Braginsky, 1971, p. 33). The Braginskys’ research, published in the book, *Hansels and Gretels: Studies of Children in Institutions for the Mentally Retarded* (1971), challenged existing psychological and educational treatments for children who were mentally retarded. The Braginskys concluded “the results of our research program not only contradict the widely held assumptions about mental retardation but support strongly our theoretical position” (Braginsky & Braginsky, p. 178). The Braginskys argued that the label of mental retardation stigmatizes and victimizes children who are discarded by their families and society. They found that “many of the retardates were able to implement life styles that were counter to the values of the institutions” (Braginsky & Braginsky, pp. 175 & 176). Further, the Braginskys proposed that children who are mentally retarded and/or brain damaged could learn if they were in supportive, nurturing environments (Braginsky & Braginsky, 1971).

The concern for all children’s welfare and the study of learning and development converged in the research studies of Hunt, Skeels, and the Braginskys. Hunt challenged the concept of fixed intelligence, noting that early experiences affect the intellectual development of all children. It is the quality and quantity of experiences, according to Hunt, that help

determine one's intelligence. Skeels' study emphasized the importance of early experiences on children's intellectual development. He proposed that cognitive development is affected by the environment which includes the quality of care, stimulating experiences, and nurturance. The Braginskys' research detailed how children who were labeled mentally retarded were victims of institutions where they are treated as defectives. They argued that children were "sent to institutions for the mentally retarded because of rejection, family disintegration, or betrayal rather than because of stupidity or defectiveness" (Braginsky & Braginsky, p. 176). Children in institutions, they reasoned, do not receive the necessary nurturance and intellectual stimulation to support their cognitive, social, or language development. The Braginskys' study further emphasized the importance of the environment on learning.

Hunt's research and the studies by the Braginskys and Skeels raised questions about prevailing societal concepts about intelligence, the culture of disability, and the development of children with disabilities and handicaps. Their descriptive studies detailed the experiences of children in different institutions. Hunt, Skeels, and the Braginskys noted the importance of environmental influences on cognitive development. Their research studies were instrumental in the events that led to the initiation of programs in the United States that concentrated on early education for the disadvantaged.

Brain Research

The importance of early experiences is being substantiated by recent medical research on brain development. Researchers Emde and Izard, in particular, working in the 1970s and

into the 1990s, propose a psychobiological theory of affect based on brain maturation research. According to Emde and Izard, emotions are biologically programmed and intrinsic. Emotions 'become affect' as the child develops strong feelings, with consequences that lead to actions. It is through the expression of affects in transaction with information from the environment that the self is developed (Emde, 1983). Biology provides the child with the tools for learning, while learning occurs as a result of transactions with adults. "The development of self is a continuing process through which all behavior is related and integrated throughout a person's life" (Emde, 1989; Emde & Buchsbaum, 1989). Emde and Izard believe development and learning occur as the result of intrinsic and extrinsic factors.

Another psychologist interested in brain maturation and development is K.W. Fischer. Fischer builds on Piaget's hypothesis that knowledge is acquired in a hierarchical manner through experiences with the environment. Fischer believes the process of moving into higher skill levels is related to brain maturation. An individual's brain processes become more sophisticated with interactions with adults and more advanced peers. Combining a skill theory approach with brain maturation research, Fischer contends that the quantity and quality of early experiences for young children are extremely important. Early experiences affect how a child learns and must occur before the brain matures. The child's skill level increases as the brain combines lower-level skills into new structures (Fischer, 1980).

The new science of brain research has provided insights into brain development. "Of all the discoveries that have poured out of neuroscience in recent years, the finding that the electrical activity of brain cells changes the physical structure of the brain is perhaps the most breathtaking" (Nash, 1997, p. 18). Scientists have discovered that the brain begins working

before birth. At birth, a baby's brain contains millions of neurons. All the brain nerve cells are in place, but the pattern of wiring is not yet established. Sensory experiences change the brain's patterning and connections between neurons. As the brain matures, it eliminates connections that have not been used. By the age of ten, the brain patterns and connections that remain are unique to the person (Nash, 1997).

Neurological research has confirmed the importance of early experiences as the architects of the brain. The brain during the early years is so malleable that young children's repeated experiences with the environment result in learning. Interactions with parents, teachers, peers, materials, and the environment all contribute to the brain's growth and development. The recent brain research has also offered hope to parents of children who have brain trauma or other disabilities that affect the brain. For example, children who have suffered strokes or some other brain trauma can still mature into functioning adults with the proper intervention and early experiences before the age of ten. Early experiences have the power to change the brain's connections and increase a child's capacity to think and learn. Thus, brain research validates the importance of early experiences and a rich early childhood environment noted by researchers and theorists earlier in the century. "Modern neuroscience is providing the hard, quantifiable evidence that was missing earlier" (Nash, p. 23). In fact, neuroscience confirms that intelligence is not a fixed quantity and that early experiences affect all aspects of development (Nash, 1997).

SUMMARY

Social concerns about children's physical and psychological welfare at the beginning

of the twentieth century were important issues for reformers, physicians, and the general public. Ideas about how children learn and develop were also changing during this time from a faith in intuitive and introspective analyses to a faith in scientific observations. Psychologists wanted to make the study of child development a focus of scientific research. As part of a social effort to improve children's lives, scientific research on child development began with the establishment of child research programs. As a result of the research, theories of development and learning were proposed during the mid-twentieth century.

The theories of development suggest frameworks for understanding the cognitive, social, language, and physical development of young children. Programs serving typically-developing children were attracted to the developmental theories which emphasize learning as an active process and the importance of play on development. The developmental theories place emphasis on child-centered variables as a basis for understanding development. In early education programs for typically developing children, child-directed activities are considered essential for learning as children choose activities that will engage them in the acquisition of new knowledge. Through their interactions, children construct meaning and understanding. The focus of the developmental theories is on what the child can do and the provision of experiences that enables the child to advance to the next stage.

Theories of learning, which are different from theories of development, present a way in which to understand changes in behavior that occur due to learning. From a learning theory perspective, the child is considered passive and the environment is manipulated to facilitate learning. Programs serving children with special needs were particularly attracted to a form of learning theory, behaviorism, to understand the relationships between events in the

environment and observed behaviors. Behaviorism has a deficit orientation that assumes development and learning occur as the result of children learning behaviors that they are currently not able to do. The child is considered passive and the environment is manipulated to facilitate learning. Learning and mastery requires the acquisition of subskills or behaviors. Special education programs focus on teacher directed and teacher- initiated activities which are considered essential to help children learn specific skills that provide extrinsic rewards or reinforcement.

Research continued on development and learning during the mid-twentieth century. Studies questioning the constancy of intelligence and the effects of institutionalization raised questions about the prevailing societal concepts about intelligence and disability. Most significantly, in each of the studies discussed in the chapter, the importance of environmental influences on intellectual development challenged ideas about the education and care of children with disabilities.

With medical advances in the late twentieth century, scientific research on the brain has contributed new information about the impact of early experiences on brain development. Brain research transcends the perspectives on development and learning proposed earlier in the century. Recent medical research confirms the importance of early experiences for brain development. Interactions with parents, teachers, peers, materials, and the environment all contribute to the brain's growth and development. The importance of early experiences and the environment discussed in the theories proposed earlier in the century are confirmed by neuroscientific research. Early experiences change the structure of the brain. Medical research on the brain does not detail what types of experiences are essential for healthy brain

development; rather, it confirms that early experiences are essential for brain development.

Early childhood education and special education have had different theoretical bases and contrasting conceptualizations about how children develop and learn. Early childhood programs serving typically-developing children view learning occurring as the result of child-initiated discoveries and attempts to understand them, which are themselves rewarding to the child. These child-initiated discoveries often occur through self-directed play. In contrast, special education programs, serving children with disabilities, emphasize that learning and cognitive understanding are the result of acquiring subskills and related behaviors which are dependent on external rewards. In inclusive early childhood programs there is a convergence of the two different philosophical approaches - the behaviorist and developmental perspectives. Both approaches are used to inform teaching practices in inclusive early childhood settings. A shared theoretical foundation is the basis for understanding that each child develops at a different rate and requires various instructional strategies, experiences, and environments in which to learn.

From a developmental perspective, play is viewed as a way to enhance the development of all children, those who are typically developing and those with special needs. It can also serve a critical role in children's literacy development. Included in the next chapter is a review of the literature related to the stages of children's play development from infancy through the early school years, the way in which play contributes to development, and the connections between play and literacy learning.

CHAPTER 2 PLAY AND LITERACY: LITERATURE REVIEW

Over the past twenty-five years, researchers have noted a relationship between play and literacy learning in young children. Studies suggest that the emergence of literacy skills is developmental, that is, children construct knowledge about print in much the same way as they learn in play about their environment. In this chapter, the literature review includes a description of the development of children's play behaviors, how play supports children's cognitive, social, and language development, and the relationship between play and literacy learning. The relationship between play and literacy suggests implications for teaching practices in inclusive early childhood programs. The purpose of the chapter is to establish a theoretical foundation for studying play and its impact on children's development and the emergence of reading and writing behaviors in young children with and without disabilities.

THE DEVELOPMENT OF PLAY BEHAVIOR

Play in Infancy

A child under a year old manipulates objects as things are touched, grabbed, pulled, pushed, and thrown. All of these actions are ways in which the infant learns about an object and his own ability to act on objects. During the first months of life, the infant "looks for the sake of looking, handles for the sake of handling, (as he) moves his arms and hands, he is doing actions which are an end in themselves, as are all practice games, and which do not form any part of any series of actions imposed by someone else or from outside" (Piaget, 1962, p. 90). As the child engages in this play behavior, he learns about the relationship of

his movements to himself and to objects. The child practices familiar activities with an object. For example, he may grab an object and bring it to his face over and over again. The child's early repetitious exploratory behaviors of looking, listening, touching, reaching, grabbing, throwing, mouthing, and tasting are actions that are classified, by theorist Jean Piaget, as a type of play called sensorimotor activity (Piaget, 1962).

Further research about sensorimotor play describes how the infant learns about objects. Uzgiris and Hunt (1975) categorized sensorimotor activity noting how the same action is applied to all objects. The infant learns to differentiate his actions according to the materials. As sensorimotor activity continues, the child begins to use objects as they have been defined within the social environment. Hats are put on heads, animals are gently patted and fed, and trucks are pushed on their wheels. Rubin, Fein, and Vandenberg (1983) describe sensorimotor play as "repetition with deliberate action" (p. 700).

Studies about sensorimotor play by Berlyne (1960, 1966), Hutt (1971, 1979), Hutt and Hutt (1977), Fenson, Kagan, Kearsley, and Zelazo (1976) and McCall (1974) describe how the infant learns through exploration. As this type of play continues into the second year of life, the child begins to understand the social meaning of objects. Objects are sorted, categorized, and collected in various ways as the child, for example, puts certain objects in a box and then dumps them out. Actions are combined and coordinated into sequences that reflect the beginning of pretend play. Sensorimotor play develops in the context of the social environment where the young child learns about play materials, their properties, and uses. At the onset of pretend play, which usually begins in toddlerhood, children use language and play materials to represent situations and actions.

Play of Toddlers and Preschoolers

Toddlers and preschoolers participate in symbolic play when they use objects to represent actions that are not directly related to the function of the object. When, for example, a child uses a block to represent an ice cream cone, he begins to pretend play. The object becomes separated from its social context as the child begins to rely less on realistic materials in order to pretend. Children's pretend play develops through several levels as they learn to represent their ideas. During the second year of life, the child may pretend to drink from a cup, a play action that demonstrates how he understands the act of drinking as it relates to himself. As the child continues to learn about objects and events through play, he may feed stuffed animals with a cup. Feeding stuffed animals demonstrates how the child has removed himself from the action and applied the action to another situation. The child begins to understand the relationship between the person who is fed and the provider of the food. Familiar objects and situations are explored and the child begins to investigate unfamiliar objects and situations (Bergen, 1988). Through sensorimotor and then symbolic or pretend play, the child comes to understand objects and the effect of his actions upon them. The child begins to incorporate his experiences and understands objects through sensorimotor play and then through beginning pretend play.

Symbolic play is initially solitary and it becomes collaborative, a social effort, when the child involves peers in his play. Play becomes more social and meaning is derived from familiar as well as novel experiences. Familiar play experiences, that is, experiences children often have, include play with objects and language. Playing out themes such as eating lunch or going to the store become the basis for involving peers in play episodes. As children build

on experiences they have in common, their play becomes more complex as they begin to act out roles within a play sequence. (Newman, 1971).

Sociodramatic Play

As children engage in symbolic play, they use real objects to represent other objects and ideas. Their play becomes sociodramatic as they engage peers in theme-related make-believe situations using play objects as symbols to represent ideas and materials in the play episode. The preschool years are "the golden age of sociodramatic and make-believe play" (Singer & Singer, 1979, p. 195). Symbolic play becomes sociodramatic as children involve peers in socially complex circumstances and situations. The themes in play increase as children narrate what they do as well as act out particular roles. In a sociodramatic play sequence, a child may take on the role of another person, animal, or inanimate object. While taking on these roles, children may also play out situations that have meaning for them. A child may, for example, take on the role of mother as he plays out taking care of the new baby. The primary attributes of sociodramatic play are that it includes language, social interaction, and pretense (Rogers & Sawyers, 1988).

In sociodramatic play episodes, children of preschool age can both narrate their play and become actors in it. Narration and role-taking follow a sequence. A young child can act as the mother with the adult as the baby. An older child can, with peers, act as the mother, father, or baby. "The ability to frame the play in terms of role expectations, to coordinate roles, and to communicate within and out of the play becomes greater as children's age and experience with social pretense increases" (Bergen, p. 54). As the role play of young children

becomes more sophisticated, they use language to set the scene for the play and pretend scenarios. At times, children put themselves in imaginary situations such as a flood or a blizzard. "These make-believe situations are often created so that some kind of problem is posed for the pretend characters to solve" (Trawick-Smith, 1994, p. 70). Inviting others to play, assigning roles to peers, inserting themes, and terminating play are language aspects of sociodramatic play.

Children construct play episodes in sociodramatic play which change reality. The play episode may change as players change reality to the way they understand or wish it to be. In their play, children gain control or a measure of it as they play out situations. Children may also incorporate frightening or forbidden subjects into their play to create their own reality. Unpleasant events such as a hospital stay may be reenacted and made more pleasant. Sociodramatic play, then, allows children to "to think aloud, sometimes collectively, about meaningful experiences - both pleasant and unpleasant. Especially important is children's freedom to alter their relationship to the immediate environment and to denote things they have not experienced" (Rogers & Sawyers, p. 48).

Sociodramatic play is of particular interest to researchers because of its cognitive complexity. In sociodramatic play, "children are continually refining social-cognitive concepts" (Farver, 1992, p. 514). Researchers continue to define aspects of the functions of sociodramatic play as they relate to cognitive, social, and language development. Sociodramatic play is the foundation for another type of play that involves games with rules.

Games with Rules

As children participate in sociodramatic play, they practice using objects to symbolize ideas. In sociodramatic play children also play with rules, that is, "social rules are used to negotiate roles, and there are rules to maintain the pretend aspects of play" (Rogers & Sawyers, 1998, p. 49). In play, children can practice following rules or breaking them with no risk. As children play with rules, they can also combine them to create new rules. When peers are involved in play, the play takes on a different form. Games with rules become more prevalent. "Games with rules are the lucid activity of the socialised being. Just as the symbol replaces mere practice as soon as thought makes its appearance, so the rule replaces the symbol and integrates practice as soon as certain social relationships are formed" (Piaget, 1962, p. 142).

Rule governed games give children opportunities to play within a structured framework that requires certain behaviors and responsibilities. There is a presupposed regularity to games with rules that involves an obligation by the players to follow certain procedures that are defined within a social context. Competition is regulated by a certain code or agreement among the players (Piaget, 1962). Children become more involved with rule-governed play as their symbolic and sociodramatic play behaviors decline. Games with rules mark a transition to adult play, that is, play that allows one to be victorious over others while following a code of fair play agreed upon by members of the social group. Following rules is more difficult and requires one to understand and coordinate others' perspectives and remember both the rules and what others are doing while participating in the game. As children develop and adapt to reality, their pretend play behaviors decline. When they

participate in rule governed play, they accept the challenge to adapt to the social culture with its demands and competition. Participation in rule-governed play is also an indication of children's cognitive competence. This stage of play is an indication of the child's social and cognitive development in the culture. When children involve themselves in games with rules, they are assimilating reality while also understanding the demands of their culture.

Each child progresses through each of the play stages in his or her own way and pace. Play is "voluntary, spontaneous, pleasurable, and requires active engagement" (Linder, 1994, p. 74). There is no particular goal in play except participation in a self-chosen activity which is intrinsically rewarding. The types of play that a child participates in shift as the child develops. Play and development are intricately interrelated, with play seeming to lead development and development leading to more complex play (Fromberg, 1992).

The Development of Play Behaviors in Children with Disabilities

The interrelatedness of play and development is not a view generally held by special educators. The behaviorist model of special education is based on the belief that children with disabilities do not engage in play activities that promote learning and development unless they are involved in teacher directed activities.

If learning and development occur as the result of children's spontaneous and repeated performance of behavior, then directed instruction is not necessary, since the kinds of behaviors that children with disabilities normally produce while playing or socializing are the basis for higher levels of functioning (Mahoney & Wheatley, 1994, p. 122).

The development of play behaviors in children with disabilities has been the subject of recent research.

Before 1980 there were few research studies on the play behaviors of children with disabilities. The limited number of studies may have been affected by the fact that play, in general, was not part of intervention and teaching strategies for children with disabilities. Since 1980 more than thirty research studies have examined the play behaviors of children with disabilities (Mahoney & Wheatley, 1994). The play of children with disabilities has been investigated as it relates and compares to play behaviors of typically developing children. Some researchers indicate “there is evidence that the play of children with disabilities is qualitatively and quantitatively different from the play of children without disabilities” (Linder, 1994, p. 73). The play skills of children with disabilities, as noted in some investigations, correlates with their language functioning (Beeghly et al., 1990), interpersonal skills, (Hill, McCune-Nicholich, 1981; Motti, Cichetti, & Stroufe, 1983) and cognitive development (Hill, McCune-Nicholich, 1981; Power & Radciff, 1989). When the play behaviors of children with disabilities are compared with those of their typically developing peers, data suggest that children with disabilities participate in play less often (Li, 1985; Turner & Small, 1985) and their play is less varied (Beeghly, Weiss-Perry, & Cichetti, 1990). Children with disabilities, according to some researchers, remain at lower play stages for extended periods of time (Jennings, Connors, & Stegman, 1988; Li, 1985).

Some research studies suggest that the play of children with special needs is qualitatively and quantitatively different from the play of typically developing peers of the same age. Other research studies suggest that when the play of children with disabilities is compared to the play of peers who are at the same developmental age, fewer differences are observed (Brooks-Gunn & Lewis, 1982; Gowen, Goldman, Johnson-Martin, & Hussey,

1989). Studies by Brooks-Gunn & Lewis (1982), Beeghly et al. (1990) suggest that children with disabilities progress through the same play stages as typically developing peers. These studies “suggest that children with disabilities demonstrate comparable levels and intensity of play and progress through the same play stages as do typically developing children” (Mahoney & Wheatley, p. 123). There is little research support for the belief that children with disabilities need directed instruction to guide them to participate in stimulating play activities. The same types of play activities in which typically developing children engage are also related to the emergence of early developmental skills in children with disabilities (Weisz & Zigler, 1979).

Play is self-chosen and intrinsically rewarding as children participate in a variety of play activities. “Children can come into play at many different levels, use it in many different ways, and end it at points which seem to them to be appropriate” (Hall, 1991, p. 21). When young children with disabilities are given access to play activities, they develop play behaviors similar to those of typically developing children. Play supports the emergence and development of cognitive, social, and language skills for all children. In the next section, research and theories of development are reviewed which highlight the role of play as it supports the development of skills in young children.

DEVELOPMENTAL ASPECTS OF PLAY: THEORY AND RESEARCH

Play and Cognitive Development

Jean Piaget's observational studies (1962) of children detailed how cognitive development is enhanced through play. In play, according to Piaget, the child learns about

himself and the world around him by interacting with the environment and with others. In his theory of cognitive development, Piaget describes the ways in which children's thoughts and perceptions change qualitatively over time while they are involved in play. In the preoperational period, the child has a beginning ability to form images that support thinking, in an imaginative way, about events that are not present.

When the child plays, he certainly does not believe, in the sense of socialised belief, in the content of his symbolism, but precisely because symbolism is egocentric thought we have no reason to suppose that he does not believe in his own way, anything he chooses...There is no question, therefore, in the early stages of symbolic play, of consciousness of make-believe like that of drama or poetry (Piaget, 1962, p. 168).

From play experiences with his environment and with his peers, the child assimilates new information to extend his own understanding. According to Piaget, the development of play behaviors follows a similar path to cognitive development.

"Just as imitation is gradually reintegrated in intelligence by being brought into equilibrium with assimilation, so the evolution of symbolic play behaviors show a complementary and correlative reintegration of the assimilating activity in intelligence through progressive equilibration with accommodation" (Piaget, p. 288).

As the child observes peers or adults using novel objects in a particular way, he imitates what he has observed. When the child plays with various objects, pretending they represent different things, he creates a symbol to represent his thoughts and acts out what he means. As the child involves peers in the symbolic play, the play becomes sociodramatic (Piaget, 1962).

The emulation of adult behavior in play moves from creating play episodes in which the child imitates adult behavior to the child creating his own use for the play material, to involving peers in the play situation. Involving peers requires negotiation and agreement as

to what is going to be played and how. As children play, their understanding develops through motor activities and social interactions. Children's motor and social abilities become more sophisticated and their play skills undergo a corresponding advancement. There is a reciprocal nature to the changes. Advancements in motor skills support cognitive development which, in turn, support language development which affects social development (Linder, 1994).

Cognitive development is supported in play as children can decide whether to engage in familiar activities or change them (Almy, Monighan, Scale, & VanHoorn, 1984). In sociodramatic play, in particular, children transform reality by symbolizing their actions, using various materials, and immersing themselves in play scenarios (Sachs, Goldman, & Chaille, C., 1985). As children explore various materials, their sensory systems help them develop cognitive understanding. They learn to discriminate, classify, and develop spatial understanding (Rubin & Maioni, 1975). The development of discrimination and classification skills, in particular, leads to higher levels of play that are related to language and prereading.

Cognitive development is further supported in play as children act on objects and experience new events. As children manipulate objects, they experiment with them in different ways and begin to develop problem-solving strategies. Trial and error, visual and physical scanning, and advanced planning are problem-solving strategies that are developed while playing. When in play, children are in an environment where they can persist in solving a problem and can test out new ideas and strategies with familiar and new materials. Sociodramatic play, in particular, supports problem-solving and flexibility in thinking. Children learn in pretend play how to solve problems. For example, if there are only two hats

for the fathers in the play and there are three children who want to be fathers, children negotiate how the problem will be solved. Play is a context for learning because curiosity and invention lead to different ways to do something or solve a problem (Piaget, 1962).

Play and exploration support convergent and divergent thinking. Convergent tasks have one solution while divergent tasks have many solutions. In play, children are able to practice both types of tasks (Bergen, 1988). While playing, children plan, develop hypotheses, and begin to understand abstract symbols. Symbolic play also appears to enhance recognition of numbers and understanding set theory (Yawkey, Jones, & Hrcir, 1979) as well as sequential memory performance. All of these skills are important in the development of cognitive skills that will be applied in elementary school.

Social Dimensions of Play and the Development of Social Skills

Erik Erikson like Piaget, defines play as a developmental progression and details how play skills develop in the child's culture. Erikson's psychosocial theory of development emphasizes that through play the child first learns about himself and then learns about himself in his culture. "Play, then, is a function of the ego, an attempt to synchronize the bodily and social processes with the self" (Erikson, 1950, p. 211). As the child learns about himself and his environment, play is, at first, autocosmic, that is, the child's play actions involve exploration of his body and movements. The child learns to master his bodily movements through repetitious sensory, kinesthetic, and vocal experiences. From learning about himself, the child then progresses to learning about objects in his own world or microsphere. As the child continues to develop, his play includes peers in the social environment. The child begins

to share objects and eventually playmates. Play occurs and develops within a social context, where the child learns what is socially acceptable. In each sphere, the child, through play, attempts to understand and master reality. Children create their own reality, playing out fears, frustrations, and anxieties, mastering each in their own way. Socially defined behavior in the child's culture is practiced in sociodramatic play episodes as the child interacts with peers and materials and takes on various roles as a way of practicing social skills. "Psychosocial identity develops out of a gradual integration of all identifications as children integrate what they have learned in each sphere to identify themselves as unique individuals in their society" (Erikson, p. 241).

As children's play develops, they are influenced by the social environment. Play develops within a social context as children learn about themselves, the environment, and others. Sensorimotor and symbolic play behavior develop within a social context. Studies by Brazelton, Koslowski, & Main (1974), Clarke, Stewart, VanderStoep, and Killian (1979) suggest that children six months of age and younger respond to their mothers and other human beings in the environment. The give-and-take of looking and responding to each other, mother to child and child to mother, indicates that infants are receptive and respond to the human face and voice.

Further research has noted stages of social play and how play develops in the social context. McCall (1979), for example, discusses the stages of social play which are distinguished by specific social influences in the sensorimotor and symbolic play stages. In the sensorimotor play stage, infants are influenced by the primary adult or caregiver. At the symbolic play stage, the adult continues to be a primary social influence while peers begin to

become important. In all stages of play, the response of another human being influences children's actions and play (McCall, 1979). Hay, Ross, and Goldman (1979) also note how symbolic play develops within a social context. It is children's shared social experiences that are the basis and foundation for interactions with peers. The social experiences in play involve shared meaning of the objects to be played with, the scene for the pretend episode, and communication with each other.

Selman and Schultz (1990) studied social interactions between pairs of young children in play. They describe levels of social interaction. At the first level there is no perspective taking, as each child acts in an impulsive and egocentric way. One child is viewed as a barrier by the other child. Each child has his own goals, and problems may often be solved by physical force. While each child recognizes that the other child has a perspective, negotiation strategies are not coordinated. At the second level, there are some exchanges, either verbal or through sharing materials, that are reciprocal. Children may make pacts or one may verbally persuade the other to his point of view. At the third level, negotiations include collaboration as each child attempts to integrate the needs of the other child. When partners share experiences that are familiar to each other, issues of autonomy can be resolved. The shared experiences are the foundation for common knowledge for both children (Selman & Schultz, 1990).

Sociodramatic play has long been recognized as a type of play that allows children to practice social skills and learn about their social environment. In pretend play episodes, children learn to decenter, that is, they learn to think about more than one viewpoint or idea. In order to extend or continue a play episode, children need to think about what the next

action should be and who should be involved in it. Also in sociodramatic play children learn about group participation. The play provides a context for role-taking and opportunities for conflicts with group rules to be worked out (Athey, 1988).

Play supports the development of social skills. The social context of play provides children with opportunities to interact and play with each other, cooperate, share, take turns, express feelings, see another's perspective, and solve problems. Children can play out familiar, novel, and scary events. Play also helps children increase impulse control as they learn to occupy themselves and delay gratification. Theory and research confirm the importance of play as a means for developing social skills. Participation in play experiences support children's emerging abilities to interact and communicate with others.

Play and Language Development

Young children's emerging communication and language skills are supported in play. In infancy, children learn to communicate by interacting with mother, father, or a primary caregiver. As children develop, they become more involved with peers. They learn how to communicate what they want to do as they play and become involved in social exchanges. As the child becomes more involved with peers in sociodramatic play, she learns how to involve peers by using language that indicates to others what is to be played and what the rules of the play are. Familiar events, such as going shopping or preparing supper, are common themes for practicing language and communication. In sociodramatic play, children develop scripts or verbal exchanges during familiar activities. The scripts can be used to involve others in the thematic play (Bergen, 1988).

During the last twenty years, some play research investigations have focused on the relationship of sociodramatic play to language and language-related abilities (Athey, 1988; McCune-Nicholich & Fenson, 1984; Pellegrini & Galda, 1982). The research studies note that during sociodramatic play, children use language by experimenting with it and pretending to be different people and objects (Curry & Arnaud, 1974). Children use language to determine a theme for the play, agree verbally what certain objects will represent, and talk with each as they play out the theme. Children must also describe in words the ideas and objects not present. Language allows children to transform real objects into imaginary ones and become different characters during play (Pellegrini, 1985; Schrader, 1990). Play, cognition, and oral language development occur together and there is a correlation among all three between the ages of one and five (Jurkovic, 1978; Levy, 1984; Lovinger, 1974; Marbach & Yawkey, 1980; Pellegrini, 1983, 1985).

Studies also confirm that language is acquired within a social context (Bernstein, 1961; Bruner, 1983). The social context is often reflected in sociodramatic play where young children learn how to communicate ideas to their peers. As children negotiate in their sociodramatic play, they interact with peers and assign roles (Corsaro, 1983; Corsaro & Tomlison, 1979; Goncu & Kessel, 1984; Nelson & Seidman, 1984; Sachs, Goldman & Chaille, 1984, 1985; Seidman, 1983). Once language is acquired, the child can think about experiences and what he knows.

Children's language skills are supported in play as they play with sounds and words. In the social context of play, children learn to represent actions with language. Sociodramatic play provides opportunities for children to practice language as they explain roles, props, rules

of the play, plan and refine scripts, monitor others' participation, and terminate play. When involved in pretend play episodes, children use language as they develop stories that have a sequence of events. Sociodramatic play provides a motivating context for literate behaviors, that is, children are learning to sequence events through actions and language, building a foundation for reading and writing.

PLAY AND LITERACY

Emergent Literacy: Theory and Research

Reading research conducted during the 1960's and '70's focused on collecting data about the skills early readers had acquired which are precursors to conventional reading. The focus of the research broadened as investigators learned about the environments and interactions early readers had with more competent readers. "Researchers expanded the purview of research from reading to literacy, based on theories and findings that reading, writing, and oral language develop concurrently and interrelatedly in literate environments" (Gunn, et al., 1995, p. 2).

Emergent literacy is a term that was first used by Marie Clay in her research about how young children explore print. The concept of emergent literacy was defined by Clay's study of storybook reading to young children (Clay, 1967). Other researchers (Clark, 1976; Durkin, 1966) also investigated the socio-psycho-linguistic activity of storybook reading to very young children. Data was analyzed and examined to understand literacy from the child's perspective. Researchers noted that as children actively construct knowledge about the world during play they also construct knowledge about reading and writing through

interactions with their environment. From their interactions with print, children learn there are differences between print and pictures, there is a relationship between oral and written language, and that adults interact with print every day (Teale & Sulzby, 1989). Emergent literacy emphasizes the process of learning about the conventions of print in order to become literate (Schickendanz, 1986).

Early literacy studies in the mid-1970's and continuing into the 1980's by Read (1975), Bissex (1980), Clay (1975), and Dyson (1985, 1986) focused on very young children. The socio-psycho-linguistic activity of literacy learning was examined from the child's perspective to explain the child's interactions with books and writing experiences. Cochran-Smith (1984) and Heath (1983) described the home environment of early readers and the literacy events in their environments. Both researchers proposed that the adult-child interactions surrounding early literacy events in a child's life supported emerging literate behavior.

From a socio-psycholinguistic perspective, the concept of emerging literacy is the basis for understanding how children born into a literate society are exposed to reading and writing behaviors early in life. Children observe adults reading the newspaper, signing checks, and writing letters, activities that have a purpose and meaning. As a result of their experiences in a literate environment, children actively construct knowledge about reading and writing. In the process, children learn the differences between print and pictures, the relationship between oral and written language, and how adults and peers interact with print (Holdaway, 1979).

"Contemporary views of children's development of literacy skills suggest that the process of literacy acquisition begins at birth and occurs in tandem with spoken language

learning" (Watkins, 1996, p. 193). As children participate in play and social interactions with adults and peers, they learn about language. Children learn about literacy events in much the same way as they learn language. Literacy learning is a natural progression through active participation in social and play environments with support from more literate peers and adults. From an emergent literacy perspective, children are viewed as active participants who learn about literacy well before they can read and write conventionally (Clay, 1967).

Acquiring literacy behaviors starts as early as when a child first comes in contact with print (Teale & Sulzby, 1989; Clark 1976; Durkin, 1966; Chomsky, 1972; Irwin, 1960). Children learn about communication through listening, speaking, and interactions with print. Children's experiences with books support language development, an understanding of the form and function of print, and story comprehension. It is the nature of the literacy experiences which serve as a precursor to reading (Share, Jorm, MacLean, & Matthews, 1984).

Continued research investigations about young children's literacy learning have defined aspects of emergent literacy and how children learn about print. "It appears that children benefit most from early literacy experiences that are informal rather than structured. Observing or participating in informal print literacy events is not, however, sufficient for developing literacy knowledge" (Van Kleeck, 1990, p. 30). Hiebert (1986) also proposes that young children's experiences with print alone are not sufficient. He believes that children's attention needs to be directed to print in their informal experiences. Adults need to guide, support, and inform children about print, the relationship between print and pictures, and relate what is in books and in the environment to the child's own experiences. The adult needs to draw children's attention to print and writing and provide meaningful experiences

that demonstrate reading and writing have a purpose (Hiebert, 1986).

Theories of development and research about oral language acquisition and play establish a framework for understanding the process of acquiring literacy behaviors. The emphasis is on interactive learning, that is, learning from interactions with books, writing materials, peers, and adults. The concept of emergent literacy presents a view of literacy as interrelated with speaking, listening, writing, and reading. Literacy learning occurs in an environment where there are interactions with more experienced members of the culture. Literacy development begins in the preschool years without formal teaching and in an environment that includes literacy materials and opportunities for social interactions (Christie, 1991).

Play and Literacy Connections: Literature Review

The early research of Buhler (1935) and Griffiths (1935) note that play is a context for the development of reading and writing skills. Theorists Jean Piaget (1962, 1969) and Lev Vygotsky (1978) also suggested a connection between play and the emergence of literate behavior. Piaget (1962) discussed how children learn to represent thought through their symbolic play. At the symbol stage, a child can use his imagination to represent something that is not there as, for example, a string can become a fire hose in a pretend play episode. In sociodramatic play, representational behavior begins when players agree upon oral or written symbols to represent ideas or events not present. Symbolism in this form is the foundation for reading and writing. Sociodramatic play provides the context for young children to imitate and pretend to read and write (Piaget & Inhelder, 1969).

Vygotsky (1978) noted in his studies of three-, four- and five year olds, that second-order symbolism develops in play, and consequently make-believe play can be seen as a major contributor to the development of written language - a system of second-order symbolism. Symbolic representation in play is essentially a particular form of speech at an earlier stage, one which leads directly to written language. Make-believe play and writing can be viewed as different moments in an essentially unified process of development of written language (Vygotsky, 1978, pp. 110, 111, 116).

Vygotsky's research suggests that the development of written language, a second order symbolic system, proceeds from oral language to symbolic and sociodramatic play to written language.

During the past twenty years, researchers have noted a relationship between children's play and the emergence of literate behavior in young children. "Play is a major part of the lives of children and an important context for literacy learning. Writing and play have a dominant role in literacy development" (Neilsen & Monson, 1996, p. 261). Data from research studies suggest that children's "first attempts to read and write frequently occur during play. Studies of early readers reveal that they play a great deal" (Rogers & Sawyers, 1988, p. 63).

Bessell-Browne (1985), for example, investigated the literacy behavior of young children in sociodramatic play areas in a kindergarten. She found that children used books and writing materials in a variety of ways in a play setting. As the children were involved in literacy activities, the activities had a purpose and meaning within the play context. Emerging reading and writing skills

were incorporated into sociodramatic play episodes, indicating a developing understanding of the many uses of literacy in the real world. The children's spontaneous literacy thus gave them the opportunity to extend their uses of literacy beyond those that may generally be encountered within a classroom (Bessell-Browne, 1985, p. 155).

Bessell-Browne concludes that when children are provided literacy tools in a play environment, they emulate adult literacy behaviors. Children will, for example, write grocery lists, share written pieces of paper with their phone numbers, read to a doll or peer, and write notes to each other. In a print rich environment, young children will use literacy materials in meaningful ways that relate to their play. Children's uses of the materials in their play extend beyond the experiences they may receive in a classroom. In play, reading and writing materials are used in a meaningful way that is not teacher-directed or directed towards a particular aspect of literacy, such as writing a letter. Children construct their own ways of using the available literacy materials available to them in sociodramatic play environments (Bessell-Browne, 1985). J.F. Christie's study suggests that "play can allow both learning about literacy and the demonstration of what has already been learned about literacy" (Christie, 1991, p. 22).

Sociodramatic play and literacy connections were found by Roskos (1988) in her research about the writing behavior of four- and five year olds in play. She observed eight children who participated in 450 reading and writing acts over three months in their school setting. Roskos found that the children "behaved like readers and writers. They assumed a literacy stance and in so doing exposed their theories-in-use about the functions and features of written language" (Roskos, 1988, p. 563). Roskos further suggests that play is the context in which literacy can be explored. Literate behaviors become part of the play script.

Continued research on play suggests connections between various types of play and literacy behaviors. The connection between symbolic play and literate behaviors have been documented by Gentile and Hoot (1983), Jacob (1984), Schickendanz (1978), and Wolfgang

(1974). In sociodramatic play, researchers note that children pretend to read and write (Baghban, 1984; Bissex, 1980; Holdaway, 1979; Kammler, 1984; Teale & Sulzby, 1987). Dramatic play allows children to demonstrate their understanding of the functional use of print. Pretend reading in sociodramatic play promotes the use of new vocabulary and opportunities to view written language. Children explore paper, pencils, and books as they scribble, draw, listen to stories, handle books, tell stories, and play with letters. While participating in these activities, children demonstrate their awareness of reading and writing behaviors (McGee (1986) Lomax & McGee,1987; Schickendanz, 1986; Clay, 1985; Ehri 1989; Harste, Woodward, & Burke 1984, Hiebert, 1981; Morrow, 1985; Sulzby, 1985). The ability to represent ideas is a foundation for reading as children learn how to use conventional symbols to represent thoughts and ideas (Roskos, 1988; Schrader, 1990). "Symbolic play, the process of transforming an object or oneself into another object, person, situation, or event through the use of motor and verbal actions in a make-believe activity, provides an important source for literacy development" (Isenberg & Jacob, 1983, p. 272).

Play provides an environment for literacy learning. Within the play environment, print, books, and writing materials are the play objects. Realistic materials for reading and writing can suggest reading and writing activities (Christie & Noyes, 1986; Isenberg & Jacob, 1983). Children use literacy materials when they are accessible, attractive, and their use is encouraged by an adult (Morrow & Weinstein, 1982, 1986). In play environments that include books and writing materials, children have been observed 'writing', telling stories, and pretending to read (Roskos, 1988). Flavel (1966) and Pellegrini (1985) and other researchers propose that in a print rich classroom which includes books, pencils, paper, and other literacy-

related materials, children's language engagement and literacy-behaviors are supported (Morrow, 1990; Morrow & Rand, 1991; Morrow & Weinstein, 1986; Neuman & Roskos, 1992). Literacy-rich sociodramatic play environments support language and social interaction opportunities for reading and writing experiences. During play episodes in a literacy-rich play environment, children demonstrate literacy skills such as directionality, 'reading' print, comprehension of stories, literacy routines involved in reading and writing, and the purposes for reading and writing. In sociodramatic play environments that include books and writing materials, children have been observed 'writing', telling stories, and pretending to read (Roskos, 1988).

The sociocultural context of play establishes a framework for learning about literacy. Social experiences with peers and adults determine when, with whom, and in what instances children will use literacy tools. Children construct knowledge from their social culture to understand and derive meaning about their reading and writing experiences. The learning of literacy skills is embedded in the social context; that is, children socialize with each other and adults about what to read and write and the purposes for writing and reading. Children learn about reading and writing through their interactions with peers, beginning readers, and adults. To construct and develop concepts about literacy, children need a peer or adult who has more knowledge about reading and writing (Cannella, Viruru, & Amin, 1995). Van Kleeck (1990) and Hiebert (1986) emphasize that the adult supports, facilitates, and interacts with the child and the literacy materials. It is the adult who encourages, models, and supports interactions with print in a literacy-rich social context.

Vukelich (1992) describes the influence of the play environment and adult modeling

of literacy behaviors. In the study *Materials and Modeling: Promoting Literacy during Play*, Vukelich documented the amount of time children spent involved in literate behaviors during kindergarten free play time. The environment included theme-related literacy materials for children in the dramatic play area. Vukelich suggests that "through enriching the dramatic play area with materials and adult modeling, it is possible to increase young children's time engaged in literate behaviors in the dramatic play area" (Vukelich, 1992, p. 206).

Adding to the research about the importance of the play environment and interactions with adults, Christie and Enz (1992) investigated "the effects of two types of intervention on preschoolers' play patterns and literacy development" (Christie & Enz, 1992, p. 205). Children in two separate classes used the same dramatic play area. Children from each group were randomly assigned to two different interventions. The first group of children participated in the sociodramatic play area that included various theme-related literacy materials. The second group of children participated in the same sociodramatic play area with the support of the teacher to encourage and model for them how to incorporate the literacy materials in their sociodramatic play. The children were first assessed using the Peabody Picture Vocabulary Test-R. For twenty weeks the children were involved in one of the two situations (materials or materials with teacher intervention). They were then assessed after six months. Play situations were observed and categorized using Parten's and Piaget's categories of social and cognitive play. Christie and Enz state

the Materials Plus Adult Involvement combination proved to be very effective in encouraging some children to engage in literacy play and appeared to have a lasting effect on their play patterns. This simple, inexpensive intervention strategy can provide many children (those with a preference for dramatic play) with highly meaningful opportunities to explore the structure and functions of

written language (Christie & Enz, 1992, p. 218).

Christie and Enz note the need for further research to determine the impact of teacher interventions and support during play. They call for more qualitative descriptions of children's play and literacy activity. Christie and Enz suggest that there be many different ways in which children learn about literacy in their play. More descriptive research is needed to determine how literacy play can be supported and what it means for children with varying interests and abilities (Christie & Enz, 1992).

The relationship between play and literacy development continues to be the subject of research. The foci of emergent literacy research have been on descriptions of preschoolers' environments and literacy events to which they are exposed and in which they participate (Sulzby & Teale, 1991). Subjects for emergent literacy research range from the role of games, storybooks, and the functions of literacy (Hiebert, 1988) to the adult - child interactions in literacy events (Scarborough, Dobrich, & Hager, 1991; Snow, 1991; Sulzby & Teale, 1991). Continued research about related factors in play and early literacy include: social interactions in literacy-rich play environments; the development of language and literate behavior; the effectiveness of teacher interventions in play that support literacy activities; and how aspects and concepts about emergent literacy relate to children with special needs. The following section reviews recent research about the concept of emergent literacy and children with disabilities.

Emergent Literacy and Children with Disabilities

The concept of emergent literacy and the recent research about how young children

learn about literacy in their play establish a theoretical framework for studying how young children with special needs learn about literacy. There have been few research studies about the literacy-related experiences of children with disabilities (Elley, 1989; Morrow, 1992; Whitehurst, Arnold, et al., 1994). The methodologies and outcomes in the research about typically developing children's literacy development "may be relevant to children with disabilities" (Watkins, 1996, p. 195). Just as the development of play behaviors is relevant for children with disabilities, the emergence of literacy skills in young children with disabilities may be related to the same processes as typically-developing children.

From an emergent literacy perspective, literacy learning is a developing, interactive process. A variety of behaviors are considered as authentic attempts at constructing knowledge about books, print, reading, and writing. The wider perspective of emerging literacy "allows for a greater variation in the range of 'legitimate' literacy behaviors" (Klenk, 1994, p. 54). The concept of emerging literacy extends the parameters of legitimate reading and writing behaviors to consider children with a variety of disabilities as capable of learning about literacy (Katims, 1991, p. 82). From an emergent literacy perspective, then, the attempts of young children with disabilities to read and write are recognized as within the range of typical or normal emergent literacy behavior. This perspective is different from generally held assumptions about the behavior of children who are disabled and considered unable to learn about the conventions and functions of print (Katims, 1991; Klenk, 1994)..

Research on the literacy development of young children with disabilities is an emerging field of interest. Special educators recognize that children with special needs have not been immersed in play and social situations that provide opportunities for children to

interact with typically developing peers. Recent research indicates that children with disabilities receive fewer opportunities to view and handle books and are given limited access to writing, reading, and drawing materials (Watkins, 1996; Koppenhaver, Coleman, Kalman, & Yoder, 1991; Katims, 1991; Koppenhaver, Evans, & Yoder, 1991). Studies have also suggested that the natural process of emerging literacy is interrupted or not accessible to children with disabilities (Marvin, 1994; Marvin & Mirenda, 1994) as they may be viewed as having many deficits that impair their emerging literacy process. More time is spent in therapy to support the child with disabilities and rectify the deficits rather than provide literacy opportunities (Watkins, 1996). Investigations by Hiebert and Adams (1987), Lorenz, Sloper, and Cunningham (1985), and Marvin and Mirander (1994) suggest that literacy opportunities for young children with special needs may not be as available as they are for typically developing children. Watkins (1996) notes that "teachers and caregivers perceive reading and writing experiences as a low priority for children who demonstrate limitations in spoken language or proficiency or have other developmental challenges" (Watkins, 1996, p. 194).

As the emergent literacy research has confirmed, play environments that include literacy materials provide the social environment to facilitate cognitive, social, and language skills for typically developing children. Without access, young children with special needs are not provided the opportunities to learn about literacy in a natural, interactive environment, supported by an adult. Recent research about emerging literacy and young children with special needs has begun to investigate the impact of access to literacy materials.

Katims' (1991) year long study documented how ten young children with special needs were included in a literacy rich play environment. The environment was structured by the

teachers who supported and facilitated the children's use of literacy materials in a classroom library. The teachers also involved the children in daily group storybook readings. During certain periods of the day the teachers brought the children to the classroom writing center for meaningful writing activities that related to what the children were doing in the classroom. All of the children had access to literacy materials, were exposed to print, and were engaged in a variety of reading and writing activities. Katims indicates that the children interacted with books independently and engaged in a variety of writing behaviors that increased in complexity over time. He proposes that "with appropriate opportunity and structure, children with special needs can and do begin to grasp notions of reading and writing" (Katims, p. 80). Katims suggests that further studies are needed to document how children with special needs, who have access to literacy materials in play environments and are given support from teachers, generalize knowledge about reading and writing. The information gathered from a longitudinal study will help researchers and practitioners understand how early literacy experiences support conventional reading and writing behaviors (Katims, 1990).

Watkins (1996) documented the literacy opportunities and activities in two preschool early intervention classes. She suggests ways in which children with language disabilities can be immersed in early literacy experiences that support language and cognitive development. Watkins presents "a natural literacy perspective" (p. 191) which suggests that literacy learning occurs within a play context that supports meaningful interactions with literacy materials.

Natural literacy uses aspects of both whole language and phonological awareness approaches in providing a range of literacy experiences that can be adjusted to children's individual capabilities. Research focusing on literacy outcomes for individual children is imperative. Such research will aid in evaluating the efficacy of natural literacy methods for children with varied

disabilities and can assist interventionists in optimizing the match between child abilities and literacy enrichment efforts (Watkins, p. 208).

Watkins does not recommend one particular approach to literacy learning but a combination of approaches that include whole language and phonics to support young children's learning about the functions of print (Watkins, 1996).

SUMMARY

Children progress through play stages as they explore and manipulate materials, use objects to represent actions, involve other children in their pretend play, and begin playing games with rules. Research and theories of development confirm play as a fundamental activity that is preparation for more complex cognitive activities. Play supports children's cognitive, social, and language development. In play, children learn how to develop hypotheses, solve problems, and begin to understand abstract symbols. As children interact with others, they learn how to cooperate, share, take turns, and see another's perspective. Language development is supported in play as children use language to create play scenarios, invite others to play, assign roles, monitor other's participation, and begin to participate in games with rules.

Play is a context for learning about print. Theorists Jean Piaget, Lev Vygotsky, and Erik Erikson discuss the importance of the play as the environment for learning about written language. For example, symbolic behavior in play is related to the understanding of a representational system such as written language. Language behavior in play is related to literate language. When children are involved in play environments that include access to

books, writing materials, and adults who model literate behaviors, they learn about print. Children construct their own knowledge about reading and writing as they participate in meaningful reading and writing opportunities. Research studies in 1960s and '70s noted how early readers learn about print. Researchers noted that as children actively construct knowledge about the world they also construct knowledge about reading and writing through their interactions with the environment. Learning about reading and writing is a natural progression through active participation in social and play environments with more literate peers and adults.

Researchers in the past twenty years have defined play as a context that supports the acquisition of literate behaviors. The concept of emerging literate behaviors in young children presents a wider and different view of literacy development than previous theories about how children learn to read and write. From an emergent literacy perspective, children learn about literacy in their play as they interact with peers and adults. Theories of development establish a relationship between what is learned in play and the emergence of reading and writing behaviors. Recent research substantiates a connection between play and the emergence of literacy skills, especially when appropriate provisions are made.

Learning about print and the development of play behaviors are active processes. As researchers continue to explore play and literacy connections, theoretical and practical implications from studies about typically developing children suggest a conceptual framework for understanding play and literacy connections for children with disabilities. Continued research will define how young children with special needs benefit from play experiences in literacy rich environments.

In the next chapter, the statement of the problem to be addressed by this research study is discussed. There are fundamental, practical issues related to the inclusion of children with disabilities in early childhood programs. Given that there are differences between the philosophical and teaching approaches of special education and early childhood education, determining play and literacy practices that support the development of all young children is key.

CHAPTER 3 STATEMENT OF THE PROBLEM

Impacted by federal and state legislation, early childhood and special educators find themselves at a critical juncture as more young children with disabilities are attending early childhood programs designed for their typically developing peers. Inclusive early childhood programs are “the setting of choice for the vast majority of children with special needs” (Guralnik, 1990, p. 4). Inclusion has emerged as one of the most important, complex, and controversial practices in the field of early education today (Peck, Odom, & Bricker, 1993). The debate focuses on the necessity of identifying the results which can be achieved when children with and without disabilities are educated in the same classroom.

Inclusion: Challenges for Early Childhood and Special Educators

Inclusion is based on the concept that children with disabilities benefit, educationally and socially, from being in the same programs and receiving support services alongside their typically developing peers. Advocacy efforts by parents and educators from the early 1960s to the present influenced the passage of laws, such as the Education of the Handicapped Act and the Americans with Disabilities Act, that guarantee educational rights to children with disabilities. The guaranteed rights include access to a free and appropriate education, due process regarding testing and assessment procedures, placement in the least restrictive educational environment, and the development of individualized educational plans. The recent Improving America’s Schools Act (1993), in particular, emphasizes an inclusive approach to achieving higher educational outcomes for

all students (Davis, Kilgo, Gamel-McCormick, 1998.).

The concept of the least restrictive environment has precipitated the move towards inclusive programs in public schools and community early childhood programs. The least restrictive environment is defined as “a setting that is appropriate for the child and provides the most contact possible with nondisabled children” (Davis, Kilgo, Gamel-McCormick, 1998, p. 50). As more and more children are placed in the least restrictive environment, early childhood and special educators must make judgments about teaching methods and practices that support each child.

Advocates for inclusion argue that including children with disabilities in regular education programs also benefits typically developing children. The concept of the least restrictive educational environment has, at its foundation, the belief that students with and without special needs are more alike than different. Typically developing children in inclusive programs learn about, among other things, diversity and how to form relationships and work with peers who are different from them. In addition, inclusion requires both regular and special educators to examine their assumptions about learning, instruction, and the needs of all students. The examination process serves all children as teachers think about how best to teach.

Advocates for inclusion cite its benefits for children with and without disabilities. “More research is needed, however, on the effectiveness of various aspects of inclusion” (Davis, Kilgo, Gamel-McCormick, 1998, p. 50). There are major pedagogical and philosophical issues for special and regular educators embedded in the practice of inclusion. For early childhood and special educators, long held assumptions about how all

children learn and develop and what teaching strategies support each child are fundamental concerns. Practitioners in both fields must determine how to educate young children at various developmental levels in the same classroom.

Different Perspectives on Development, Literacy Learning, and Play: Early Childhood and Special Education

The fields of early childhood and special education have had different perspectives on development and learning. As described in Chapter 1 of this study, early education programs for typically developing children, in general, provide child-initiated and child-directed activities which are considered essential for learning. Emphasis is placed on what children can do and the provision of a variety of experiences that enable children to learn. In contrast, special education programs are based on the assumption that children with disabilities learn and develop differently from their peers. Children with disabilities, in general, are considered passive learners. The environment is manipulated by the teacher to facilitate learning. Special educators often focus on teacher-initiated and teacher-directed activities which are considered essential to help children learn specific skills and provide extrinsic rewards.

Similarly, early childhood and special educators have had different perspectives on play and early literacy. Chapter 2 of this study describes how, in early childhood programs, play is considered natural and necessary as it provides a context for learning as children participate with others, use language, and communicate ideas. As a fundamental activity, play is preparation for more complex, cognitive activities. Special educators view play as

difficult for young children with disabilities. Children with disabilities are directed or guided to perform behaviors or skills related to their deficits, rather than participate in activities, such as play, that encourage behaviors currently within their repertoire (Mahoney & Wheatley, 1994). As noted in Chapter 2, some research studies suggest that the play of children with disabilities is quantitatively and qualitatively different from the play of typically developing children (Li, 1985; Turner & Small, 1985; Beeghly, Weiss-Perry & Cichetti, 1990). Other research investigations have reported opposite findings. These studies suggest that when the play of children with disabilities is compared to the play of typically developing peers who are at the same developmental level, fewer differences are observed and children with disabilities progress through the same play stages (Brooks-Gunn & Lewis, 1982; Weisz & Zigler, 1979). More information is needed regarding the similarities and differences between the play behaviors of children with and without special needs. In an inclusive early childhood program, the key question is how does play support the cognitive, social, and language development of children with disabilities.

Early childhood and special educators also view early literacy learning differently. As noted in Chapter 2 of this study, recent literacy research carried out in regular educational settings documents how children, when they are immersed in play environments with print-related materials, explore and experiment with books and writing materials just as they do with toys. Young children learn about print when they have access to print materials and opportunities to interact with adults and more competent peers. The concept of emergent literacy extends the parameters of legitimate reading and

writing behaviors to consider a variety of behaviors as authentic attempts by young children to understand print. From a developmental and emergent literacy perspective, preschool children are considered active participants in their own learning as they explore their environment, including books and writing materials, and interact with others in play.

Young children with disabilities, according to research reviewed in Chapter 2, have had limited access to reading and writing materials, until adults decide such instruction is appropriate. When involved in special education programs, young children with disabilities have not been immersed in social situations that provide opportunities for them to play and interact with typically developing peers and literacy materials. The natural process of emerging literacy may be interrupted or not accessible, as more time is spent in therapy to rectify the child's deficit(s) (Watkins, 1996; Katims, 1991). In this area too, case study analyses are needed to demonstrate the value of immersing young children with disabilities in classrooms in which they play with and have access to reading and writing materials. In an inclusive early childhood program that includes reading and writing materials, the specific questions that need to be addressed include the following: How do young children with and without disabilities access and participate in literacy activities? How do young children incorporate literacy activities in their play? What is the role of the teacher in supporting access and participation in literacy activities?

The orientations of early childhood and special education imply fundamental differences. In an article by B.A. Kaufman (1980) *Early childhood education and special education: A study in conflict*, the traditions of early childhood and special education are contrasted. Kaufman concludes that, directed toward different purposes, informed by

different models of human development, and employing different teaching methods, the fields of early childhood and special education are inherently incompatible (Kaufman, 1980). The practice of inclusion, then, raises fundamental issues that require early childhood and special educators to examine their philosophical and pedagogical orientations.

The Problem

Recent legislative and educational initiatives have precipitated the movement towards educating children with disabilities in regular early childhood settings. The laws do not detail how inclusive programs are to be designed nor what constitutes appropriate curriculum and teaching practices. Given the different philosophical and pedagogical bases of early childhood and special education, the practice of inclusion raises many issues for practitioners in both fields. The problem is both early childhood and special educators, for different reasons, question whether or not children with and without disabilities can be adequately served in an inclusive program. This study provides data which addresses this question.

The purpose of this dissertation study is twofold: to identify play and literacy practices that are useful in an inclusive early childhood classroom and to demonstrate how these practices contribute to the development of all children, those with and without disabilities. The four questions that guide this research study are:

- How does play support the cognitive, social, language, and literacy development of the children in the study?

- How do the young children included in the study access and participate in literacy activities?
- How do the children incorporate literacy activities in their play?
- What teaching strategies from early childhood and special education can be combined to support each child's development?

In Chapter 4 the methodology for this research study is described. Qualitative research methods are defined as they relate to providing data for systematic inquiry into questions about teaching practices in an early childhood classroom setting. This study is concerned with how four young children participate, interact, and develop in the same inclusive early childhood classroom and the effect of particular teaching strategies on each child's participation and development. The purpose for using qualitative research methods is to provide detailed data for four separate child studies and answer the four questions that guide this study.

CHAPTER 4 RESEARCH METHODOLOGY

The purpose of the study is twofold: to identify play and literacy practices that are useful in an inclusive early childhood classroom and to demonstrate how these practices contribute to the development of children with and without disabilities. The data are organized into child or case studies which describe the cognitive, social, language, and literacy learning of four children enrolled in the same early childhood classroom during one school year. Included in the child studies are descriptions of teaching strategies employed to support each child's participation in an inclusive early childhood program.

Qualitative research methods were chosen for this study. In the natural setting of the classroom, qualitative methods are more likely than the fixed/treatment outcome emphasis of quantitative research methods to reveal the processes that reflect children's ways of understanding and constructing meaning through play. "Qualitative research, with its roots in phenomenology and ethnography, is systematic inquiry in naturalistic settings" (McGee-Brown, M.J., 1995, p. 192). In this study, the naturalistic setting is a classroom where programs are subject to change and redirection. The choice of qualitative methods for this study allows for important dimensions of each child's development, play, and literacy learning to emerge. The data are organized according to specific questions that guide this study. However, other dimensions can emerge as part of the data analysis.

The descriptive nature of the research is based on child study methods. The detailed descriptions and direct quotations provide specific data (Patton, 1980) that describe the children and their classroom interactions with peers, teachers, and materials. The term case

study, or, in this dissertation, child study, defines the methodology as being particularistic, descriptive, and heuristic in nature (Merriam, 1991). Systematic observation was accomplished with a set purpose. In this study, there are four questions that provide the focus for the recording and collection of data. The four questions are:

- How does play support the cognitive, social, language, and literacy development of the children in this study?
- How do the young children included in the study access and participate in literacy activities?
- How do the children incorporate literacy activities in their play?
- What teaching strategies from early childhood and special education can be combined to support each child's development?

Procedures

Participants

Four preschool children who attended the same program for one year are included in this study. The two girls and two boys were chosen because they attended the same class with the same teacher for the entire school year. The children were approximately the same chronological age yet they were developmentally different. The children are paired by sex and chronological age. There are two pairs of children in the study, two girls and two boys. The children range in age from 3 years 11 months to 4 years 11 months. In each pair, one child is typically-developing and one child has disabilities.

The term "children with disabilities " or "children with special needs" for preschool

children is defined by the Massachusetts Department of Education and the 1991 amendments to IDEA (Individuals with Disabilities Act, P.L. 102-119). Children with disabilities include children experiencing developmental delays, as measured by diagnostic procedures, in one or more of the following areas: physical development, cognitive development, communication development, social or emotional development, or adaptive development and need special education services. Multi-setting, multi-measure, and multi-informant assessment and identification are used to determine developmental delay(s). For preschoolers, performance on standardized developmental assessments as well as observations of the child by parents and teachers in natural settings (e.g. school, home, and community settings) help determine if a child has a developmental delay.

The young girl in the study who has special needs, referred to as Lucy, has moderate language, social, cognitive, and physical delays resulting from birth circumstances and consequent health issues as diagnosed by physicians, early intervention and preschool assessments, and teams of early intervention and preschool special educators. Also included in the study is Sheryl who is approximately the same age as Lucy and is typically developing. The young boy with special needs, referred to as Brett, has mild to moderate language and social/emotional delays resulting from family and environmental conditions as diagnosed by a special education therapist. Tom, who is typically developing, is within three months of age of Brett.

Parents signed an informed consent to allow their children to participate in this study. In addition, the parents also completed a questionnaire about their children's development as part of the intake process before the school year began.

Setting

The study was conducted in a college-based, inclusive early childhood program. The children included in the study attended the program two and one half hours per day, five days a week, from September, 1997 to May, 1998. There were fifteen children in the class, including the four children in the study. The master teacher was certified in early childhood, elementary, and special education. Two college student teacher assistants were present each day in the classroom. The program was licensed by the appropriate state agency and accredited by National Association for the Education of Young Children (NAEYC).

The early childhood program was inclusive, that is, children with disabilities participated in the same program and received services alongside their non-disabled peers (Davis, M.D., Kilgo, J.L., Gamel-McCormick, 1998). The classroom was interactive and literacy-rich. An interactive environment is defined as one in which the teacher provides time, physical space, and opportunities for children to interact with peers, adults, and materials. The teacher promotes and supports children's discussions and involvement with each other. As a participant in the classroom, the teacher plans various social experiences, interacts and observes children, and bases instruction on an analysis each child's strengths and needs. The children actively participate in hands-on activities with each other and the teacher as they learn in an environment that supports their emerging social, cognitive, language, and literacy skills (Eddowes, E.A. & Ralph, K.S., 1998).

The classroom also contained the nine components of a literacy-rich environment as outlined and defined by Morrow (1993). The nine components are as follows: access to books and writing materials; center-based areas; reading and writing routines; a language-arts

based curriculum; instruction based on understanding that children learn in a variety of ways; a spectrum of instructional teaching strategies (including direct teaching, play facilitation, play intervention, group work); materials that are sensitive to and reflect each child's culture (i.e. multi-racial dolls, play figures with various handicaps, children's books with the main characters with various abilities and from various ethnic backgrounds); continuous assessment of literacy learning to inform instruction; and a variety of social groups for literacy experiences.

The play environment met the quality criteria established by National Association for the Education of Young Children in their accreditation handbook *-Accreditation Criteria and Procedures of the National Association for the Education of Young Children, 1998 Edition..* The classroom environment included the following areas: art, manipulatives, puppet theater, blocks, gross motor (including an indoor jungle gym), music, workbench, computer, dramatic play, math manipulatives, science, sand/water table, writing area, library, listening area, and flannelboard area. Classroom areas were integrated, that is, materials in each area related to the curriculum theme and to each other. The materials in each area were changed four times during the school year to reflect curriculum themes and children's interests.

Data collection

The initial data collection consisted of videotaped and teacher observations as a baseline, information from parents and previous teachers, and information from standardized and teacher-developed assessments. Each child was videotaped during free play sessions, once a week (on rotating days) in the classroom, during the first four weeks of school. Teacher

observations of each child were written during free play on an every other day basis during the same four weeks. Videotaping of each child was done by a non-participant observer during the scheduled free play time (the first seventy-five minutes of each school day), once a week for each child. Children were videotaped on different days of the week to insure they would be observed participating in different classroom activities.

All of the baseline or initial videotaped and teacher observations were coded by the teacher using the Transdisciplinary Play-Based Assessment (Linder, 1990), Parten's categories of social play, and Halliday's functions of language. Emergent literacy behaviors were coded using L. Morrow's Checklist for Assessing Early Literacy Development. The coding instruments are included in Appendix A.

The following assessments were administered during the first four weeks of school: The Early Screening Inventory - revised (1997) (Preschool or Kindergarten edition depending on the child's chronological age); The Peabody Picture Vocabulary Test (PPVT-III, 1997); the Peabody Picture Expressive Vocabulary Test (1997); the SAND form of Clay's Concepts about Print assessment; a teacher-made developmental checklist; and Morrow's Checklist of Early Literacy skills was completed by the teacher. A description of each assessment and its scoring criteria is included in Appendix B. The same assessments were readministered during the last two weeks of school. The purpose for choosing these assessments was to collect qualitative and quantitative data to determine each child's strengths, interests, and needs.

At the end of the initial assessment period, goals and objectives were established for each child based on the information from the data sources. Subsequent data in this study derive from standardized assessments, regular weekly videotapings, regular written teacher

observations (twice a week), teacher records of established goals for each child, teaching strategies employed, and child responses. All videotaped sequences and teacher observations were analyzed at the **end** of the second quarter of the school year to determine if goals and objectives either remained the same for the second half of the school year or additional ones were added. At the **end** of the school year, all coded samples of videotaped sequences, teacher observations, teaching strategies, and end of the year assessment results were reviewed and analyzed as they related to the research questions. The purpose was to determine each child's progress towards meeting the established goals and objectives and to categorize data related to questions guiding this study. In addition teaching strategies were identified that were employed to support each child's play and literacy learning. A summary of the sample episodes from the second half of the school year is presented in the second section of each child study.

Triangulation of Methods and Reliability

In this study, different data sources were used to validate and cross-check findings. Data triangulation in this study included the collection of qualitative data (teacher and videotaped observations), quantitative data (information from standardized assessments), and information from parents, previous teachers, and other professionals. Comparing the data from the different sources will provide data for triangulation in the analysis. The child studies include qualitative and quantitative data that are organized to understand the patterns of experience participants had in the program. The data were coded and categorized by the particular research questions to determine emerging themes of classroom participation

(McGee-Brown, M.J., 1995). Videotaped and teacher observations, quantitative assessment information, and information from parents and other professionals provided 'synchronic reliability', that is, each data source was reviewed as to its consistency with respect to the aspects of children's development being studied. By using a variety of data sources, the strengths and weaknesses of any single approach are minimized. By applying a multimethods approach, the validity and reliability of the data is increased (Patton, M.Q., 1980).

In Chapter 5, the four child studies are presented. Each study describes a child's experiences and participation in the classroom during one school year. Initial observations and assessments are presented as baseline data. Subsequent data are organized by the four questions guiding this study, noting teaching strategies and their effects on each child's cognitive, social, language, and literacy learning.

CHAPTER 5 CHILD STUDIES

In this chapter, child studies detail the participation of four children in the same classroom during one school year. In the first section of each study, a description of the child, information from parents and previous teachers, and a summary of baseline observations and initial assessment data is presented. Included is a graph of each child's strengths, interests, and needs correlated with the data presented. The second section of each study outlines the goals and objectives established for the child and summarizes videotaped and teacher observations and end of year assessment results as they relate to the four questions guiding this study. A summary of each child's progress follows with information from the child's parent obtained from the end of the year parent/teacher conference. The purpose of the studies is to identify play and literacy practices that are useful in an inclusive early childhood classroom and document how these practices contribute to the development of children with and without special needs. The four children included in this study were paired by sex and chronological age. In each pair, there is one child with special needs. All four children attended the same college-based inclusive preschool program for the same school year and had the same teacher.

LUCY

Sex: female
Date of birth: 9/22/92

Description

Lucy is a 4 year 11 month old preschooler who began attending the morning class in

September, 1997 with her twin sister. Her build is slight and delicate and she appears smaller than children who are the same chronological age. Lucy is thirty eight inches tall and weighs approximately thirty five pounds. (The average height of a five year old girl is forty-two inches and the average weight is forty pounds). Lucy has blue eyes and wears glasses. Her straight, thin, blond hair falls over her ears and frames her narrow face. Lucy's face has two prominent features: a high, wide, flat forehead and rosy red lips. Her skin is light to pale in color. Lucy speaks in a high pitched, soft voice which is sometimes inaudible. Her general appearance is clean and neat. She is always dressed in clothes that are appropriate for the weather and play in the classroom. Lucy lives at home in a nearby upper-middle class suburb with both parents, an older sister, and her twin sister. Her mother reports that Lucy and her twin sister play primarily with each other rather than with neighborhood children.

Lucy was born fourteen weeks prematurely and weighed one pound eight ounces. Within one week of birth, Lucy developed an infection which resulted in kidney failure. She had numerous operations within the first three months of life to correct this condition. At two weeks old, Lucy developed hydrocephalus which required the placement of a shunt in her head to help drain the extra cranial fluid. The shunt is permanent and is monitored as Lucy grows.

Lucy's mother reported that Lucy began to babble at twelve months old (average age range for this developmental milestone is 6 - 10 months old), crawl at eighteen months (average range 6 - 11 months), and walk at twenty-three months (average range 9 - 18 months) (Bee, 1989). At four years six months old Lucy is toilet trained during the day but still wears a diaper at night

Information from previous placements

When she was two years old, Lucy's pediatrician recommended that she attend an early intervention program. Lucy, her sister, and mother attended a community early intervention program once a week for one year. At three years old, Lucy attended a collaborative special education preschool program in a nearby town where she was one of nine children in a class with three adults. When she entered the collaborative program the following assessments were administered: the Peabody Picture Vocabulary Test, PLS Preschool Language Scale, Expressive One Word Picture Vocabulary Test, Hodson Assessment of Phonological Processes. Information from the assessments, teachers' observations, and parent information indicated that Lucy had difficulty with: concepts of position and direction, color recognition, sorting and classifying objects, vocabulary comprehension, sound production, and maintaining a topic in conversation. Lucy's gross and fine motor skills were also assessed. She had difficulty jumping, going up and down stairs, pedaling a tricycle, balancing, strength and endurance. Her fine motor skills were assessed as age appropriate. The evaluation by the team noted that Lucy had delays in language, cognitive, and gross motor development. An Individualized Educational Plan (I.E.P.) with goals and objectives was developed, noting Lucy needed special education services. Speech and language therapy was provided in the collaborative program thirty minutes a day in and out of the classroom with additional in-class support scheduled for one hour per week. Physical therapy sessions were provided for one hour each school day.

At the end of Lucy's second year in the collaborative preschool program, the team of teachers and therapists, the Director of Special Education, and Lucy's parents agreed that

Lucy had met the goals and objectives on her Individualized Educational Plan. The team determined that Lucy would benefit from being in a program that provided a multi-sensory approach as well as modeling from typically-developing peers. The decision was made by team members that Lucy would attend the college-based inclusive preschool class during the 1997-1998 school year. Speech and language therapy was provided one hour a week at the local public school. Occupational therapy (two hours per week) was provided by a specialist at the college-based program.

Initial Assessment Period - Weeks 1 - 4 (September 10 - October 8, 1997)

The following is a summary of coded teacher observations and videotaped free play episodes of Lucy conducted over the initial assessment period (the first four weeks of the school year). Lucy's language, cognitive, social, and emergent literacy skills were assessed during this time using teacher-developed and standardized assessments as well. There were two major purposes for administering the assessments. The first was to ascertain Lucy's strengths, interests, and needs and the second purpose was to provide information for the development of goals and objectives for the school year. The goals and objectives served as the basis for developing curriculum and teaching strategies and provide baseline for comparison with end of the year assessments.

Cognitive Development

Lucy's cognitive development was assessed by observing her during free play. As is typical for most four year olds, the most frequent type of play Lucy participated in was

constructive play. Lucy made things from paper by drawing, cutting, and/or gluing (9/19/97; 9/26/97; 9/29/97; 10/1/97; 10/8/97). She also manipulated playdough and made cookies. (9/10/97). She attended to constructive play activities, which engaged her motorically, for longer periods of time than other types of play (i.e. 9/19/97 - 14 minutes). There was a goal to Lucy's constructive play rather than simple exploration. There were no observations during the initial assessment period of Lucy building with blocks, doing a puzzle, working at the workbench, or constructing something from open-ended manipulative materials.

Lucy's symbolic or dramatic play consisted of using replicas of real-life objects to pretend as she ate with a knife and fork, watched television, washed and dried clothes (9/10/97). She sequenced the steps to washing and drying by putting doll clothes in the pretend washer, turning the handle, taking the clothes out, and placing them in a pretend dryer. In other episodes (9/19/97; 10/8/97), Lucy gathered materials including a pocketbook, pencil, clipboard, and food items from the sociodramatic play area. She did not pretend with the materials, rather, she walked around with them among the children who were playing and, at times, stood by the same pieces of equipment as her peers (the stove, the washer and dryer). Lucy did not involve peers in her play nor did she exhibit more complex play skills that involved the use of language to establish a pretend scene and play it out with others.

The play activities discussed in the previous paragraphs were selected by Lucy. During activities that were teacher-initiated or facilitated, Lucy responded to suggestions and encouragement and attended for sustained periods of time. For example, on September 10, the teacher gave Lucy a suggestion of 'writing' a grocery list as she pretended to go shopping. She 'wrote' her list, took it with her while she went to the 'store', found what she

needed, and returned. Lucy was involved in this teacher-facilitated activity for five minutes. On September 19, 1997, the teacher invited Lucy to 'read' a class-made book that included photos of classmates with their names. Lucy attended to this facilitated activity for ten minutes.

Lucy's primary problem-solving strategy was to ask for help from an adult or peer (9/10; 9/19; 10/3; 10/8). To solve problems when she was working on art projects, she developed strategies to compensate for her lack of strength and control in her right hand. For example, when she could not cut paper with scissors, she ripped it. When she could not remove a marker top with her right hand, she did so with her left hand (9/10; 9/19; 9/24). Lucy also used private speech to guide her behavior as she played. For example, while in the sociodramatic play area (9/10/97), she stated "I'll do the washing machine" and while working at the art table (9/19/97) "I need another piece of paper" and "I need more." None of these remarks were directed to anyone. During the initial assessment period there were no instances of Lucy using advanced planning, physical or visual scanning to select an approach to solve a problem.

Language Development

Lucy used language to express her wants, regulate others behavior, and share information about herself. Most often Lucy announced what she was doing or what she needed when she was involved in constructive play. For example, she said "I can make whatever I want" "I need more" and "I need orange" (9/19/97). When Lucy asked questions, she did not direct them to anyone in particular (9/10 - "I need help." "Will you help me?").

nor did she make eye contact. She usually did not receive an answer. When a nearby adult asked Lucy to clarify her question, Lucy did not respond (9/10 - "What do you need help with, Lucy?" No response). Lucy did not make eye contact to gain others' attention nor did she verbally engage others in conversations related to what she or her peers were doing. For example, when she was 'writing' at the writing table (9/19) she said, "You think you're gonna be mad at me, you guys!" There was no context to what she said and the children at the table looked at her, did not respond, and continued 'writing.' There were no recorded observations during the first month of school of Lucy using language to engage others or create an imaginary situation.

Lucy spoke in simple declarative, imperative, negative, and interrogative sentences. She used contractions including: I'll, I'm, can't, you're, that's, and don't. There were no examples during the assessment period of Lucy's use of conjunctions. Her longest sentence was ten words. From the language samples to date, the average length of Lucy's sentences was 3.6 words. The average length of sentences for children five years old is four to eight words (Shipley, K.G. & McAfee, J.G. 1992, p. 37).

Social Development

Lucy participated in two types of free social play as defined by Parten: parallel activity and associative play. Lucy's parallel activity involved (9/8/97;9/10/97;9/11/97) placing herself near other children and using the same materials. While playing with her twin sister, Lucy engaged in associative play. She shared materials, created play scenarios for play figures, and talked with her sister. Lucy sought her sister out (or vice-versa) at least once a day. The next

step in Lucy's social play was using the same materials as her peers in the same way. For example, while in the block area, she threw play figures just as a peer did (9/17/97) and, in the sociodramatic play area, she 'wrote' invitations to a birthday party in a manner similar to a child who was in the same area. (9/24/97). Lucy did not verbally engage anyone during these episodes.

Lucy combined two previous strategies, that is, joining her sister and playing in an area with other children, as the next step in her associative play. On September 25, 1997, Lucy joined her sister in the sociodramatic play area and sat next to her on the couch. When a child in the same area put a pocketbook in front of her face, Lucy, for the first time, attempted to control a peer's behavior. She told the boy "Leave me alone." The child stopped the behavior. During the assessment period, Lucy did not engage peers in play nor did she participate in play that involved role-taking or sharing of materials.

Emergent Literacy Skills

Lucy asked an adult to read a book to her every day during the initial assessment period. She most often chose *Spot* (by Eric Hill) books or other familiar stories such as *Goodnight Moon* (by M. Wise Brown) and *Brown Bear, Brown Bear What do you see?* (by B. Martin, Jr.). Lucy usually held a puppet or stuffed animal replica of the main character in each book while the teacher read to her. There were no observations during the first month of school of Lucy retelling a favorite story in her own words. Rather, she listened to the teacher read, repeated the language in the story, and, at times, filled-in the missing word when the teacher paused. Observations indicate that when Lucy was in other areas of the classroom

(i.e. block area, music area) she picked up a book in that area, sat down with it, looked at the pictures, and flipped through the pages. (9/24;9/30;10/3/97)

Lucy identified all the letters in her name when she entered the classroom each day as she removed her printed nametag from the attendance board. Not only did she say the names of the letters, but she signed them in American Sign Language (introduced to every child in class at the beginning of the school year). She also identified the first letter in her sister's name (A) and noted when other children had an A in their names (10/1;10/3;10/6/97).

Lucy's emergent writing skills included making scribbles to represent words on a grocery list (9/10/97), drawing pictures (9/19/97, 9/24/97), and tracing shapes (10/2/97). She wrote and identified the letters in her name on all her drawing and writing projects. The letters were clearly identifiable and written from left to right.

Initial Assessment Results

Lucy was 4 years 11 months old when the assessments were administered. On the Peabody Picture Vocabulary Test, administered on September 8, 1997, Lucy's standard score was 105 which placed in the 63rd percentile, 6th stanine, with an age equivalent of 5 years 6 months. The standard score for any age is 100 and the mean stanine is 5. Her score was in the high average range. During the administration of the test, Lucy readily pointed to the pictures after the stimulus word was said by the examiner. She smiled and attended to the task until it was completed.

The Peabody Expressive Vocabulary Test administered on September 17, 1997 is an individually administered, norm-referenced assessment of expressive vocabulary and word

retrieval. The standard score is 100 and the mean stanine is 5. Lucy's standard score was 95, stanine 4, 37th percentile, with an age equivalent of 4 years 8 months. Lucy listened to the stimulus word or phrase from the examiner and paused before answering each item. At times, the pause lasted fifteen to twenty seconds. The teacher then encouraged Lucy to choose a picture. Lucy hesitated and then said a word. After giving an answer she asked "Is that right?" The teacher praised her effort and continued. At least five times, the examiner had to direct Lucy's attention back to the task and encourage her to answer.

Clay's Concepts About Print assesses concepts and knowledge about print, pictures, and books. This assessment was administered on September 18, 1997. Lucy's score was 2 out of a possible 24 points. Lucy helped to hold the book as it was read by the teacher. Halfway through the administration of the assessment, Lucy said she was tired and asked, "Are we done yet?" She identified the front of a book and the bottom of a picture. Lucy had difficulty with the following tasks: noting print contains a message; where to start reading; which way print is read; word by word matching; the concept of first and last words in a sentence; noting the left page is read before the right; noting changes in word order or in one word; noting the meaning of a question mark, period, comma, and quotation marks; locating and matching capital and lower-case letters; identifying one letter, two letters, first and last letters of a word; and finding a capital letter.

Morrow's Checklist for Assessing Early Literacy development was completed on October 1, 1997. Items were checked in the columns based on information from teacher observations during the initial assessment period. Lucy's strengths (marked in the *always* column) included speaks in one and two word sentences; voluntarily looks at books; asks to

be read to; knows that a book is for reading; can turn pages properly; independently explores writing materials; attempts writing in order to convey meaning; copies letters or words; writes from left to write; and uses letterlike forms for writing. Items marked in the *sometimes* column were: follows verbal directions; can be understood by others; knows the difference between print and pictures; knows what the title of a book is; knows what a letter is and can point to one. Items marked in the *never* column were: dictates stories or sentences he or she wants written down; begins to use story context, syntax, and semantics to identify words; recognizes some words (other than her name) on sight.

The Early Screening Inventory Revised Kindergarten edition (4 ½ - 6 yrs. old) is a brief assessment intended to identify children who may need further evaluation. The ESI-K was administered on September 17, 1997. Lucy readily participated in each task and showed an interest in the various materials. Lucy's strengths on this test included visual-motor adaptive skills and auditory sequential memory skills. She had difficulty with: counting ten blocks (she could count five blocks); verbal expression, that is, spontaneously describing items and their attributes; and gross motor skills including balancing on each foot, hopping, and skipping. Her total score was 12 points, which is in the *refer* range for a 5 year old child. *Refer* is explained in the manual of the ESI-K as a score that indicates the child may need to be referred for further observations and assessments to determine the possibility of receiving special education services.

The teacher-made developmental checklist is individually administered during five, five to ten minutes sessions during the first month of school. Lucy readily joined the teacher each time she was asked to participate and attended to all tasks. The checklist was completed on

October 8, 1997. Lucy's strengths included matching objects by size, shape, and color; identifying the eight basic colors and four basic shapes; demonstrating understanding of prepositions; expressing wants and needs; doing work that involves three steps, recognizing number symbols; copying O and T. Her needs included: spontaneously naming common objects in the environment; recalling facts from previous experiences; counting using one-to-one correspondence (five or ten items); recognizing number quantity; understanding the concepts of more and less and same and different; using scissors; buttoning; hopping on one foot; skipping; catching a ball; balancing on a line; sharing materials; attempting to resolve conflicts with peers.

Questions as a Result of Initial Observations and Assessments:

- How do Lucy's medical problems impact her cognitive and language development?
- How can Lucy's interest in print provide a structure or framework for improving expressive language skills? dramatic play skills?
- How can Lucy's interest in print provide a structure or framework for improving social skills?
- What teaching strategies can be employed to help Lucy understand new concepts and problem-solving strategies?
- What are some ways in which to provide a multi-sensory approach for Lucy?
- What problem-solving strategies can be introduced to Lucy?
- How can the classroom environment be arranged to provide a multi-sensory approach for Lucy?

The following chart outlines Lucy's strengths, interests, and needs (as indicated by observations and initial assessment results) with suggested teaching strategies.

<i>Strengths</i>	<i>Indicated by</i>	<i>Teaching strategy</i>
-attention to self-selected constructive play activities	Teacher/video observations	Continue to provide variety of constructive play materials during free play
-visual/motor tasks	ESI-K; teacher checklist	Introduce new concepts using hands-on materials; provide time for exploration and practice with guidance from teacher
-attention to teacher-facilitated tasks	Teacher/video observations	Daily one-one teaching sessions to introduce and practice skills
<i>Interests</i>		
-constructive play activities	Video/teacher observations	Provide multi-sensory experiences embedded in play environment to support practice: introduce new materials - i.e. oobleck, sand, sandpaper for continued sensory input
-reading and writing activities	Teacher/video observations; Morrow's checklist	Support access to literacy materials; introduce daily story in 1-1 sessions; encourage multiple readings of favorite stories; provide extension activities related to favorite books - i.e. puppet play, drawing, listening
-associating with peers	Teacher/video observations	Play facilitation w/teacher and peer of her choice in variety of play areas using play area materials

-play with realistic materials	Teacher/video observations	Same as above; teacher introduction of different ways materials can be used: introduce imaginary play themes
<i>Needs</i> -spontaneous language	<i>Indicated by</i> Peabody Tests; teacher checklist; Morrow's Checklist; information from previous placements	<i>Teaching strategy</i> Introduce play materials, discuss attributes; model how to participate in conversation; practice with discussion about daily school schedule, curriculum theme
-pragmatic language skills	Teacher/video observations	Teacher modeling of greeting others, gaining others' attention: model conversations w/Lucy during involvement in constructive play
-problem-solving strategies	ESI-K; teacher checklist; teacher/ observations	Incorporate problem-solving activities in play; model and discuss options and ways to solve; have Lucy work w/ peer to complete a task
-counting/sorting skills	Teacher checklist/ ESI-K	One-to-one teaching sessions using play items for tasks; meaningful applications of counting, sorting tasks in classroom integrated with her play
-pretend/dramatic play skills	Teacher/video observations	Structured, facilitated pretend play rehearsals with teacher; involve one peer

Goals and Objectives

Based on information from the initial assessments and how videotaped and teacher

observations, goals and objectives were established for Lucy. The goals are general classroom goals for every child. The objectives are specifically designed for Lucy. Objectives noted in **bold** were added at the beginning of the second half of the school year as subsequent teacher and videotaped observations were analyzed to determine Lucy's progress toward meeting each goal and its objectives.

Goal 1 - To develop problem-solving strategies

Objective 1- With teacher support, Lucy will complete a puzzle, matching pieces to a template.

Objective 2 - After observing a peer, Lucy will trace a stencil without help.

Objective 3 - Lucy will solve a problem by observing a peer and modeling the same strategy.

Goal 2 - To engage a peer in play

Objective 1- With teacher modeling and support, Lucy will join a peer in the same play area.

Objective 2 - With teacher modeling and support, Lucy will verbally interact with a peer by discussing the materials or what she is doing.

Objective 3 - With teacher modeling and support, Lucy will invite a peer to join in her play.

Goal 3 - To improve pragmatic and expressive language skills

Objective 1 - With direct teaching and modeling, Lucy will greet the teacher and/or peers when she enters school or enters others' play.

Objective 2 - With teacher modeling and direct teaching, Lucy will answer a peer (or adult) when asked a question.

Objective 3 - With teacher modeling and support, Lucy will engage in conversation with a peer or adult, remaining on topic, through two exchanges.

Objective 4 - After listening to and observing peers in play, Lucy will answer and ask which, when, why, and how questions correctly.

Goal 4 - To practice counting, sorting, and classifying items

Objective 1 - Given a set of five items, Lucy will count the number of items requested by the teacher.

Objective 2 - Given a set of items, Lucy will sort them by one attribute and explain why she did so.

The following sections describe Lucy's participation in the program and her progress toward meeting each goal and its objectives from the end of the initial assessment until the last day of the school year. Information from sample coded teacher and videotaped observations for the remainder of the school year is presented as it relates to the questions guiding this study.

Progress towards goals and objectives - October 15- May 8, 1998

How did play support Lucy's cognitive development?

Lucy's cognitive development was supported as she played with a variety of materials and developed a repertoire of problem-solving strategies. The episodes discussed in this section involve self-selected play activities in which Lucy practiced completing tasks.

Problem-solving involves using information from previous experiences to complete new tasks or activities. During the remainder of the school year, Lucy did not abandon her primary problem-solving strategy of asking for help from adults and peers. At times she asked for help before she attempted a task. Teacher-facilitated puzzle solving activities were not successful during the first half of the school year (11/12/97) as Lucy did not generalize what she had learned from these sessions to complete new puzzles (12/4). Lucy did develop different problem-solving strategies as the school year progressed.

Observing peers was one of the first new problem-solving strategies Lucy applied to complete a task. For example, she observed how a peer traced a stencil and modeled that behavior (10/29), and she followed a child's lead by placing a puzzle piece into the same puzzle that child was completing (2/27). Lucy combined the strategy of observing a child with asking for more information rather than asking for help. She picked up a stamp, looked for a stamp pad, and successfully pressed the stamp on the pad and then onto a piece of paper. This was the first observation of Lucy applying this strategy (11/12/97).

Lucy: Now what do you do with this?

N: Put it in that stuff and press.

Lucy: Where's the black thing?

N: Put it here.

A different problem-solving strategy Lucy used was visual scanning and physical searching. Rather than randomly looking for the letter stamps for her name, she looked and then chose the letters she wanted from a basket of stamps (2/4/98). She applied this strategy most frequently when she 'wrote' at the writing table, visually or physically scanning items before deciding which item she wanted.

Lucy's development of different problem-solving strategies was most evident at the end of the school year. For example, when she was informed that a peer could not join her in an activity (4/9), instead of asking for help, she said "A. is doing something else, I guess I'll go to the art area on my own." This was the first observation of Lucy voicing an alternate solution to a problem. During the following weeks, she completed a puzzle on her own (4/27/98) and, after observing peers, she assembled a construction toy which she had not tried before (4/16/98).

Lucy's new problem-solving strategies did not replace strategies she had used at the beginning of the school year (which included trial and error, private speech, and asking for help). Lucy added different strategies to her repertoire: observation of peers, observation and modeling of peers, observation and requesting more information from peers, and visual and physical scanning.

Lucy's counting and sorting skills were in question during the assessment period. Her first attempts to count and sort items in the classroom began when she took a handful of the same shape out of an attribute box, looked at them, and returned them to their original place (10/21). A week later, Lucy matched unit blocks to colored squares on a pattern card (10/29) and placed single numerals into their respective puzzles(10/29/97). Lucy participated in counting and sorting activities as part of her play during the second half of the school year.. At the math table (2/9/98), she 'baked' birthday cakes and placed the appropriate number of candles in each cake (noted by the number of holes for candles and the numeral), and sorted the cakes by frosting color. She counted the number of animals indicated by numerals on cards and sorted farm animals by color (3/24/98). She also demonstrated a beginning

understanding of quantity. As she and two peers began to get marbles to place through a maze, she told her peers "You only get one marble each " (4/27/98). On the same date, as she and three other peers were playing with playdough, she compared her snake to her peers'. She indicated how hers was different and how many she had. "Mine is longest" "These 3 are mine." (4/27).

How did play support Lucy's social development?

Lucy's social development was supported during play as she began to enter play areas where there were other children and began to interact with her peers. Realistic play with replica materials involved in her play that centered on familiar activities. Within a week of the start of the second quarter of school, Lucy began to verbally engage peers in her constructive play. She talked with peers as she played in the block area and wrote at the writing table (10/21/97; 10/22/97; 11/4/97; 11/12/97; 12/4/97). She spoke to peers about what she was doing, asked for help, and commented on what they were doing. In the sociodramatic play area (10/21), Lucy played with the materials (placed cake on a peer's plate; set the table) and talked with peers (C: Now you call me. Lucy: C, C). She began to use language to enter a peer's play (10/21). For example, she sat in the block area and watched Sheryl build a structure. After she observed Sheryl for about one minute, Lucy commented on her block structure.

Lucy:	It will fall down.
Sheryl:	No it won't..... I have a job for you, too.
Lucy:	What shall we put this? What should I do with this? (Lucy had some blocks in her hands).
Sheryl:	Don't do anything. It's not the same thing.

- Put that one over there. (Sheryl points)
 (Lucy followed Sheryl's instructions.)
 A tower of power. It's scare.
- Lucy: Hey, I'm gonna see Minnie (referring to her impending trip to
 Disneyworld). I'm not gonna build a tower. It's scare.
- Sheryl: You can put the people over here.

During the second half of the school year, Lucy began to invite peers to join in her play. For example, when she finished playing on the jungle gym (2/9), she said "I did the jungle gym. Want to do the art table? I wanna. We can do a great job at the art table." She was successful and her peer did join her. Lucy also attempted to assign a role to a peer as an invitation to play "Want to be the baby horse?" (2/16) and complimented a peer while working at the art table, "I like your snake. Do you like mine?" (4/16).

The first observation of Lucy involving peers and suggesting an imaginary play theme was when she entered the block area and a peer was there (2/17/98). She said "Let's do a big castle. Let's add signs." This was the first time Lucy had suggested that stacked blocks could be anything other than a house or block structure. Later in the school year (5/8), Lucy took roof boards from a block shelf, spread them out in her hand, and said "Hey, want to play cards?" Although she did not directly address her invitation to anyone, her sister and a peer joined her as Lucy shuffled and dealt the 'cards.'

There was one instance during the second half of the school year when Lucy asked some boys if she could join their play. Her response reflected her difficulty in understanding what was said and how to respond. Lucy (4/9), after observing three boys play catch, she said "Can I be the ball pitcher?" One of the boys replied "Only boys can play." Lucy's response was "Well, I'm five" and she walked away. It was not clear whether Lucy understood what

the boy said. Her response did not make sense in the context of the request and answer. (Lucy knows that she is a girl and that the boys are boys).

How did play support Lucy's language development?

Lucy began to directly greet peers by name when she arrived at school in the morning (10/21; 10/29; 11/4; 11/12; 12/4) and when she entered play areas (11/4; 11/12). When she did so, her peers responded. When Lucy had a visual reference, she was more apt to answer a question. When asked by a peer "Lucy, do you want to have lunch with us?" she answered "Yes, I'll bring a chair over." (10/21) Her answer was appropriate in the context of the play as there were only two chairs at the table and, with Lucy, there would be three children.

While Lucy was involved in constructive play activities, she began to talk with peers. The activity and the materials served as basis for discussion. One of the longest sustained conversations Lucy had occurred at the writing table (2/16). The topic of conversation was treasure maps.

Sh: Treasure (looking at the paper in front of her)

Lucy: How do you make treasure?

Sh: You make a circle (demonstrates for Lucy)

Lucy: A circle?

Sh: You make treasure! Then you have to put X marks the spot. You did it!

Lucy: I need a pencil.

Sh: X marks the spot. A circle.

Lucy: There, that's how you make treasure? We'll use this when we go outside?

Sh: I'll make another one.

Lucy: You forgot treasure.....you make good treasure.

Sh: Then X marks the spot. Put that in your cubbie. Then we can play a game.

Lucy: Okay.

As Lucy continued to participate in constructive play activities, she began to converse with peers about events unrelated to the play. For example, while working at the art table (2/9/98), she began a discussion with a peer "When I grow up, I want to drive. I don't know how now." Her peer responded "When you grow up, you first have to learn how to drive." The topic of conversation changed as the two girls discussed ear infections.

Le: I have an ear infection
 Lucy: Does it hurt?
 Le: A little in my ear.
 Lucy: Does it sting?
 Le: Yes

Rather than asking for help when she arrived at a classroom area as she had done at the beginning of the school year, Lucy began to ask questions that related to what the children were doing or something she wanted to know. Teacher and videotaped observations indicate that during play Lucy asked who, what, where, when, why, and how questions consistently (2/16; 2/24; 2/27; 3/10; 3/24; 4/2; 4/9; 4/16; 4/17; 4/27; 4/30; 5/8) throughout the second half of the school year. The questions were relevant to what was happening and what Lucy wanted to know.

How did play support Lucy's literacy development?

Play supported Lucy's literacy skill development as she chose literacy activities each day. She practiced writing her name (10/21; 10/27; 10/29; 11/4; 11/12; 12/4; 1/23; 2/4; 2/24; 2/27; 4/9; 4/27), began to write words conventionally (ex. Mom) (11/12), traced stencils (11/4), and drew various shapes and recognizable objects (i.e. a rainbow, traced a star stencil). In each instance she chose to be with her peers, talked about what she was doing, or

asked others what they were doing. While 'writing' at the writing table, Lucy heard a child spell her name aloud, she turned and said "That's my name!"

As she continued to practice and play at the writing table, Lucy began to write conventionally, combining letters to make words that she read. She wrote and read the names of three people in her family (2/9). Each letter was legible and two of the three names were spelled correctly. She also became interested in writing the names of her classmates. As she looked at the printed names of her classmates on a ring, one of her peers dictated the letters (3/10). Lucy wrote the names of five classmates, each letter was legible and each name could be read. Lucy also used invented spelling to write a word. After playing with a stuffed rabbit in the veterinarian's office (a dramatic play area), Lucy found a rabbit stencil at the writing table and traced it (3/24). When she completed tracing and coloring her rabbit, she asked how to spell "rabbit." Instead of waiting for answer, she wrote - ROR. She traced two more rabbit stencils and wrote ROR twice more.

Lucy also practiced book handling skills as she listened to stories on tape (2/4; 2/9; 4/2) turned the pages of the book appropriately, and pointed to the words. The last day of the school year (5/8), she 'read' *Spot's Baby Sister* by E. Hill to a peer. She pointed to the words and pictures and used the book's vocabulary.

How did Lucy access and participate in literacy activities?

Lucy accessed and participated in literacy activities as part of her play. As a constructive play activity, writing involved Lucy motorically as she practiced drawing, stenciling, and printing. She explored and practiced with writing materials such as stamps,

stencils, and various writing materials. Reading and writing materials were available in each area of the classroom and Lucy included them in her play.

Two of Lucy's favorite books that she looked at and 'read' many times were *The Mitten* by J. Brett and *From Head to Toe* by E. Carle. After Lucy was introduced to a book and heard it reread various other times, she participated in a variety of activities that demonstrated her knowledge of each story. After listening to *The Mitten* for the first time (2/4), Lucy chose the art activity for the day. She not only made mittens but she made gloves as well. She discussed the differences between each and explained why the mitten in the story was so big. When *The Mitten* was reread to Lucy a few days later, she drew the mouse in the story in her journal (2/9) noted "This was the smallest animal in the story." Lucy practiced tracing her hand, making gloves, and drawing animals from favorite stories throughout the second half of the school year.

How did Lucy incorporate literacy activities into her play?

Lucy incorporated writing into play activities in a variety of ways. While in the dramatic play area, she was the waitress and 'wrote' customers' orders. (1/23; 1/27; 2/4; 2/7). When the area was changed to a veterinarian's office, she wrote in the appointment book (3/24; 4/2; 5/8), wrote bills for office visits, and prepared doctor's instructions. At the teacher's suggestion (4/20), she made signs for her block structure. When asked what the sign read, she said "Protection." This was a word she had heard and learned from a book she was read two weeks earlier. She used it in the appropriate context as she said "I don't not want anyone to knock this down."

'Reading' was part of Lucy's play as she read a book with peers as one her free play choices (2/27; 3/10). As she played the classroom piano with one of her peers, she noticed the music book (3/24), pointed to the notes and correspondingly played notes on the piano. Lucy also listened to story tapes on her own or with others as part of her play (2/4; 4/2; 4/17; 4/30). On April 2, 1998, a peer read to Lucy. Lucy listened and added her own comments to the child's rendition of a class story.

What teaching strategies from early childhood and special education were combined?

A combination of teaching strategies from early childhood and special education were employed to support Lucy's participation in the program and her progress toward achieving each of her goals and objectives. In the play environment of the classroom, a variety of multisensory materials were available to support's Lucy exploration. New materials were introduced by teacher through demonstration and instruction (special education strategies). The sensory motor materials sustained Lucy's attention as she worked to perfect her fine motor skills. At the same time the teacher introduced new vocabulary and talked with Lucy about how she could involve others in the play. As Lucy became familiar with the materials, she began to engage her peers in conversation about what she was doing.

Teacher observations indicated that Lucy chose constructive play activities more often than other type of activity.. Her participation in other classroom areas with different materials and peers was limited to short periods of time (30 seconds - 2 minutes). To facilitate Lucy's participation in a variety of classroom areas with different peers, she was given, at free play time, a choice board with pictures of classroom areas chosen by the teacher (special

education strategy). Lucy chose in what order she would participate in each area and with whom (she chose from photos of classmates). Paring Lucy with a peer is an early childhood strategy. Each of these options provided some choice and independence for Lucy (early childhood strategy). Although putting Lucy on a choice board was a special education strategy, the modifications of giving her choices as to the order of her participation in area and with whom she participated were early childhood strategies. Teacher and videotaped observations indicated that with the use of the choice board, Lucy remained in classroom areas she had not previously participated in, exploring the materials with a peer for longer periods of time. The choice board facilitated Lucy's participation in a variety of different areas in which she had not participated before. Lucy also interacted with the peer who joined her each day.

The teacher supported Lucy's language and cognitive development by building on her interest in books and writing materials. Discussion, direct instruction, demonstration, prompting, and practice were special education teaching strategies used in one-to-one book reading sessions with Lucy. The teacher previewed a book with Lucy every day (one-to-one instruction). The book's topic as well as vocabulary was introduced as Lucy and the teacher explored the book together. The individual teaching session provided practice and direct instruction which supported Lucy's later participation in group story reading. The teacher also suggested and made available to Lucy book extension activities that included retelling the story on the flannelboard, acting out the story with peers, and using puppets to retell a story (early childhood teaching strategies). Lucy's participation in these activities provided her with concrete, high-interest materials, that supported her language skills development and

interactions with peers.

Initial observations of Lucy indicated she associated with peers during free play. To facilitate her interactions with peers, the teacher joined Lucy in the sociodramatic play area, introduced the play materials, and modeled how to invite peers to join her. When a peer joined the play, the teacher modeled language and ways in which the children could play together. The teacher was a coach and a model encouraging Lucy to practice her social play skills. A combination of direct instruction (special education strategy) and play facilitation (early childhood strategy) was employed.

Each of the combined strategies supported Lucy's participation in the classroom as well as her progress towards meeting her goals and objectives. Learning was embedded in classroom activities and routines (i.e. greeting peers and adults each morning), an early childhood education strategy. Play activities served as a context for different types and levels of instruction based on early childhood and special education teaching practices. The various teaching practices built on Lucy's interest in an environment that provided time, practice, high-interest materials, and individualized instruction.

End of the year assessments

* **Bolded scores indicate Lucy's initial assessment score**

The Peabody Picture Vocabulary Test was re-administered on May 4, 1998. Lucy was 5 years 5 months old during the end of the year assessment period. Her standard score was 103 (**105**) which is in the 58th (**63**) percentile, 5th (**6th**) stanine, with an age equivalent of 6 (**5.6**) years old. Her score was in the high average (**high average**) range. Lucy smiled

and readily participated by pointing to the pictures where she heard the stimulus word.

The teacher first attempted to administer the Peabody Expressive Vocabulary test on May 6, 1998. After Lucy completed the practice pages, she chose not to participate as requested. The teacher stopped the session and decided to try again. On May 8, 1998 the teacher tried again to administer the test. Instead of beginning on the page that was indicated for a child Lucy's age, the teacher started at the beginning, involving Lucy in the same tasks but at a lower age level. Lucy seemed to know she was being assessed. She asked "Do I have to do this?" and "What are you writing?" When Lucy was asked by the teacher to give a synonym for a word, after the practice pages, she had difficulty. Lucy repeated the stimulus word the teacher said or she gave a rhyming word. She said many times "I don't know. This is hard." The teacher ended the session when Lucy refused to answer anymore. Lucy's standard score was 95 (95) which was in the 37th percentile (37th), stanine 4 (4) with an age equivalent of 5 (4.8) years old.

On April 28, 1998 Clay's Concepts About Print was re-administered. Lucy received 15 (2) out of a possible 24 points. Lucy helped to hold the book as the teacher read it. She identified: the front of the book; noted that print contains a message; where to start to read; which way to go when reading; showed the return sweep to the left when reading; pointed to words as they were read; identified the first and last word read on a page; pointed to the bottom of a picture; identified the top of the page; noted one reads the left page before the right; explained what a question mark means; matched capital and lower case letters; identified letters, words, and a capital letter.

Morrow's checklist for Assessing Early literacy development was reviewed by the

teacher during the last month of the school year. Based on teacher observations during the second half of the school year, the items previously marked for Lucy in the *never* column - begins to use story context, syntax, and semantics to identify words and recognizes some words on sight - were checked in the *sometimes* column. Items that were previously checked in the *sometimes* column and moved to the *always* column included the following: knows the difference between print and pictures; knows what the title of the book is; knows what a letter is and can point to one. Items previously checked in the *always* column remained.

The Early Screening Inventory (ESI-R -(Kindergarten) - 4 ½ - 6 years old) was readministered on May 5, 1998. Lucy was interested in each task and attended until the completion of the assessment. Her point total was 21 (12) points, which placed her score in the *okay* range. Areas in which she scored higher than on the first administration were: copying forms (3/4); drawing a person; counting ten blocks; verbal expression; balance; and hopping. If this screening was given to Lucy as part of a kindergarten screening, on the basis of her score alone, she would not be recommended for support services. Although Lucy's score was acceptable, in-depth observations would be needed to note her strengths and challenges in order to determine appropriate ways to support her in a new educational placement.

Parts of the teacher-made developmental checklist were readministered for short periods (two, five minute sessions) of time over the last month of school. The teacher noted that Lucy could: identify all letters in the alphabet; recognized number quantity; counted ten objects using one-to-one correspondence; and identified items as similar or different. She continued to have difficulty with: expressive language skills to solve social conflicts,

identifying and describing familiar objects, hopping, catching, and skipping.

Summary

Lucy made progress towards meeting each of her goals and objectives. She showed the most progress as she developed a repertoire of problem solving strategies - i.e. modeling other's behaviors, visual and physical scanning. End of the year assessments (ESI-K; teacher-made developmental checklist) and observations indicate the Lucy began to apply different strategies to complete tasks and participate in activities (i.e. draw a person, count items, sequence numerals).

Lucy's interest in reading and writing continued as she wrote each day at the writing table and other areas of the classroom. She was involved in one-to-one book reading sessions each day with the teacher. The stories related to the curriculum theme as the teacher encouraged Lucy to listen, answer questions, and relate the story to her own classroom and personal experiences. The sessions helped Lucy with expressive language as she applied what she learned in the story to discussions and related classroom activities. End of the year assessments (Morrow's Checklist of Early Literacy Development: Clay's Concepts about Print) note Lucy's progress towards understanding aspects of books and reading.

Although Lucy's end of the year standardized language assessments scores did not indicate any gains, teacher and videotaped observations noted that Lucy began to speak more frequently in class as she observed, listened, spoke, and joined peers in play. She showed the most progress in speaking and initiating conversations with peers. Lucy continued to have difficulty with spontaneous language. When she joined peers in play situations, she used

language she had observed others using. Sustaining play, adding new ideas, and resolving social conflicts continued to be difficult for Lucy. Each of these aspects of social play is based on language skill development and Lucy continues to need teacher support in these areas.

If Lucy was asked a question by a peer or an adult, she sometimes had difficulty answering if she did not have a visual cue. A variety of visual cues, including American Sign Language, were included in the classroom to help Lucy have a visual reference to answer questions. As the school year progressed, Lucy began to engage in conversations that were less context-bound as she talked with peers while involved in constructive play.

Feedback from parent

Lucy's mother met with the teacher for an end of the year parent/teacher conference (5/14/98). She noted Lucy was talking more at home with her sisters and parents, a change from earlier in the school year. Lucy began to tell her mother when and why she was angry (something she did not do earlier in the school year), rather than leaving a sibling conflict or resorting to hitting. Lucy's interest in reading and writing continued at home as she made books and drew pictures for family members and neighbors. Earlier in the school year, Lucy asked her mother to help her complete her drawing or writing projects. Lucy's mother reported that now Lucy completes her projects on her own rather than asking her mother or sister for help. Lucy has showed an interest in writing numbers and letters. Lucy asked her mother or father to read to her every night and often spoke of books she had read at school. Lucy asked her parents to "Buy some *Spot* books." (Teacher notes from end of year

parent/teacher conference)

LUCY			
Assessment: Peabody Picture Vocabulary Test (III-A)			
	Initial Assessment	Mean	End of Year Assessment
Standard Score	105	100	103
Percentile	63	50	58
Stanine	6	5	5
Age Equivalent	5.6	n/a	6.0

Assessment: Peabody Expressive Vocabulary Test			
	Initial Assessment	Mean	End of Year Assessment
Standard Score	95	100	95
Percentile	37	50	37
Stanine	4	5	4
Age Equivalent	4.8	n/a	5.0

Assessment: Early Screening Inventory (K)		
Initial Assessment	Okay Range	End of Year Assessment
12 points	>18 points	21 points

Assessment: Clay's Concepts About Print			
Score	Initial Assessment	Mean	End of Year Assessment
(out of 24 points)	2	12-14	15

SHERYL

Sex: female
Date of birth: 12/15/92

At four years eight months old, Sheryl is forty-five inches tall and weighs forty-five pounds (ninetieth percentile for height and weight for girls her age). She has a round face, brown eyes, fair skin, and red lips. Her long, straight, stringy blonde hair falls to her waist and is usually in a ponytail. Her bangs cover her forehead and sometimes her eyes. Her appearance is clean. Sheryl entered the AM class in September, 1997. She lives in a middle class neighborhood with both parents. Sheryl is the middle child with two sisters. According to her mother, Sheryl most often plays with her older sister rather than neighborhood children.

Sheryl's mother reports (AM class developmental history form) that Sheryl's birth was without complications. Sheryl is in good health and has had no surgeries, serious accidents, or illnesses. She reached early developmental milestones within average age expectations. She babbled at 7 months old, crawled at 8 months, and walked at 11 months old. Sheryl feeds and dresses herself (including tying her shoes) and is toilet trained.

Information from previous educational placement

Sheryl attended the PM class in the college-based inclusive preschool (3 afternoons per week) during the 1996-1997 school year. She was one of fifteen children in the class. At the beginning of the school year, Sheryl was quiet and usually only spoke to the teacher. As the school year progressed, she began to talk with peers and often placed herself in classroom areas where there were other girls. Her favorite activities included art

projects, building with blocks, and listening to stories. She readily participated in teacher-directed activities and began to show an interest in 'writing.'

Initial Assessment Period - Weeks 1- 4 (September 10 - October 8, 1997)

Cognitive development

Sheryl's cognitive development was assessed by observing her during free play. During the initial assessment period, Sheryl participated in constructive play more often than any other type of cognitive play. In constructive play, a child manipulates materials to construct products. Sheryl drew pictures (9/17/97;9/25/97), made cookies with playdough (9//19/97), built with blocks (10/1/97; 10/8/97), and 'wrote' at the writing table (9/24/97; 9/29/97; 10/6/97). There was a purpose to her play and she attended to self-selected constructive play activities for five minutes or longer (9/17/97; 9/25/97; 9/19/97; 9/29/97; 10/1/97; 10/6/97; 10/8/97). During one videotaped observation, Sheryl played in the block area (10/8/97) for twenty minutes building a block structure with a peer.

There were no observations during the initial assessment period of Sheryl participating in dramatic play by pretending to be someone. On one occasion, she entered the sociodramatic play area where there were two peers (10/1). She placed pretend food in the refrigerator and set the table with cups, plates, and silverware. She did not talk with her peers nor did she share the materials.

Sheryl's attention span during teacher-supported activities, on the average, was longer than during self-selected activities. When she dictated words to be written on pages of a book she illustrated, she remained on task for fourteen minutes with the support of

the teacher (9/19/97). She participated in the same type of activity with teacher support on another date for seven minutes (9/25/97).

Sheryl used a combination of visual and physical scanning and private speech to complete projects or solve problems. During two videotaped episodes (10/1; 10/6) Sheryl first observed a peer put a block on a structure, took the block off, and 'measured' the structure by placing her chin on it (physical scanning). She added another block from the shelf (physical scanning), looked at it, put it on the structure, and said "No, can't put anymore. Too high" (private speech) and she took the block off.

Language development

Sheryl used language to express her wants and needs, ask questions, regulate others' behavior, create imaginary situations, and interact with others. She told peers what she was doing or what she was making when she was involved in constructive play activities - "This is not me" (9/19) "It's a garden" (9/25), "A., I'm gonna put them on these" (10/8). Sheryl also asked questions to gain information "Where's the teacher?" (9/25) and told another peer "We're making a racetrack" (10/1).

When Sheryl attempted to regulate others' behavior, she stated what she wanted them to do and added the tag of 'okay' at the end of each sentence "A, put that right here, okay?" (10/1) "All that stuff, okay?" (9/25/97). She also used imaginative language to create a story about a vampire trap when she dictated to a teacher what she wanted written on her illustrations (9/19) "It's a vampire trap. Once upon a time there was a vampire building."

Sheryl spoke in simple, declarative sentences using nouns, verbs, and adjectives. There were no examples of Sheryl using language to tell about herself. Samples of Sheryl's language indicated she used contractions (where's, don't, it's) and prepositions (under, in, over, on). There were no observations of Sheryl using conjunctions. The average length of her sentences was 3.8 words (average sentence length for children four - five years old is four to eight words).

Social development

At the beginning of the school year Sheryl participated in associative play (as defined by Parten) with one peer, Alana (9/11/97; 9/15/97; 9/17/97; 9/24/97; 9/25/97; 10/1/97; 10/8/97). The two girls came to school together and sought each other out during free play. While playing Sheryl and Alana talked about what they were doing and shared materials. There were two observations of Sheryl participating with different peers during the first four weeks of school (9/19/97; 9/25/97). In one episode, she sat with two peers and opened a book, 'read' the text to a certain point, paused, and waited for a response from her two peers.

Emergent literacy skills

As an emergent reader and writer, Sheryl participated in a variety of literacy activities during the initial observation period. She 'wrote' by drawing pictures and mock letters. As she continued to practice at the writing table, she began to write her name using conventional-looking letters (9/19; 9/25; 10/1; 10/8). She also wrote the teacher a

note copying an adult's model (9/24). By the fourth week of school, Sheryl began to identify other children's names in print. She used her knowledge of letters and logical reasoning to determine whose nametag remained on the morning attendance board one morning (10/1).

Sheryl: It's Daniel's name.
 Teacher: How do you know it's his name?
 Sheryl: Because it begins with a D and Daniel's name begins with a D, so it must be him."
 Teacher: You're right!

There were three instances during the assessment period when Sheryl was observed 'reading' a book on her own or with others. When she 'read' to peers (9/23; 9/25), she looked at the illustrations and told the story using its vocabulary - "Is he under the bed? Is he in the basket?". When she chose a book for herself, she turned the pages quickly, closed the book, and said she was done (10/2).

Initial assessment results - Sheryl

Sheryl was 4 years 8 months old during the initial assessment period. The Peabody Picture Vocabulary Test was administered on September 10, 1997. The standard score for any age is 100 and the mean stanine is 5. Sheryl's standard score was 98 which is in the 45th percentile, 5th stanine, with an age equivalent of 4 years 6 months. Her score was in the low average range. Sheryl readily joined the teacher, smiled, and pointed to the picture on each page.

The Peabody Expressive Vocabulary Test was administered on September 12, 1997. (Standard score for any age is 100 and the mean stanine is 5). Sheryl's standard

score was 89 which placed in the 23rd percentile, 4th stanine, with an age equivalent of 3 years 10 months. Sheryl listened to the stimulus word, paused, and pointed to a picture. At one point, she said “This is hard.” The teacher acknowledged what she said, praised her for her efforts, and encouraged her to continue, which she did.

Clay’s Concepts About Print assesses concepts and knowledge about print, pictures, and books. The assessment was administered on September 18, 1997. Sheryl received 12 out of a possible 24 points. She could find particular letters when requested, pointed to words as they were read, and noted how print was read. She had difficulty noticing changes in word and letter order and identifying the meaning of various punctuation marks.

Morrow’s Checklist for Assessing Early Literacy development was completed on October 1, 1997. Items were checked in the *always*, *sometimes*, or *never* columns based on information from teacher observations. Sheryl’s strengths were marked in the *always* column and included: identifies familiar sounds, follows verbal directions, speaks in complete sentences, and can be understood by others, voluntarily looks at books, knows that a book is for reading, can identify the front, back, top, and bottom of a book, independently explores with writing materials, attempts reading to convey meaning, dictates stories or sentences he or she wants written down. Under the *sometimes* column, some of the items included: responds with questions and comments to stories read to her, retells a story without the help of the book and demonstrates knowledge of details, knows that print is read left to right, knows what a letter is and can point to one on a printed page. The items marked in the *never* column were: is aware of environmental print and

recognizes some words in books by sight.

The Early Screening Inventory Revised- Kindergarten edition (4 ½ - 6 yrs. old) is a brief assessment intended to identify children who may need further evaluation. The ESI-K was administered on September 17, 1997. Sheryl received 25 points on the assessment which placed her score in the *okay* range. She participated in all but one task and completed the assessment. She received a full score on all sections except the Verbal Expression and Language and Cognition sections. On the Verbal Expression section, Sheryl was asked to “tell about” the four items presented. Two points were given for each spontaneous response given by the child and one point for a response elicited by the examiner. The total points for this section is then based on an ESI-K scale. Sheryl received 1 out of possible 3 points on this section. She refused to answer one item on the Verbal Expression section.

The teacher-made developmental checklist is individually administered for 5, five to ten minute periods over the first month of school. The checklist was completed on October 1, 1997. Sheryl participated in each session and attended to all the tasks. Her strengths included: identified the four basic shapes and eight basic colors; demonstrated an understanding of prepositions; recalled facts from a trip; counted 7 (out of 10) items using one-to-one correspondence; recognized there were 4 items on the table without using one-to-one correspondence; could hop, jump, climb, balance on a line, and throw; explored messy materials. She had difficulty with: identifying the letters V, Q, P, and M; and skipping. The teacher made a note that often Sheryl demonstrates her happiness in class when she plays with Alana by throwing materials, running in the classroom, and talking

loudly.

Questions as a result of initial observations and assessments:

- How can Sheryl be supported to interact with other peers?
- How can Sheryl's interest in print be a basis for building language skills?
- What are ways in which to show Sheryl how to integrate literacy activities into her play?
- How can the teacher support Sheryl's emergent reading behavior so that she looks at books more often on her own and with others?
- What are ways in which to build on Sheryl's interest in constructive play activities to begin to introduce pretend play themes?

The data from the initial assessment period is organized in chart form with suggested teaching strategies to support Sheryl's development.

<i>Strengths</i>	<i>Indicated by</i>	<i>Teaching strategies</i>
-attention to self-selected tasks	Teacher/video observations	Add new materials for Sheryl to explore and play with that will challenge her and require a variety of steps to complete
-problem-solving skills	ESI-K; teacher developed check-list; teacher and video observations	Engage her in different tasks and activities that are new with different peers; encourage her to model her problem-solving strategies

-awareness of print

Morrow's checklist;
Clay's Concepts
about Print; teacher
and video
observations

Introduce variety of books
and writing activities; continue to
discuss print, letters, words in 1-1
teaching sessions; model how to use
literacy materials in different
classroom areas

Interests

-writing; drawing

Indicated by

Teacher and
video observations

Teaching strategies

Continue to provide a
variety of materials at
writing table and in other
classroom areas; involve Sheryl
in book extension activities-
i.e. drawings similar to illustrator's;
writing activities; extend themes of
stories into literacy activities

-associative and
cooperative play

Teacher and video
observations

Involve her in different
play situations with
variety of peers; encourage Sheryl
to take the lead in play situations;
pose problem or task to be completed

Needs

-interactions with
different peers

Indicated by

Teacher and video
observations

Teaching strategies

Support, encourage
participation with
peers other than
primary playmate; pair
her with different class-
mates to complete tasks;
teacher-modeling of how
to invite peers to play

-expressive language
skills

ESI-K; Peabody
Picture and
Expressive

Involve in story reading
sessions: discuss words,
word meanings; play word

Language tests; teacher and video observations	games; encourage her to explain projects to peers; involve in direct teaching sessions with vocabulary discussion and support for verbal participation
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Goals and Objectives

Information from teacher observations, videotaped observations, and initial assessment results were the basis for establishing goals and objectives for Sheryl for the remainder of the school year. The goals and objectives provided a focus for continued teacher and videotaped observations. Changes or additions (**noted in bold**) to the goals and objectives were made as subsequent observations were analyzed to determine Sheryl's progress towards meeting each.

Goal 1: To increase social interactions with others

Objective 1: Sheryl will initiate play with or join a peer's play (other than Alana).

Objective 2: Sheryl will lead a play activity by engaging others verbally, sharing materials, and explaining what the play is about.

Objective 3: Sheryl will engage in pretend play with one peer.

Goal 2: To improve expressive language skills

Objective 1: Sheryl will describe to a peer or an adult what she is doing.

Objective 2: Sheryl will engage in conversation with a peer maintaining the topic through 3 exchanges.

Goal 3: To participate in emergent reading activities

Objective 1: Sheryl will respond with questions or comments to stories read to her.

Objective 2: Sheryl will retell a familiar story in her own words to a peer.

Goal 4: To practice counting, sorting, and classifying items

Objective 1: Sheryl will count ten items using one-to-one correspondence.

Objective 2: Sheryl will compare items and explain how they are similar and different.

Objective 3: Sheryl will count twelve items using one-to-one correspondence.

Data from teacher and videotaped observations collected during the remainder of the school year are organized by the questions guiding this study. The following sections note Sheryl's progress and development during the remainder of the school year as they relate to these questions.

How did play support Sheryl's cognitive development?

Sheryl's cognitive development was supported during play as she explored classroom materials and their attributes. When she was involved in block play, Sheryl made comparisons between heights of block structures "That's not as high as this one," (10/23) and lengths of snakes made from playdough "Look how long mine is" (12/3). She also tried to compare a child's age and height to hers as they were playing (10/28). What she said indicated how difficult it is for a young child to compare two aspects at the same time. She told Alana "I'm taller than you, you're older than you, not taller than me." She

tried to self-correct and said “ No. I’m older than you, you’re taller than me.” What she meant was “I’m taller than you and you’re older than me.”

As she explored materials during a cooking activity, Sheryl recognized number quantity and equivalency (11/25). When a child had difficulty counting how many more pieces of ice he needed to make ice cream, Sheryl said “You have two pieces of ice. All you need is four more pieces and you will have six.” Sheryl did not count the pieces of ice by touching them; rather, she recognized the amount the child had and told him how many more he needed. Using one-to-one correspondence, Sheryl counted how many levels of blocks she had (13) (10/23) and noted she needed more by counting and making comparisons (i.e. We need more blocks. All you need is four more pieces.). Her beginning use of comparative language “more, long, bigger, not as high” and counting indicated her emergent mathematical reasoning and logical thinking skills.

Sheryl sorted and classified materials as part of her play. For example, she listened to verbal clues and matched animals while she played on the computer(2/6/98). She noted she could match and sort animals by their physical attributes. “A butterfly and a zebra have stripes. You need to find the right striped piece.” At the math table, she decided to sort animals by color by placing certain animals in certain shapes on a mat (4/7). Sheryl also devised her own sorting game. After she had sorted all the trees from the other items in the sandtable, she asked a peer “Want to bury anything? I call this 1,2,3 hide an animal. You try to find it in the sandbox. Okay?” (4/24).

How did play support Sheryl's language development?

Constructive play activities provided the context for Sheryl's language skill development. While in play, Sheryl described what she was doing. (10/28; 11/5; 11/25; 12/3). "I'm not folding it." (10/23), "This is where my paper goes when I'm done." (10/28). She spoke loud enough so classmates heard what she said. Sometimes she asked a question, while other times she called attention to what she was doing "Look at all these pieces of paper." (10/23) and "I'm making my dad with a beard.. No, this is a girl with a beard who's got long hair. It's Kellie, my sister. Look it." (11/5). As Sheryl talked about what she was doing, her peers began to talk with her. The conversations centered on the constructive play and Sheryl began to maintain a topic of conversation through three or more exchanges (1/29; 2/6; 2/11; 2/19; 3/3; 4/7).

Sheryl's longest conversations occurred when she and a peer participated in cooperative play. The play supported her language as the conversation centered on the activity and materials. Both Sheryl and her peer discussed what they were doing and possible solutions to their problem or task. Sheryl engaged in two extended conversations that went through more than three exchanges as she worked with a peer at the computer (2/19) and worked with another peer to complete a floor puzzle (3/27).

Sheryl: I just tried that (as she placed a piece puzzle piece down.)

T: I'll put it here.

Sh: Try to squish it down.

T: That goes there.

Sh: I think that goes here. It fits. Yeah!! Let's try, this goes here.

T: Watch out. I knew it, I knew it.

Sh: This one goes here. Can I try this? (takes a piece from T.'s hand.)

T: This one goes here.

Sh: I knew it. Teacher, teacher, we did it!

In this episode and others, the conversation centered on the play and how the task could be completed. As she was playing and talking with peers, Sheryl also introduced new vocabulary into her discussions. She said she put “lipstick” (2/1) on the picture of herself, drew a picture of her sister with “sparkly eyes” (3/3) and noted that “love is invisible” (3/30). Her use of each of these words was appropriate in the context of her play as she shared her thoughts about what she was doing.

How did play support Sheryl’s social development?

As Sheryl continued to play in the classroom, she began to include different peers. She took a leadership role as she suggested ways in which materials could be shared and roles each player could take. For example, when she worked on an art project with a peer (11/5) Sheryl shared materials, started the conversation, and suggested who should do what. (“I use red, you use blue. You hold that, I’ll hold this.”). During one episode (11/25) as she worked on a table puzzle another peer joined her. Sheryl asked “Ashley, want me to help you? I know how to do this.” When Ashley placed a piece in the puzzle she was working on, Sheryl said, “Good job, Ashley.” Sheryl used a variety of strategies to enter or involve peers in her play including giving a child some blocks as she entered the same play area - “L, these are for you.”(1/29), asking a child to play - “C, want to play with me?” (2/6), and offering to help - “What do you want me to do? Can I help? I’m a really good builder.”(5/6).

As Sheryl participated in constructive play she introduced imaginary situations (2/6; 3/13; 3/30; 4/7; 4/8; 5/6). To play the card game 'Go Fish', she pretended roof boards were playing cards (3/30) while in the block area she suggested to a peer that they build a scary animal farm.(3/30). At the sandtable, Sheryl made the suggestion of hunting for diamonds and treasure in the classroom (4/8). When more than one peer wanted to join her play, Sheryl suggested activities or tasks for everyone to do. During one of her block play episodes (4/7), Sheryl began to build with one child. As the two children built with the blocks, another child asked if she could play. Sheryl said "Okay. You can get some blocks." When a third child asked to play, Sheryl allowed her to enter as well. She assured all the children "Don't worry, we're gonna connect it." At one point, she encouraged each child. "Here you go, C. Thank you. Ca, you can do these. Great job, D."

Sheryl also participated in emergent games with rules (2/6; 3/2; 3/11). In each episode, the main objective appeared to be playing with a peer rather than winning the game. She devised her own rules to board games so that both she and her peer could win (3/2) "I was here...no, we were here..we both got a win." Later in the year, Sheryl invented games that had a general theme, that is, she hid something while others looked for it. She gave clues as to where the items were (4/8; 4/14) and then introduced the idea of - "If we get really close say hot, really hot. If we're not near it, say cold." In other episodes, Sheryl told peers what the rules were to her games (4/8 - "N, hide people and we'll try to find them. Tell me when you're ready. Close your eyes. Don't peek"). In each of her activities, Sheryl played cooperatively with peers, at times taking a leadership

role while in other instances she determined ways in which others could be involved in what she was doing. Sheryl's social skills were supported in the play as she engaged others, cooperated, and shared materials.

How did play support Sheryl's literacy development?

Sheryl's literacy development was supported during play as she participated in a variety of self-chosen reading and writing activities. She chose books to look at or 'read' with a peer or a peer read a book to her (10/28). She listened, looked at the pictures, held the book properly, and turned the pages slowly. She extended her knowledge of a story (*Treasure Hunt*) into a play activity when she suggested an activity to two peers (4/8) "Let's make a treasure map." The three children, including Sheryl, drew their own versions of treasure maps. Each child hid the 'treasure' while the other two attempted to find it. The processes of drawing maps and looking for treasure involved the children for twenty minutes.

Sheryl consistently chose writing as a play activity as she wrote, drew, traced, and cut paper. While at the writing table, she practiced making letters and drawing. As the school year progressed, she wrote on her drawings, told peers what the words were, and told her reasons for drawing and writing (I'm making a treasure map). Sheryl's involvement in play supported her literacy development as it provided her with opportunities to practice and explore reading and writing in her own way with peers.

How did Sheryl access and participate in literacy activities?

Sheryl accessed and participated in literacy activities as part of her play. For example, she chose writing activities consistently as one of her play activities (2/11; 2/19; 10/23; 10/28; 11/18; 11/25; 12/3; 1/29; 2/6; 2/11; 2/19; 3/2; 3/3; 4/14; 5/6). When she decided to draw a picture of her block structure (2/6), she chose graph paper from a folder in the block area, took a pencil from a nearby cup, sat on her knees and began to draw her block structure, and write letters.

As Sheryl participated in a play area, she explored the literacy materials. At the writing table, she instructed a peer on how to use the typewriter (2/11), demonstrated how to make valentines using the new stencils that were available (2/6), wrote letters and put them in envelopes that has just been added to the area. Sheryl listened to several stories teachers read that had rhyming words. After a teacher had written pairs of rhyming words on a large piece of paper, Sheryl took the paper and wrote the words in her journal as part of her play (2/19). She also tried to invent her own rhyming phrases as she said “Cricket, cricket, I did it.” (5/6). Sheryl accessed literacy materials that were available in the classroom and participated in a variety of literacy activities as part of her constructive and pretend play with others.

How did Sheryl incorporate literacy activities into her play?

Literacy activities were consistently incorporated into Sheryl’s play. She integrated her play with literacy activities and conversations about writing. While involved in writing and drawing, Sheryl interacted with peers and teachers as she announced what she was

doing (1/29; 2/6; 2/11; 3/2; 3/3;3/11;4/8). Her announcements lead to conversations with peers about what she was doing and how others could do the same thing. Later in the school year, Sheryl discussed what she was writing. (3/2).

- Sh: Do you know how to write my name?
 Le: S-H-E-R-Y-L
 Sh: (Prints her name) - Like this. S-H-E-R-Y-L (says letters as she points to them). I know how to write Alana. A-L-A-N-A (says letters as she writes them). This is a 2. I'm crossing my name out.
 T: What about Alana?
 Le: I need black.
 Sh: I'll find black. Know how to spell Kellie? K-E-L-L-I-E. This is how to write my name. Know how to write Caitlin. C-A-I-T-L-I-N. (Says letters as she writes).
 Le: Know how to spell....
 Sh: Know how to spell dog - d-o-g (says letters as she writes) This is g - like c. Dog - dog. Cat - cat.

Sheryl incorporated writing as part of her and also talked about writing and spelling. In later episodes, Sheryl discussed how to make letters (3/3), treasure maps (4/8), and peer's names (3/22). The conversations during Sheryl's literacy play activities indicated what she and her peers were learning about letters and words. For example, Sheryl wrote her sister's name (Kellie) while at the writing table (3/11). As she spelled her sister's name aloud, another peer noted "My sister's name is Kelly, too. Only her name is K-E-L-L-Y (says letters)." Sheryl responded "My sister's name is K-E-L-L-I-E (says letters)." Her peer noted "Both their names are Kelly but my sister's name has a Y. Your sister's name has IE." Sheryl remarked "Yeah." In the playfulness of the task, the two children began to discuss the similarities and differences between the spellings of the same name. For Sheryl, the play was literacy activities and she incorporated exploration, language, writing,

conversations, sharing, cooperation, and talk about reading and writing.

What early childhood and special education teaching strategies were combined?

Learning was embedded into daily activities and routines for Sheryl. This early childhood teaching strategy supported her cognitive, language, social, and literacy development. The activities Sheryl chose served as a context for instruction. For example, while Sheryl was at the writing table, the teacher pointed out that there was a ring of words on the nearby shelf that contained the printed names of her classmates. After the teacher talked with and showed Sheryl the ring, Sheryl began to write classmates' names as part of her play at the writing table. New and different materials were added to the writing table (i.e. typewriter, computer keyboard, writing journals, stickers, envelopes) to provide interesting and new materials for Sheryl to experiment with and explore.

To facilitate Sheryl's participation in emergent reading activities, the teacher taught specific skills, a strategy commonly used in special education. When reading one-to-one with Sheryl, the teacher introduced the book's vocabulary, showed her how print is read, and instructed her as to how to retell a story. In one-to-one teaching sessions, the teacher built on Sheryl's interest in word play and rhyming words. Sheryl, in her private speech, repeated words and sounds (baw, baw, baw; cha, cha, cha), sang songs (Macho macho man; Rock around the clock), and participated in word play (twins, twins; yellow, jell-o). The teacher introduced a variety of activities that allowed Sheryl to practice rhyming such as listening to rhyming stories on tape, matching pictures whose names rhymed, writing rhyming words in her journal.

Sheryl was introduced to a variety of books during shared book reading sessions with the teacher. Before, during, and after the books were read, the teacher asked Sheryl specific questions, taught her how to retell a story, and engaged her in after-reading activities. It was the interactive nature of these sessions that supported Sheryl's language development. For example, as the title of the book *Bears in Pairs* was introduced (3/27), Sheryl said, "We had a pear tree in my back yard." The teacher explained the meaning of 'pair' and asked Sheryl to explain what she meant by 'pear,' which she did correctly. Further discussion focused on how some words sound the same, look differently and have different meanings. The teacher wrote various pairs of words to illustrate the point as she asked Sheryl to note the similarities and differences in the printed words. In addition, when she was in various classroom areas, the teacher directed Sheryl's attention to the books in that area and discussed with her how the title and subject of the book related to the classroom materials and theme. The teacher also modeled how the books could be used as a reference to find out more about the area's theme or materials.

Specific language lessons were designed to encourage Sheryl's use of language to accomplish tasks, solve problems, and talk about what she knew. While involved in an ice cream making lesson with a student teacher (11/25), Sheryl described the ice cream as "mushy and cold." Later in the process, Sheryl noted the ice cream, at one stage, looked like a "ball." Similar types of language lessons involved Sheryl in discussion about what she was doing or making.

End of year assessments

All assessments were readministered during the last two weeks of the school year. Sheryl was 5 years 5 months old during the end of the year assessment period. The results of the end of the year assessments are discussed with initial assessment results noted in **bold** print to serve as a reference.

The Peabody Picture Vocabulary test was readministered on May 4, 1998. Sheryl's standard score was 109 (**98**), which is in the 73rd (**45**) percentile, 6th (**5**) stanine, with an age equivalent of 6 years 2 months (**4 years 6 months**). Her score was in the high average range (**low average**). Sheryl readily participated by listening to the words said by the teacher and pointing to the pictures.

On May 7, 1998 the Peabody Expressive Vocabulary Test was readministered. Sheryl listened to the stimulus word and pointed to the picture of her choice. Her standard score was 95 (**89**), which placed in stanine 4 (**4**) 37th (**23**) percentile, with an age equivalent of 5.0 years (**3 years 10 months**).

Clay's Concepts About Print was readministered on April 27, 1998. Sheryl received 14 (**12**) out of a possible 24 points. She noted when the book was upside down, identified capital letters, but had difficulty finding lower case letters. She also found the word 'no' in the text on one page.

Morrow's Checklist of Early Literacy skills was completed by the teacher on May 1, 1998. The ratings of *always*, *sometimes*, and *never* were based on teacher observations conducted during the second half of the school year. All ratings remained the same as they were rated during the initial assessment period except for the following items which

were changed from the rating of *sometimes to always*: can identify the front, back, top, and bottom of a book; knows that the pictures on a page are related to what the print says; writes from left to right. The following item was checked in the *never* column and were changed to the *sometimes* column: recognizes some words by sight in book print.

The kindergarten version (ages 4 ½ - 6) of the Early Screening Inventory was readministered on May 5, 1998. Sheryl received 26 points (25). Her total score was one point away from a perfect score. On the Verbal Expression section, she received two out of a possible three points for her spontaneous responses about the four given items. Her score was in the *okay* range.

The teacher-made developmental checklist was completed on April 11, 1998. Sheryl identified all the letters in the alphabet, counted fifteen items using one- to- one correspondence, skipped, and chose from three group of items which group of items had the most. Twice she visually scanned the groups and once she used one- to- one correspondence to identify the group that had the most. The teacher noted that Sheryl now controlled her silliness in the classroom. Sheryl successfully completed all the items on the teacher-made developmental checklist.

Summary

Sheryl met and exceeded each of the goals and objectives established for her. Rather than play with one peer as she had done at the beginning of the school year, Sheryl played with a variety of peers as she shared materials, explained what she was doing, and encouraged peers as they played with or next to her. She suggested pretend play themes

and played with peers as they developed their story. She devised her own games and asked peers to join her. Sheryl was a leader in play activities as she helped solve social conflicts and encouraged others to participate with her.

While involved in constructive play, Sheryl described what she was doing. As she did she developed her expressive language skills, she asked questions, called attention to what she was doing, and engaged in conversations. Her longest conversations were with peers as she played, discussed what they were doing together, and how they could complete the task. End of the year assessment results correlate with teacher observations noting the progress Sheryl made from the beginning of the year in language skill development.

Sheryl participated in emergent reading and writing activities throughout the school year. As she looked at books, she retold the stories using the books' vocabulary. Her interest in book vocabulary was exemplified when she discussed how she had a pear tree in her yard when the teacher introduced the book *Bears in Pairs*. The teacher discussed with her how words may sound the same but look differently and mean different things. Once during her play, Sheryl referred to a book as she built 'a scary farm.' Sheryl identified pairs of rhyming words and made up her own. End of the school year assessments (Morrow's Checklist of Early Literacy Development: Clay's Concepts about Print) correlate with observations of Sheryl's book knowledge.

In her play Sheryl counted, sorted, and classified items. Her new strength includes a command of higher level mathematical skills as she used addition (mentally) and addition and subtraction to achieve equivalency. In addition, Sheryl created her own sorting games

and asked children to “Find all the animals in the sandtable.” Teacher and videotaped observations correlate with end of the year assessments noting Sheryl’s strengths in mathematical reasoning and problem-solving.

Feedback from parent

At the end of the year parent/teacher conference (5/1/98), Sheryl’s mother reported that Sheryl was more confident at home. She played with both sisters and was the leader in play, rather than her older sister who had been at the beginning of the school year. Sheryl encouraged and praised both sisters’ efforts as they played out certain pretend play scenes. While her older sister was doing homework, Sheryl also wrote and looked at books. Sheryl wrote her name and the names of her family members and identified each for her mother. Mother also noted that Sheryl asks if she can have different playmates over to the house rather than only Alana. According to Sheryl’s mother, Sheryl did just fine on the town’s kindergarten screening. (Teacher notes from parent/teacher conference).

SHERYL

Assessment: Peabody Picture Vocabulary Test (III-A)

	Initial Assessment	Mean	End of Year Assessment
Standard Score	98	100	109
Percentile	45	50	73
Stanine	5	5	6
Age Equivalent	4.6	n/a	6.2

Assessment: Peabody Expressive Vocabulary Test

	Initial Assessment	Mean	End of Year Assessment
Standard Score	89	100	95
Percentile	23	50	37
Stanine	4	5	4
Age Equivalent	3.1	n/a	5.0

Assessment: Early Screening Inventory (K)

Initial Assessment	Okay Range	End of Year Assessment
25 points	>14 points	26 points

Assessment: Clay's Concepts About Print

Score	Initial Assessment	Mean	End of Year Assessment
(out of 24 points)	12	12-14	14

BRETT

Sex: male
Date of birth: 9/25/93

Brett began his second year in the AM class in September, 1997. At 3 years 11 months, he is thirty-eight inches tall (10th percentile for boys his age) and weighs thirty-six pounds (50th percentile). Brett has brown eyes, brown hair, and rosy red lips. His skin is fair and his cheeks are pink. His most distinctive feature is his head, which is wide from ear to ear and flat on top. Brett's voice has a nasal quality. His appearance is clean and neat and he is always dressed appropriately for school and outside play. Brett lives in a lower middle class neighborhood with both parents and his younger brother. His mother reports that Brett plays with his first cousin (male) whom she cares for two days a week.

Brett's mother completed the AM class developmental history form and indicated that there were no complications during Brett's birth. Brett is in good health and has not had any surgeries, serious accidents, or major illnesses. According to his mother, Brett reached the early developmental milestones within average age expectations (babbed at 9 months, crawled at 10 months, walked at 13 months). Brett is toilet trained but continues to need help getting dressed.

Brett's mother reported that she referred Brett to the local public school system for a special education assessment in September, 1996. She had questions about his language development and behavior. Brett was assessed by members of the town's early childhood special education team. The McCarthy Scale of Children's Abilities was administered while Brett's mother completed a behavioral questionnaire. The team

reported that Brett's strengths on the McCarthy Scale were perceptual reasoning, problem-solving, classification skills, and gross and fine motor skills. He could identify body parts consistent with age expectations. He had difficulty responding to 'wh' questions, expressively providing object function for familiar items, and understanding quantitative and directional/positional concepts at a two-year old level. Results of the behavioral questionnaire completed by Brett's mother indicated his behavior was in the clinically significant range in the areas of aggressive and destructive behavior. Scores in the areas of sleep problems and social withdrawal were in the borderline significant range. Brett's difficulties with inattention, distractibility, and impulsivity were noted as quite significant. Brett exhibited oppositional behaviors during transitions between activities during the assessment session.

The team agreed that Brett was in need of special education services and determined that he should attend an integrated preschool program. Brett's Individualized Educational Plan addressed the following goals: appropriate participation in the classroom and group activities; increase attention and concentration skills; increase impulse control; and improve ability to demonstrate language comprehension. There were no recommendations for therapeutic services for Brett at this time. Included in the I.E.P. was a recommendation for parenting classes for Brett's mother and father provided by the social worker. The team determined that Brett should be enrolled in a preschool program. Brett began attending the college-based inclusive early childhood AM class in November, 1996. He attended 5 mornings a week through July, 1997.

Information from previous educational placement

Brett attended the AM class at the college-based inclusive preschool during the 1996-1997 school year. His I.E.P. goals and objectives were addressed by the teacher who individualized curriculum and teaching strategies for Brett. By the end of the school year, Brett had made moderate progress towards meeting all four goals and their objectives. In particular, Brett began to participate in group activities and increased his attention and concentration skills by attending to tasks until they were completed. He had also begun to control his physical responses when angered yet continued to have difficulty demonstrating his knowledge of language and participating with peers in play. Brett's mother and teacher agreed that Brett would continue to attend the AM class during the 1997-1998 school year to provide consistency for Brett and to continue to work on his goals and objectives.

*Initial assessment period - Weeks 1-4 (September 10 - October 8, 1997)**Cognitive development*

Brett participated most often during the assessment period in constructive play in which he used materials to construct a product. Brett completed puzzles (9/15;9/19) and built with blocks (9/18; 10/1). At the teacher's suggestion, Brett participated in drawing and gluing activities (9/11; 9/17; 9/19; 9/25; 10/1; 10/8). In each activity, there was a goal to Brett's participation, that is, there was a completed product.

Twice during the assessment period (9/24;9/25), Brett played with realistic materials. During the first episode (9/24), he pretended to drink from a jug, walked with a

pad and pencil in his hands, lifted food items with plastic tongs, put coffee mugs on the table, and poured coffee into a cup. In the second episode (9/25), Brett put a doll in a pocketbook, put the pocketbook in front of another child's face, took the doll out of the purse, and removed its pants. He tipped over a pretend blender and then took a pad of paper and pencil, and wrote on it.

Brett attended to self-selected constructive play activities, teacher-directed activities, and activities where an adult was present for sustained periods of time. For example, during self-selected constructive play activities, Brett attended for five minutes while he traced a stencil (9/19), completed a floor puzzle (9/19), built with blocks (9/19), cut paper (10/1), and glued at the art table. When a teacher was present in an area, Brett attended to activities for sustained lengths of time. For example, when a teacher knelt next to him, he stayed at the art area for sixteen minutes drawing a picture (9/25). Sixteen times Brett was distracted as he shifted his attention to watching others. Each time he returned to the task. On another date, when the teacher read a story to him (10/1), he listened and participated in discussion for eleven minutes.

Brett used visual and physical scanning and private speech to solve problems or complete tasks. He used private speech when he finished cutting paper with scissors (10/1) "I'm gonna bring this home" and when he was drawing "I'm making a monster" (10/8). While Brett was working on a floor puzzle (9/19), he looked at the puzzle box cover (visual scanning), searched for puzzle pieces (physical scanning), picked two pieces up, and put them together. He added the pieces as he looked at the puzzle upside down. He continued this procedure until the entire puzzle was completed. On another date (10/8), he

applied the same two strategies as he put attribute blocks away in their appropriate place in a box. There were no observations of Brett using advanced planning to solve problems.

Language development

Brett used language to tell about himself, ask questions, communicate information, guide his behavior, and interact with others. When he talked about himself, Brett indicated what he had just done “I got the doll” (9/24), “I found her” (10/1), and “Look I did it.” He asked a teacher questions when he noticed she was wearing a bandaid (9/25) (“Where did you hurt yourself?” “Why did you do it?” “Why didn’t you do it carefully?”). Brett used language to share information when he was drawing at the art table, “Flowers grow in grass. Not weeds.” (10/1).

Brett also attempted to interact with others when he made a statement and asked questions in the sociodramatic play area on two different occasions. (9/24; 9/25) In the first episode, he said, “I’m going to write your cake, guys.” His peers did not respond to him. When he asked a question during the same episode (9/25) “Want some tomatoes?” he held a pretend tomato in his hand. This time he did receive a response (“no”).

Brett spoke in simple, declarative and interrogative statements. His sentences included nouns, verbs, and adjectives (your, this, my). He used negatives (no, not, didn’t) and contractions (that’ll, it’s, I’m. That’s, everyone’s, there’s, here’s). There were no examples of Brett’s use of conjunctions. During the assessment period, the average length of his sentences was three words. (The average length of sentences for children four years old is five to six words).

Social development

During the first four weeks of the school year, Brett participated in solitary independent play, parallel, and associative play (as defined by Parten). He participated in solitary independent play when he put a floor puzzle together (9/19) in the block area. As other children were playing with blocks, Brett worked on the puzzle in the same area and within speaking distance of the other children. He did not talk or use the same materials. Brett also participated in parallel activity when he glued (10/1) at the art table, traced stencils (9/19), and cut with scissors (10/1;10/8). He worked independently near other child, used the same materials, and did not attempt to control others' behavior.

Twice during the assessment period, Brett attempted to participate in associative play, that is, play with other children where there is borrowing of some materials and attempts to control other's behavior.(9/24; 9/25). During the first episode, Brett entered the same play area, touched and pretended with the materials, and attempted to engage his peers in conversation. He lifted a bowl with some tongs and said, "That's a pizza," and put a pretend piece of bologna between the tongs and said "There's the fork." The child next to him did not respond either time. During the second episode, he played with the same materials, but did so in a different way than the other children (dropped the doll, tipped the blender). He smiled and stuck his tongue out at the girls who sat on the floor in front of him.

Emergent literacy skills

Brett's emergent writing activities included 'writing' on a pad in the sociodramatic play area (9/24;9/25) and writing lines and/or scribbles for his name (10/8). Brett recognized his name in print and took his nametag off the attendance board each day. After he traced a stencil at the writing table (9/19), he found his name and the name of one of his peers on a ring that had the printed names of every child in the classroom. He did not identify all the letters in his name, rather, he 'signed' (in American Sign Language) and said the first letter in his name.

Twice during the assessment period, Brett asked the teacher to read to him (9/11; 9/18). He also looked at a book on his own (10/8) after he observed a peer in the class library. Brett chose a book from the windowsill, sat down facing the other child, put his legs on either side of the child, opened his book, and looked at the pictures. When the child got up, Brett did too. During the assessment period there were no observations of Brett retelling a story on his own.

Initial assessment results

Brett was 3 years 11 months old when the assessments were administered. The Peabody Picture Vocabulary Test was administered on September 9, 1997. Brett's standard score was 96 (mean standard score 100) which placed in the 39th percentile, 5th stanine (mean stanine 5), with an age equivalent of 3 years 6 months. His score was in the low average range. Brett readily joined the teacher and listened to the stimulus word said by the examiner and pointed to the pictures. He attended to the task until it was

completed.

The Peabody Expressive Vocabulary Test was administered on September 16, 1997. The standard score for any age is 100 and the mean stanine is 5. Brett's standard score was 88, stanine 3, 21st percentile, with an age equivalent of 3 years old. Brett listened to the stimulus word, pointed to the pictures, and completed the task.

Clay's Concepts About Print assesses concepts and knowledge about print, pictures, and books. This assessment was administered on September 18, 1997. Brett received 2 out of a possible 24 points. He noted that print contains a message and that the left page is read before the right. He had difficulty identifying the following: front of book; where to start to read; which way to go when reading; return sweep to the left; word by word matching; first and last concept; bottom of the picture; identifying print that was upside down; line alteration; one change in word order; one change in letter order; the meaning of punctuation marks; locating capital and lower case letters; identifying was and no; identifying one or two letters. Brett helped hold the book and looked at the pages. When he was asked to identify particular parts of the book, he pointed and said "Is that right?" The teacher reassured him and encouraged him to continue, which he did.

Morrow's checklist for Assessing Early Literacy development was completed on October 5, 1997. Items were checked in the columns based on information from teacher observations during this period. Brett's strengths (marked in the *always* column) included: makes phoneme sounds; speaks in one and two word sentences; listens attentively while being read to; and knows where one begins reading. Items checked in the *sometimes* column were: differentiates similar sounds; understands the language of

others when spoken to; follows verbal directions; pronounces words correctly; speaks freely to others; has appropriate vocabulary for level of maturity; speaks in complete sentences; uses varied syntactic structures; asks to be read to; responds with questions and comments to stories read to him; knows that a book is for reading; can identify the front, back, top, and bottom of a book; can turn the pages correctly; knows the difference between print and pictures; knows that pictures on a page are related to what the print says; knows what the title of a book is; how what an author and illustrator does; retells familiar stories using the pictures to help recall details; knows what a letter is and can point to one on a printed page; attempts reading; independently explores writing materials; and dictates stories or sentences he wants written down. Items checked in the *never* column were: can be understood by others; can identify letters by name; knows that oral language can be written down and then read; knows what a word is and can point one out on printed page; is aware of environmental print and can read some signs and logos; recognizes some words by sight in book print; associates some sounds with letters.

The Early Screening Inventory Revised - Preschool edition (3 - 4 ½ years old) is a brief assessment procedure intended to identify children who may need further evaluation. The ESI-P was administered on September 17, 1997. Brett joined the teacher and participated in all but one task. When he was asked to build a gate block structure by imitating what the teacher did, he said "No, I don't like yours. Don't know how." He received 0 points on the following tasks: draw a person; balancing; and hopping.. Brett's total score was 21 points, which is in the *okay* range for children ages 4 to 4 years 6 months old.

The teacher-made developmental checklist is individually administered during five, five to ten minute sessions over the first month of school. Brett participated in all tasks. The checklist was completed with him on October 8, 1997. His strengths included identifying the eight basic colors and four basic shapes, matching objects, ordering objects by two attributes, following three step directions, completing puzzles, stringing beads, rolling a ball, climbing, running, throwing a ball, choosing his own activities, completing activities and putting them away, and separating from Mom. His needs included naming common objects in pictures, applying language through phrases, sentences, and questions, demonstrating his understanding of prepositions, using one-to-one correspondence to determine the quantity of items present (1-10), recognizing number symbols, hopping, jumping, exploring messy materials, approaching new experiences, sharing, attempting to resolve conflicts, entering into group activities.

Questions as a result of initial observations and assessments:

- How can Brett's interest in constructive play activities (block building) support his language development?
- How can Brett be supported to play with one peer?
- What are ways in which the teacher can address Brett's attention seeking behavior with others?
- What are ways in which to build on Brett's interest in print?
- How can Brett be supported to play in a variety of classroom areas?

Goals and objectives

Based on information from the initial assessments and observations, goals and objectives were established for Brett to support his cognitive, language, social, and emergent literacy skills development. Additions or changes (noted in **bold**) were made as subsequent observations were analyzed to determine Brett's progress towards meeting each goal and its objectives.

Goal 1 - To improve expressive language skills

Objective 1 - With teacher support and modeling, Brett will describe what he is doing in the block area or at the art table.

Objective 2 - With teacher support and modeling, Brett will discuss a personal experience with a peer or teacher.

Goal 2 - To improve pragmatic language skills

Objective 1 - When asked a question by a peer or adult, Brett will answer maintaining the topic through one exchange.

Goal 3 - To improve social skills

Objective 1 - Brett will join a peer in a classroom area.

Objective 2 - With teacher modeling, Brett will play in the same classroom area as a peer and share the materials.

Goal 4 - To practice emergent reading and writing skills

Objective 1 - Brett will look at a book on his own.

Objective 2 - Brett will find his own nametag and take it off the attendance board.

Objective 3 - Brett will practice his emergent writing skills by drawing and/or scribbling.

Objective 4 - Brett will attempt to print all the letters in his name by scribbling, or using mock letters.

The following chart notes Brett's strengths, interests, and needs based on information from the initial assessment period.

<i>Strengths</i>	<i>Indicated by</i>	<i>Teaching strategies</i>
-attention to self-selected/teacher-directed activities	Teacher and videotaped observations	Provide variety of interesting materials to play with - i.e. new puzzles, different types of blocks; involve in direct teaching sessions; teacher introduces new materials in teaching sessions as Brett shows interest.
-problem-solving skills	Teacher and videotaped observations; teacher-made checklist	-involve in simple problem-solving tasks with teacher and peer; encourage Brett to explain what he is doing and why
-perseverance at tasks	Teacher and videotaped observations	-praise Brett's efforts as he works on and completes tasks; assign him to work with peers who may have difficulty completing or attending to tasks.
<i>Interests</i> -constructive play activities (block-building, puzzles)	<i>Indicated by</i> ESI-P; teacher and videotaped observations; teacher-made checklist	<i>Teaching strategies</i> -Introduce literacy activities as part of play - i.e. signs for block structures; books about puzzle theme to engage Brett in conversations about what he is doing; encourage participation in

		`writing' activities; discuss materials available, model how to use them.
- storybook reading by an adult	Morrow's checklist of early literacy behaviors	-Involve in daily teacher-directed book readings and discussions; link book's theme to curriculum theme and classroom projects
-art activities	Teacher and videotaped observations	-Support Brett's efforts when working on art table; directly teach how to cut with scissors, use glue, watercolors
<i>Needs</i>	<i>Indicated by</i>	<i>Teaching strategies</i>
-expressive language skills	Peabody Expressive & Receptive Vocabulary tests; Morrow's checklist; teacher-made checklist; teacher and videotaped observations	-Involve Brett in daily reading sessions; discuss story, vocabulary, relate book's theme to Brett's own experiences; involve Brett in constructive play activity immediately after story reading to provide relevant related experience: talk with Brett about how project relates to book; have him find other related theme-based items/projects in classroom; model how to discuss, ask questions for clarification; talk with and engage Brett in conversations; stress oral language.
-social play skills	Teacher and videotaped observations	Involve in constructive play activities with one peer; discuss what children need, what they are doing, how to solve problems, share materials; emphasize use of language to express wants, needs, feelings.

Information from teacher and videotaped observations from the end of the initial assessment period to the end of the school year is presented as it relates to Brett's

participation in the classroom. The information is organized by the four questions guiding this study.

How did play support Brett's cognitive development?

Constructive play activities supported Brett's cognitive development as he practiced skills, spoke about what he was doing, and began to note similarities and differences. Brett practiced cutting with scissors (10/31), peeling stickers (11/17), stamping (11/17), completing puzzles (11/17; 1/26; 2/19; 2/26; 3/23; 4/13;), drawing at the art table (10/31;12/2; 12/8; 1/26; and writing at the writing table (2/12;2/19; 4/23;5/1). While involved in these activities Brett began to describe what he was doing and the attributes of his products. For example, after he worked at the art table (10/31) he said, "My pumpkin has 2 ears, one here and one here," and noted how many hearts he made "I have 2 purple ones" (2/12) He also identified shapes (1/26) that he placed in a puzzle "a square, a triangle" and noticed other puzzle shapes "Some of these are different." When he built with blocks he explained, "These are the big blocks, so huge" (4/13). In one observation (4/23) Brett used comparative language as he asked a teacher "Who's taller?" referring to a peer and himself. Brett also matched letters from on an alphabet strip (5/1).

Brett began to pretend with items in his constructive play. For example, while he sat near a basket of pretend food, he pretended to eat it (he made eating sounds) (11/5; 4/23). He made car sounds as he moved cars in the block area (2/3) and said "This is my hammer" as he pretended with a block. (5/4) He also entered the sociodramatic area and asked a peer about the materials in the new veterinarian's office - "What's this for? How

do you use it? (3/23). In his play, Brett explored and practiced with materials and began to identify qualities as well as ask questions about new materials.

How did play support Brett's language development?

In the context of his play, Brett talked about he was doing or going to do "I'm gonna write my name (11/5), "I'm making an airplane (12/2), "I'm making an animal" (1/26), "Look what I writed" (4/13). At times, he repeated sentences or phrases "Look what shape, what I made" (3X) (10/31) I'm making a bike, a mommy bike" (5X) (11/5); "I'm gonna make a candle. I know how to make a candle." (3X) (12/2). Brett also began to use descriptive words as he play with plastic vegetables and fruits "Oranges are juicy, cucumbers are juicy." (4/23).

As he talked to peers, Brett shared personal information and experiences. As children at the writing table were discussing where their parents worked, Brett noted 2/12) "My mommy has coloring books at her work. She has books and underwear and Rugrats." He also described a poster of family pictures to a peer (10/23)- "This is me at my house, my other house, playing with Bobby. I'm at Nana's." Later in the school year as he drew at the art table, Brett initiated a conversation with a peer that did not relate to what they were doing (5/4).

- Brett: I like sliding on the slide into the splash pool. Where can you go in your pool? Can't use today because not summer yet. Mom knows it's summer.
 C: Sometimes it's summer.
 Brett: It's almost summer.

Brett began to use language to express his feelings (4/28). When he returned to the block

area and noticed that someone had knocked his structure down he said, “Oh, J, look what they done to my building. I’m real mad. He knocked it down without asking me.”

Brett shared information while building with blocks “They only get up here so monsters won’t get them. It’s the show that has boys and girls..try to kill monsters..try to get them with their sword. Get monsters cuz they’re really mean.” (4/21). As Brett began to use language more frequently in the classroom, he began conversations with his peers. For example, he said “Remember my mommy got pizza? Chef from the pizza place. We make our own pizza from Papa Gino’s.” (5/4). Brett’s constructive play provided a context for his oral language learning as he discussed what he was doing, shared personal information, expressed his feelings, and began conversations.

How did play support Brett’s social development?

As the school year progressed, Brett played in the same areas peers and used the same materials (10/27; 10/31; 11/17; 12/2; 12/8; 1/26; 2/3; 2/12; 2/19; 2/26; 3/23; 4/13; 5/4). He began to take a leadership role while playing in the block area (1/26) as he played with one child “Let’s drive. We don’t need these (as he moves two cars) They’re back home, right? Now we can make..How ‘bout we put it here?” When he was paired with a peer and involved in a new activity, he asked questions and suggested that he and his peer share materials (2/19).

Brett: Where did you put yours?

T: In my cubbie.

Brett: T, where’s my cubbie?

T.: This is mine.

B.: Is this mine?

- T.: Yeah.
 B.: This is what we have to do now.
 T.: Yeah.
 B.: Can we share?

There were also two extended play episodes that occurred on one day when Brett played in the same area as a peer and attempted to share materials. Brett joined Jonathan in the gross motor area (10/27). They set-up the golf game and took turns hitting the ball. The boys began to hit the nerf golfball in various directions lifting their clubs above their heads and running. The teacher intervened, praised them for sharing, noted that the golf ball had been lost, and redirected them to the watertable. While at the watertable, they shared plastic cups, spoons, and plastic bottles. Later in the school year (4/13), Brett stood and watched others playing in the block area and he asked one boy “Can I play? What are you making?” The boy responded “Okay. We’re making signs to match our building.” Brett played in the same area using materials for signs as built with the blocks and talked with his peers . He told one peer “That’s a nice building.” As the school year progressed, Brett began to enter the same classroom area as peers and share materials without teacher support or presence. He shared plastic pipes in the block area (2/3), worked next to a peer doing table puzzles (2/19), shared blocks with different peers (2/26;4/13; 5/4; 5/8).

How did play support Brett’s literacy development?

As part of his constructive play, Brett participated in literacy activities. For example, he drew at the writing table, identified his name on a ring of names (11/17),

wrote his name on his art projects (2/12; 2/19; 3/23; 3/31; 4/23; 5/1; 5/4), and typed on the typewriter (2/26). He practiced using a stamp pad (11/17) choosing letter stamps to press on the pad and onto his paper. While he was at the writing table with three children, a child asked where the words were on Brett's paper. Brett pointed "That's not the words. This is the words." (2/12). He listened as a peer read a book to him (2/23) and asked the teacher to read to him (2/26). When the teacher began to read one book, Brett noticed that there was no print on the pages (3/23). While he was playing in the block area, he told the teacher to look at his structure, "Look I made an 'F'" (4/28). Brett played near three other children as he found three of the letters in his name (5/1). As part of his constructive play, Brett completed an alphabet puzzle and identified four of the letters (ABCDN). In his constructive play, Brett played with literacy materials near and with others as he explored print by writing, listening to and reading books.

How did Brett incorporate literacy activities into his play?

Brett incorporated reading and writing activities as part of his constructive play. As he played at the writing table (11/17; 12/8; 1/26; 2/12; 2/19; 4/23), he explored the materials (pens, pencils, puzzles, stencils) and made products. As part of his self-selected play, he took a book out of the puppet theater and asked a teacher to read to him (2/3) and listened to stories on tape (2/19). When he chose books to look at from different areas of the classroom, he noted (2/19) "Don't know how to read it. This is a big book." While looking at a different book with a teacher, he noted "This book don't have words." (3/23). As the school year progressed, Brett began to look at books on his

own (2/23; 3/23; 3/31; 4/13) as part of his play. He looked at a magazine in the waiting room at the veterinarian's office (4/29) as he was waiting for his pet to be seen. He wrote a check for the veterinarian (4/28) and made signs for his blocks (4/13) - "Look what I wrote - Don't go here."

Brett used a book as a reference as he watched two boys in the block area (10/20). He walked into the area and picked up a book from the shelf. He showed it to one boy and said "Make a tree house." His peer responded "What if you forget the picture and look at it over here? Good idea?" Brett did not respond but he sat next to the boys with the book on the floor and began to build. Later in the same episode, Brett took a pencil and 'wrote' on paper and engaged in a conversation with two girls as they looked at, touched, and discussed the nametags on the attendance board.

How did Brett access and participate in literacy activities?

As part of Brett's daily participation in the classroom, the teacher read to him every day. Brett looked at the book, pointed to the pictures, and answered questions. He chose books from different classroom areas as one of his self-selected classroom activities (12/8; 2/3; 2/12; 2/19; 3/23; 4/13; 4/23) and either looked at them on his own, with a peer, or with a teacher. When he did so, he noticed aspects of some familiar books. For example, "This is a story about shapes," (3/23) and "That's like what we built" (4/13) and "It's about a clean house." (2/23).

Writing activities were part of Brett's classroom participation as he accessed materials in the library, art, writing, and block areas. He chose a variety of materials

including crayons, paper, pencils, scissors, stencils, stamps, stamp pads, and glue. Brett's access and participation also included observing peers as they wrote, drew, and discussed what they were writing and reading (10/31; 11/17; 12/8; 1/26; 2/12; 2/19; 2/26; 4/23).

What early childhood and special education teaching strategies were combined?

Daily direct instruction, a commonly used special education teaching technique, was the primary teaching strategy employed to support Brett's language development. In one-to-one book reading sessions, the teacher introduced the book's topic and related it to Brett's classroom or home experiences. Specific classroom materials that related to the topic were given to Brett to help increase his attention span. As the book was read, Brett was asked to point to specific illustrations as the teacher asked questions and talked with him about the text. When the story was completed, Brett was asked questions that helped the teacher determine if he understood the story. After the story reading session was completed Brett was directed to a classroom activity that related to the book's theme. The integrated aspect of the activity and book supported Brett's understanding and application of what he learned from the story reading session to relevant classroom experience. Direct language instruction and participation in constructive play activities that related to the book topic were examples of combined strategies from both early childhood and special education. The primary purpose of the teaching session was to support and encourage Brett's oral language while the purpose of the constructive play activity was to involve Brett in a meaningful and relevant experience that related to the book.

The teacher combined play facilitation, a technique often used in early childhood, with direct instruction. For example, as Brett worked on completing a puzzle, if a peer joined Brett and teacher, the teacher discussed and modeled ways in which both children could work with each other. The teacher continued to provide language support by introducing Brett to new classroom materials. Brett and the teacher explored the materials together as the teacher initiated and supported discussion about what the materials looked like and how they could be used. If Brett had difficulty, for example, putting a construction activity together or completing a puzzle, the teacher broke the task into steps (a special education teaching strategy). In each instance, a combination of special education and early childhood education techniques were employed to support Brett's participation.

Embedded in the play activities Brett chose each day were specific skills. For example, when he chose the art or writing tables for play, Brett practiced cutting, gluing, tracing, folding. When he played in the block area, Brett practiced social skills such as sharing materials, telling children what he was doing, and negotiating for block space. Classroom routines provided language, social, and literacy skills practice for Brett. He was expected to greet the teacher each morning, take his nametag down, and hang his belongings on his labeled coathook. It was meaningful and relevant for Brett to know what his printed name looked like so that he could indicate he was in school and put away his belongings. The play activities and routines were opportunities to explore and experiment while also practicing specific skills.

End of year assessments

Note - Numbers in **bold** print indicate Brett's initial assessment scores

The Peabody Picture Vocabulary Test was readministered on May 4, 1997. Brett was 4 years 7 months. His standard score was 97 (**96**) which is in the 42nd (**39th**) percentile, 5th (**5**) stanine, with an age equivalent of 4 years 4 months (**3 years 6 months old**). His score was in the average range (**low average**). Brett participated by listening to the word said by the examiner and pointing to the picture.

The Peabody Expressive Vocabulary Test was readministered on May 7, 1997. Brett readily joined the teacher, listened to the stimulus word or phrase, and pointed to the picture. His standard score was 106 (**88**) which was in the 66th (**21st**) percentile, 6th (**3rd**) stanine, with an age equivalent of 5 (**3 years old**) years old.

On April 30, 1998 Clay's Concepts About Print was readministered. Brett received 13 (**2**) out of a possible 24 points. Brett identified: the front of the book; print contains message; where to start to read; which way to go; return sweep to the left; word by word matching; first and last concept; bottom of picture; noted when print was upside down; explained the meaning of a period; identified one and two letters; identified one and two words; and identified the first and last letter in a word.

Morrow's checklist of early literacy skills was reviewed by the teacher during the last month of the school year. Based on teacher observations, the items previously marked in the *never* column; speaks freely to others; can be understood by others; knows what a word is and can point one out on a printed page; were marked in the *sometimes* column. Items previously marked in the *sometimes* and *always* columns remained the

same.

The Early Screening Inventory - Kindergarten Edition (4 ½ - 6 years old) was administered on May 5, 1998. This version was administered based on Brett's age (4 years 7 months old). Brett participated in all tasks and showed an interest in the materials. His total point score was 17 (21) which is in the *okay* range for a child his age. On this edition of the screening, Brett's areas of strength included: visual-motor/adaptive skills; draw a person; and gross motor skills. He had difficulty with counting 10 items using one-to-one correspondence and four digit auditory sequential memory.

Parts of the teacher-made developmental checklist were readministered to Brett over the last month of school. The teacher noted that Brett; identified common items; demonstrated his understanding of prepositions; understood one-to-one correspondence to 4; identified and ordered numerals from 1-10; began to explore messy activities and materials; and began to share materials.

Summary

Brett met each of his goals and objectives. He made the most progress in the area of improving expressive language skills. With teacher support as he was involved in constructive play activities, Brett began to talk about what he was doing. As a result, peers began to talk to him and ask him questions. Brett began to answer questions from peers and adults. During the second half of the school year when he was involved in block play, Brett discussed what he was doing and asked questions of his peers. He referred to what he was doing which provided a shared context for discussions. Later in

the school year, as he continued to play in the block area, Brett began to share personal experiences with peers (i.e. where his mother worked; what Mother's Day is). His conversation related to his own experiences rather than what he was doing. While involved in constructive play, Brett practiced language and social skills. End of the year language scores on the Peabody Expressive Vocabulary Test suggest an improvement in expressive language skills which correlates with teacher observations.

By the middle of the school year, Brett looked at books on his own or with peers. He pointed to pictures, asked questions, and noted how print was read. To enter a play activity, he referred the children to a book and suggested they make a house similar to the one depicted in one of the illustrations. Brett also practiced scribbling and writing. He practiced printing the letters of his name and by the end of the school year wrote the letters from left to right. End of the year assessments document Brett's emergent knowledge about print (Morrow's Checklist of Early Literacy Development; Clay's Concepts about Print).

Feedback from parent

Before the start of the end of the year conference, Brett's mother stated that Brett and his family had been under "a lot of stress" since March. His mother was concerned about how the situation had affected Brett in the classroom. After the teacher shared the summary report, Brett's mother noted that she had noticed Brett using language more at home when he played with his cousin. His mother stated, at home, Brett continued to have difficulty answering questions about events that happened at home or at school. She

and the teacher discussed ways in which to help Brett in this area. Lastly, Brett's mother said that Brett asked to be read to each evening and was beginning to write his name and she could identify the letters.

BRETT

Assessment: Peabody Picture Vocabulary Test (III-A)

	Initial Assessment	Mean	End of Year Assessment
Standard Score	96	100	97
Percentile	39	50	42
Stanine	5	5	5
Age Equivalent	3.6	n/a	4.4

Assessment: Peabody Expressive Vocabulary Test

	Initial Assessment	Mean	End of Year Assessment
Standard Score	88	100	106
Percentile	21	50	66
Stanine	3	5	6
Age Equivalent	3.0	n/a	5.0

Assessment: Early Screening Inventory

Initial Assessment (P Version)	Okay Range	End of Year Assessment (K Version)
21 points	>21 points	
	>14 points	17 points

Assessment: Clay's Concepts About Print

Score	Initial Assessment	Mean	End of Year Assessment
(out of 24 points)	2	12-14	13

TOM

sex: male
Date of birth: 7/10/93

Tom, 4 years 2 months, entered the AM class in September, 1997. He is 38 1/4 inches tall (forty-fifth percentile for boys his age) and weighs 35 pounds (fortieth percentile for boys his age). He has an oval-shaped face with blonde hair, blue eyes, and red lips and pale skin. His appearance is clean and neat and he is always dressed appropriately for school and outside play. Tom lives in a middle class neighborhood in a nearby town. He lives with both parents and his younger sister.

Tom's mother reported that there were no complications during Tom's birth. He has had no hospitalizations, serious accidents, or injuries. Tom does have chronic asthma which is brought on by a cold or weather conditions. When his asthma is acute, he takes oral medication and undergoes nebulizer treatments three to four times a day as advised by his physician. When he is in the doctor's care for his asthma, Tom's primary restriction is that his outdoor play must be limited to sedentary activities.

Information from previous educational placement

Tom attended a public school based integrated preschool program in his hometown from September, 1996 - June, 1997. He attended four days a week and was one of thirteen children in the class. The report from his teacher indicated that Tom communicated effectively, followed 2 step directions, knew his shapes and colors, rote counted to 20, could hop and climb. The teacher noted the Tom's emerging skills were

printing his name, listening, cutting with scissors, sharing toys, attending to tasks. The teacher commented that Tom tended to rush through things

Initial Assessment Period - Weeks 1-4 (September 10 - October 8, 1997)

Cognitive development

Tom's cognitive development was assessed by observing him during the first four weeks of school. Tom's constructive play involved building with blocks (9/10; 9/17; 9/18; 9/25), writing (9/25; 10/1), drawing at the art table (9/8; 10/1), playing with a construction toy (9/18), and completing a floor puzzle (9/11). In each instance Tom manipulated the materials to construct or create a product. There was a goal to Tom's play rather than simply exploration of the materials.

There was one instance during the assessment period when Tom participated in dramatic or pretend play (10/8). He pretended to eat a plastic apple, cooked with a pot on the pretend stove, took out a bowl and ladle, and pushed the buttons on the pretend microwave. He also squirted an empty mustard bottle at a peer, picked up the phone, and called to another peer to answer the other phone. The play was based on the use of realistic materials and did not the taking of roles.

Young children attempt to play games with rules although the rules are not adhered to nor is there competition. Tom played checkers with the same peer on two occasions (10/1; 10/2) during the assessment period. The boys placed their checkers on the board, took turns moving them in a variety of ways, and decided individually when they were done. The boys negotiated the rules so they both 'won.'

Tom's attention during self-selected constructive play activities varied depending on whether he was in an area by himself working on an activity or if he was with a peer. His attention span was longer when he was in the same area as another peer. When he was near or with a peer, he spent ten minutes or more at an activity such as putting Lego blocks together (9/25) completing a floor puzzle, constructing gears (9/18), and building with unit blocks (10/1). When he chose to play in an area where there no other children, Tom's attention span was for shorter periods of time (tracing his foot (9/10) the writing area (9/25; 10/1). In each episode his attention span during the activity was for two minutes or less.

During teacher-directed activities, Tom stayed with the teacher until the activity or task was completed. When he was read a story (9/8), his stayed with the teacher until the story was read (seven minutes), made a musical instrument (10/6)). During each of these activities a teacher was with him, answered his questions, and encouraged him as he worked. He attended to each of these tasks for ten minutes.

Tom employed different problem-solving strategies as he participated in constructive play activities. His strategies included trial and error, visual and physical scanning, private speech, and asking for help. When he built with unit blocks (9/10; 9/11; 10/1 10/8), he took the blocks from the shelf, put them on the floor, touched them when they were on the floor (physically scanned), looked (visual scanned), chose a particular block, and put in on his structure. As he tried to connect Lego blocks (9/25), Tom used trial and error, that is, he tried one block and if he could not push it on, he took it off, and tried another one. If a puzzle or construction piece did not fit, Tom also asked for help

(10/6; 10/8).

Language development

During the assessment period, Tom consistently spoke to peers and adults. He used language to satisfy his wants and needs, tell about himself, control other's behavior, and get along with others. He communicated his wants and needs when he tried to put together a construction toy, write, or build with blocks. He told others "I don't need anymore" (10/1), "Will you get me one more?" (10/6), and "I'm not watching" (10/8). He also shared information about himself, what he was doing, and what he liked "I like all of them except this kind." (9/25), "I'm gonna trace the bigger one" (10/1). Tom also used language to control other's behavior "I don't want to share it right now" (9/25), "Get a different kind" (10/1). Tom also used language to get along with others "Which do you like?" (9/25) "Hello, hello, I'm calling you." (10/6). To guide his own behavior, Tom used private speech as he drew at the writing table - "It's going to be a door" (10/1) and built with blocks - "I need two to stand this up." (10/6). There were no recorded observations of Tom using language to create an imaginary situation or to communicate information to others.

As Tom spoke with peers and adults, he made eye contact. When he wanted to get someone's attention or direct his comments to someone, he used the child's name. "This is it, N." (9/25) "D, how 'bout we come back." As he spoke, he focused on describing or talking about what he was doing and if he could engage a peer, he maintained the topic through three or more exchanges.

Tom spoke in simple, declarative and interrogative sentences. He used nouns, verbs, adjectives (too, bigger, different, best, awesome), contractions (that's, don't, we're, I'm, can't, isn't, I'll), prepositions (on, up), and conjunctions (because). Tom's form of questions included those that assumed a yes/no answer - "Will you get me one more?" (10/6), questions that began with 'wh' words and required a more complex answer - "Which do you like?" (9/25), and questions that were statements to which agreement was sought "Mine is coolest, isn't it D?"(10/6). The average length of Tom's sentences during the initial assessment period was 4.3 words, which is within the range of the average length of sentences children four to five years (4-8 words).

Social development

During the assessment period, Tom participated in associative and cooperative play as defined by Parten. Associative play is play in which children are involved in common activities as they may exchange toys or follow one another. Tom was involved in associative play on a variety of occasions (9/10; 9/11; 9/17; 9/18; 9/24; 9/25; 10/1) as he talked with his peers while he built with blocks, worked on a floor puzzle, played with playdough, constructed a toy, and wrote at the writing table. The play was characterized by Tom's use of language and his associations with his peers rather than on completing a product.

There were two examples during the initial assessment period when Tom participated in cooperative play. Cooperative play is defined as play in which children work together to construct something or coordinate roles or play games with rules. The

membership of the group is defined by one or two leaders. Tom participated in cooperative play as he and a peer played checkers (10/1; 10/6). No one else was allowed into the play and the two boys worked together to complete their game according to their own rules.

Emergent literacy skills

During the initial assessment period, Tom was read to (9/8; 9/15; 9/25; 10/1; 10/8), drew his block structure (10/1), traced stencils (9/25; 10/1), and listened to a story on tape (10/6). He 'wrote' his name on his drawings, paintings, and scribbles. He used conventional-looking letters, writing from right to left rather than left to right. Tom identified the letters in his name after he wrote them and also practiced making a T in American Sign Language. There were no recorded observations of Tom 'reading' a book on his own in any area of the classroom.

Initial assessment results

Tom was 4 years 2 months during the initial assessment period. The Peabody Picture Vocabulary Test was administered on September 8, 1997. Tom joined the teacher, listened to the stimulus word and pointed to the pictures. His standard score was 125, which was in the 95th percentile, 8th stanine. Tom's age equivalent score was 6 years 1 month which placed in the moderately high score range.

The Peabody Expressive Vocabulary Test was administered on September 23, 1997. The standard score for any age is 100 and the mean stanine is 5. Tom's standard

score was 106, which placed in the 6th stanine, 66th percentile, with an age equivalent of 4 years 8 months. Tom listened to the word said by the teacher, paused, and pointed to a picture.

Clay's Concepts About Print assesses concepts and knowledge about print, pictures, and books. It is meant to be used as part of an ongoing assessment of children's knowledge about books. This assessment was administered on September 22, 1997. Tom helped to hold the book as it was read by the teacher. He received 7 out of a possible 24 points. He identified the front of the book, left page is read before right, a period means to stop, one letter, two letters, one word, two words, first and last letter in a word, and a capital letter. He had difficulty identifying that print contains a message, where to start to read, which way to go when reading, return sweep to the left, word by word matching, first and last concept, bottom of a picture, identifying that print was upside down, line order altered, one change in word order, one change in letter order, meaning of a comma and quotation marks, locating and matching upper and lower case letters, and identifying reversible words.

Morrow's Checklist for Assessing Early Literacy development was completed on October 2, 1997. Items were checked in the columns based on information from teacher observations during this time period. Tom's strengths (marked in the *always* column) included makes phoneme sounds, speaks in one and two-word sentences, understands the language of others when spoken to, speaks to others freely, pronounces words correctly, has appropriate vocabulary for level of maturity, used varied syntactic structures, can be understood by others, responds with questions and comments to stories read to him, can

turn the pages of a book properly, knows what a letter is and can point to one on a printed page, independently explores with writing materials, form identifiable letters.

Items marked in the *sometimes* column were identifies familiar sounds, follows verbal directions, voluntarily looks at books, asks to be read to, listens attentively while being read to, knows that a book is for reading, can identify the front, back, top, and bottom of a book, knows the difference between print and pictures, knows that the pictures on a page are related to what the print says, knows where one begins reading on a page, knows what the title of a book is, knows what an author and an illustrator do, retells familiar stories using the pictures in the book to help recall the details, retells a story without the help of the book and demonstrates knowledge of the details, retells stories with reading-like intonation, includes story elements of story structure in story retellings, knows that print is read from left to right, knows that oral language can be written down, then read, knows what a word is and can point one out on a printed page, can identify letters by name, associates some sounds with letters, dictates stories to be read, writes from left to right.

Items marked in the *never* column included is aware of environmental print and can read some signs and logos, recognizes some words by sight, begins to use story context, syntax, and semantics to identify words.

The Early Screening Inventory Revised Preschool edition (4 - 4 ½ years old) is a brief assessment procedure intended to identify children who may need further evaluation. The ESI-P was administered on September 16, 1997. Tom participated in all tasks. His strengths on this test included copying forms, draw a person, visual/sequential memory,

number concepts, counting 5 blocks using one-to-one correspondence, verbal expression, verbal reasoning, and gross motor skills. He had difficulty with visual/motor adaptive tasks when he was asked to build a block gate by imitating the teacher's structure. He tried and then said it was "too tricky." Tom's total score was 27 points, which is in the *okay* range for a child his age.

The teacher-made developmental checklist was administered during 5, five to ten minute sessions during the first month of school. Tom joined the teacher and, during one session, he asked a peer to join him. The checklist was completed with Tom on October 1, 1997. Tom's strengths included matching like objects, ordering objects according to two attributes, naming common objects, identifying the 8 basic colors and 4 basic shapes, demonstrating an understanding of prepositions, expressing his wants and needs, counting 10 blocks using one-to-one correspondence, recognizing a quantity of 4 blocks without using one-to-one correspondence, recognizing number symbols, copying shapes, using scissors, crayons, puzzles, stringing beads, buttoning his coat, building with large and small blocks, hops, skips, climbs, and runs. He had difficulty with doing work that involved 1,2, or 3 steps, following 1,2, or 3 step directions, identifying letters, tying his shoes, skipping, choosing his own activities, completing activities and putting them away, approaching new experiences, demonstrating and controlling anger (as noted in teacher observations), demonstrating happiness, controlling his crying, resolving conflicts in positive ways.

Questions as a result of initial observations and assessments

- How can Tom be supported to increase his attention span when he is working on his own?
- How can the teacher help Tom organize himself each morning?
- What strategies can be employed to interest Tom in looking at books on his own?
- What are ways in which Tom can apply his problem-solving strategies to more complex tasks?
- How can Tom be supported to use language to create imaginary situations to play out?

Goals and Objectives

Based on information from teacher and videotaped observations as well as initial assessment results the following goals and objectives were established for Tom. Additions or changes (noted in **bold**) were made as subsequent observations were analyzed during the school year.

Goal 1: To improve attention span and organizational skills

Objective 1: With teacher support, Tom will remove his nametag from the attendance board, choose the order in which he will participate in his free play activities and invite **a peer to play with him.**

Objective 2: With teacher support, Tom will proceed to his first activity and attend to it for five minutes.

Goal 2: To practice emergent reading and writing skills

Objective 1: Tom will look at a book on his own in any classroom area.

Objective 2: Tom will 'write' and draw in various areas of the classroom.

Objective 3: Tom will retell a familiar story in his own words.

Goal 3: To practice problem-solving

Objective 1: Tom will work with a peer to solve a problem or complete a task at the art table.

Objective 2: Tom will explain to a teacher or a peer how he solved a problem.

Goal 4: To practice social skills

Objective 1: While playing with one peer, Tom will share the materials.

Objective 2: While playing with a peer or peers, Tom will tell others what he is doing and what he does not want his peers to do.

The following chart illustrates Tom's strengths, interests, and needs and teaching strategies designed to support his participation in the classroom.

<i>Strengths</i>	<i>Indicated by</i>	<i>Teaching strategies</i>
-expressive and receptive language skills	Peabody Picture and Expressive Language Tests; ESI-P; teacher-made checklist; Morrow's checklist of early literacy development; teacher and videotaped observations	Introduce new vocabulary in book reading sessions; pair Tom with a peer to explain a project or activity; encourage Tom to discuss what he is doing while he plays
-problem-solving skills	ESI-P; teacher-made checklist; teacher and videotaped observations	Provide challenging materials and activities that involve more than 3 steps

<i>Interests</i> -constructive play	<i>Indicated by</i> Teacher and videotaped observations	<i>Teaching strategies</i> Encourage participation in writing activities; provide variety of literacy writing materials to practice writing and drawing; introduce variety of construction activities.
-games with rules	Teacher and videotaped observations	Introduce different preschool games as play choices
-associating with peers	Teacher and videotaped observations	Pair with one peer as partner during free play.
<i>Needs</i> -attention to self-selected activities	<i>Indicated by</i> Teacher and videotaped observations	<i>Teaching strategies</i> Provide choice board and timer to facilitate attention to tasks; pair with a peer to help him attend.
-interest in books	Teacher and videotaped observations	Involve in book reading activities with one to two peers; involve in book extension activities -i.e. drawing, puppets, flannel-board retelling.

Information from teacher and videotaped observations for the remainder of the school is organized by the questions guiding this study.

How did play support Tom's cognitive development?

Tom's cognitive development was supported by his involvement in constructive play activities with peers (11/13; 11/20; 12/1; 12/9; 1/28; 2/2; 2/10; 2/18; 2/25; 3/9; 3/27; 4/3; 4/6; 4/22). When he was paired with a peer he attended to his free choice activities

for five minutes or more. In the course of his play, Tom began to pretend that blocks were a hammer, a saw, a paintbrush, phone (2/2), boomerangs (3/27), bombs and robots (4/3). Tom also made comparisons as he played with materials. For example, as he looked at colored pencils he said, "This is very, very sharp. This one is bigger, then the biggest. That's the sharpest" (2/25). As he looked at his name as he had written it, he said "My name is very short - T-O-M." (3/27).

Problem-solving tasks were part of Tom's play and he worked with peers to determine ways to solve them. For example, when he was in the block area he said "How 'bout we connect them. How can we so this one can go over there? How do you think we could do it? We could go like this." (4/6). And to solve the problem of one marble for two children Tom said "We both can have this one." (4/6). Tom also showed peers how he used a stencil: "See how I used it. You just trace." (1/28). As he played with a peer, Tom participated in different problem-solving tasks such as determining how to complete a matching activity when he did not have enough materials and how to make shapes (11/3; 12/9). In each case he made something from paper by drawing and cutting to make it fit.

How did play support Tom's language development?

As Tom played, he created pretend themes with language. As he built with blocks, he introduced the theme of a construction site and introduced new vocabulary (1/28) - "I'm putting concrete on for you. I'm painting. I'll get some oil." While painting at the easel next to a peer, he said "Look what I made, my own time machine. I went back in time. I hid it where no one can find it." (2/25). One of Tom's longest conversations

was at the writing table (2/25). As Tom was drawing, a peer mentioned ghosts.

- Tom: No such thing as ghosts. You see ghosts down there?
 Ca: Didn't see a ghost.
 Tom: It's something dressed up, right? Ever go downstairs. Were you scared?
 Le: Vampires are really scary
 Tom: I'm not scary. I have a pet for a dinosaur.
 Le: I don't like vampires.
 Tom: But it was a real one. But it wasn't...you dreamed it, right? On TV?

A haunted house was part of Tom's pretend play on other occasions (1/28; 2/18; 3/27; 4/22) as well.

Tom also used language to indicate what he was doing or going to do. As he was at the writing table, he said, "I'm making lights" (1/28) and he referred to his drawing "Now it's starting to really look like a fire?" (2/25). At the art table, Tom talked with a peer as he worked on a project "I need to make pizza. I don't like mushrooms, only cheese. I'm almost done with the pizza." (3/5). Tom also asked questions of peers to determine what they were doing - "How come you did it when I didn't want it there?" (2/2), "Are you making a haunted house?" (2/18), "Can you typewrite, Sh.?" (4/3). While playing, Tom used language to tell others what he was doing, create pretend scenes, and ask questions.

How did play support Tom's social development?

As Tom played in the classroom, he interacted with different peers in a variety of situations. As the school year progressed, he entered children's play by asking questions or posing problems "Want to play dominoes?" (2/10), "How 'bout we share crayons?"

(2/18), “What are we making here?” (3/5), “How do you think we can do it?” (4/6).

While involved in social play situations, Tom worked on ways in which to solve conflicts.

For example, when he played in the block area he said, “We need a lot of these...no wait.

You’re taking some from our...No, you’re not..or I’ll call my mom and I won’t go over

your house.” (1/28). Later in the school year, as he played with others constructing a tube

structure a peer solved a conflict for Tom (4/3).

Tom: You’re in my way (pushes child).

A: B, you can sit next to Sh.

Sh: B., you sit next to A...I’ll be in the middle.

T: Then, I don’t...

Sh: B, can sit there, T.

T: Okay.

As Tom continued to play the game with different child (4/3), he told her “You can get it!

I’ll show you” and he gave the girl a marble. The play context provided opportunities for

Tom to interact with others, determine ways in which to enter play and solve social

conflicts.

How did play support Tom’s literacy development?

Tom practiced reading and writing in the context of his play. He wrote and drew at the writing table (2/8; 2/25; 3/5; 3/9; 3/27; 4/3; 4/6; 4/22; 4/27) and conversed with peers about what he was doing - “Now I won’t run out of paper. I have more than enough.” (4/3) “I’m making numbers.” (4/27). He also began to talk about writing and letters “M-o-m, that’s how my Mom spells her name, too” (12/1) “My name is Tom - T-O-M” “On there is all your letters to your name.” (4/3). On the same date he also played

tic-tac-toe with a peer “I’ll be the X.”

During his play, Tom periodically looked at books on his own (2/18; 2/5; 3/9; 4/27; 4/29) and retold stories using the book vocabulary. Later in the school year, Tom looked for particular books to read (2/25) - “This is the one I want to read.” He also noticed new books (4/6) “Look, the book, the book over there. J, a new book. I did that cover” (4/6) as both boys looked at the book together.

How did Tom access and participate in literacy activities?

Tom participated in literacy activities as part of his play. When he asked a peer to make a blueprint of his block structure (10/20), Tom took a pencil and graph paper from a nearby folder and began to draw. He explained a blue print as “It’s a picture of what you’re gonna build.” After he built a house with blocks (2/2), Tom walked to the writing table, took some paper and crayons and began to draw. When asked what he was doing, he said, “I’m making lights for the house.” As part of his play in the writing area (2/18), Tom made “a haunted house” with “bones behind the wall and a bomb.” Tom’s participation in writing activities was part of his play, that is, writing was play and play was writing.

Reading books was part of Tom’s play as well. During one episode, Tom was looking for a book. When he could not find it in the class library, he went to the sociodramatic play area and looked. When he found the book he said “This is what I want to read.” (2/25). As he was playing in the block area, Tom wanted to know who’s turn it was to do a special activity. He looked at the class list on the board and said (4/22) “It’s

C's turn." Tom participated in literacy activities as part of his play. Books and writing materials were accessible as he chose what he wanted for his play activities.

How did Tom incorporate literacy activities into his play?

Tom incorporated literacy activities into his play as he 'wrote' signs for his blocks (10/30; 4/6). He took paper and a pencil and began to 'write.' When he finished he placed the paper on his block structure (4/6) he said, "They say -No turtle, no people, no cars." Tom drew in his journal (2/25; 3/5; 4/22), practiced writing letters (3/9; 4/3), wrote on an envelope and 'mailed' it (3/27), and wrote bills for patients in the veterinarian's office (dramatic play area) (4/27). Writing became a part of Tom's play in the sandtable with two peers (3/9). As the children began to hide items in the sand, one of his peers said "We have to make a map on paper." Tom responded "I'm going to draw a map." The two children went to the writing table, drew maps, and then hid items and looked for them as they held their maps. As part of his play at the writing table (4/3), Tom began to draw circles. As he looked at it, he said "Look, it's a dog drinking." As he continued his drawing, he conversed with peers about what he was doing.

As part of his play Tom began to look at books on his own. He noted one day (2/18) "I know how to read, not very good." as he flipped through the pages of a book and closed it. A week later, he chose a book to look at with his peer: "This is what I want to read." The teacher joined him and talked with him about his favorite books. Tom 'read' three books to her using the vocabulary from each. On another date (3/9) he said "Reading is so boring." His peer responded "Okay, I'll read." Tom responded "I'll read

this one. Do you know what? This cover is made of pretend candy.” Later on in the school year (4/27), Tom and the same peer were together in the library. This time Tom opened a book and began to discuss it with his classmate. He listened while she ‘read’ a story to him, and then they both drew the cover of the book as part of their play. Reading and writing activities were part of Tom’s play in the various areas of the classroom.

What early childhood and special education teaching strategies were combined?

Tom’s participation in the classroom was supported by a combination of teaching strategies. A choice board helped Tom organize himself during free play. He chose from four pictures of classroom areas and decided which activities he wanted to do when. In addition, the teacher placed a timer near Tom and set it for five minutes. When the timer rang, Tom knew he could choose to stay longer in an area or go to his next activity. To further support Tom’s sustained participation in a classroom room area, he was paired with a peer. Working with a peer helped Tom sustain his attention to tasks as well as give him opportunities to interact. Tom’s free play time was structured (special education strategy) yet he had choices as he decided when he would play in an area and with whom (early childhood strategies).

The play environment of the classroom supported Tom’s exploration of materials. He was involved in the play process as he wrote, drew, and constructed products. He created pretend scenarios with his language and interacted with others as he constructed meaning from his home and school experiences. Classroom materials, including books, various writing materials, games, and construction toys involved Tom in play that was

child-directed (early childhood teaching strategies). Skills were embedded into activities as Tom participated in relevant hands-on activities that were process oriented (early childhood teaching strategies). The teacher provided Tom a structure that helped him organize himself during free play time. His participation was monitored by the teacher. The activities served as a context for direct instruction and guided learning.

End of year assessments

Note - Numbers **bolded** indicate Tom's initial assessment scores

Tom was 4 years 8 months old during the end of the year assessment period. The Peabody Picture Vocabulary Test was administered on May 4, 1998. Tom joined the teacher and participated in listening to the stimulus word and pointing to the pictures. His standard score was 122 (**125**), which was in the 93rd (**95**) percentile, 8th (**8th**) stanine, with an age equivalent score of 6 years 7 months (**6 years 1 month**), which is in the moderately high range.

The Peabody Expressive Vocabulary Test was administered on May 7, 1998. Tom participated and attended to the task until it was completed. His standard score was 112 (**106**), which placed in the 7th (**6th**) stanine, 79th (**66th**) percentile with an age equivalent of 5 years 7 months (**4.8**).

Clay's Concepts About Print assesses concepts and knowledge about print, pictures, and books. This assessment was readministered on April 29, 1998. Tom received 15 (**7**) out of a possible 24 points. He identified the front of the book, print contains message, where to start to read, which way to read, return sweep to the left,

word by word matching, first and last concept, bottom of the picture, noted print was upside down, left page read before right, the meaning of a question mark, one and two letters, one and two words, first and last letter of a word. He had difficulty with line order alteration, change in word and letter order, the meaning of a comma and quotation marks, locating capital and lower case letters, reversible words, and finding a capital letter.

Morrow's Checklist for Assessing Early Literacy Development was completed on May 2, 1999. Items were checked based on information from teacher observations. All items marked in the *always*, *sometimes*, or *never* columns remained the same for Tom.

The Early Screening Revised Kindergarten edition was administered on May 5, 1998. Tom participated in all tasks. His strengths included visual/motor adaptive tasks, visual sequential memory, number concepts, verbal reasoning, auditory sequencing, gross motor skills. He received 25 (27) points which is in the *okay* range for a child his age.

The teacher-made developmental checklist was completed on May 1, 1998. All items remained the same except for the following noted by the teacher. Tom continued to have difficulty with doing work and following instructions that have more than one step, completing activities and putting them away, choosing his own activities, demonstrating his happiness without running, throwing materials, or hitting others, and resolving conflicts in a positive way.

Summary

Tom made moderate progress toward meeting the goals and objectives established for him. He showed the most progress in cooperative problem-solving tasks where he

worked with a peer to solve a problem or explained how he solved a problem to a peer. He explained to a peer what had to be done and worked step by step until the task was finished. When he completed a task, he talked with the teacher about what he did and how he did it.

Tom practiced playing with and near peers in a variety of classroom areas. He began to tell peers what he wanted them to do and what he was doing. There were instances when if he a child did not do what he wanted, he pushed the child away. The teacher talked with him about ways in which he could solve the problem without pushing or shoving. Tom, at times, had difficulty understanding that there were other ways in which to resolve the problem. Peers also talked with Tom and, at times, told him and modeled for him how he could solve a problem he may have with a child.

With the support of a choice board, Tom began to organize himself during free play, attending to activities with a peer for five or more minutes. If he was not paired with a peer, he had difficulty attending to an activity for longer than two minutes and tended to rush through his play. Improving his attention and organizational skills continues to be an area in which Tom needs support.

Tom participated in emergent reading and writing activities. As he wrote at the writing table with peers, he spent longer periods of time practicing printing his name and drawing pictures. He talked with peers about what he was doing and what they were doing as he wrote. Tom incorporated writing activities into his play as he made signs for his block structure and a treasure map to find items in the sandtable. When he was paired with a peer, Tom looked at books and listened as peers read to him. If a peer looked at a

book, he did also. End of the year assessments note his emerging awareness of print (Morrow's Checklist of Early Literacy Development; Clay's Concepts about Print).

Particular attention needs to be focused on involving Tom in reading and writing activities as part of his every day participation in the classroom.

Feedback from parent

Tom's mother told the teacher that she is working on structuring Tom's time at home. "When Tom does not have something to do or is not involved in some type of play, he gets silly and runs around. I need to stop him because sometimes that brings on an asthma attack." She also noted that Tom is becoming more interested in having books read to him. He asked for a story every night. He seemed, according to his mother, most interested in learning new words and their meanings. In addition Tom began to ask for paper and pencils so that he could write and draw at home.

Tom asked for a school playmate to come to his house. His mother said that when that child came to visit he and Tom "ran around the house" and she had a difficult time stopping them. She asked the teacher for names of children Tom was paired with during free play so she and Tom could ask one of them to visit. (Teacher notes parent/teacher conference- 5/1/198).

TOM

Assessment: Peabody Picture Vocabulary Test (III-A)

	Initial Assessment	Mean	End of Year Assessment
Standard Score	125	100	122
Percentile	95	50	93
Stanine	8	5	8
Age Equivalent	6.1	n/a	6.7

Assessment: Peabody Expressive Vocabulary Test

	Initial Assessment	Mean	End of Year Assessment
Standard Score	106	100	112
Percentile	66	50	79
Stanine	6	5	7
Age Equivalent	4.8	n/a	5.7

Assessment: Early Screening Inventory

Initial Assessment (P Version)	Okay Range	End of Year Assessment (K Version)
27 points	>21 points	
	>14 points	25 points

Assessment: Clay's Concepts About Print

Score	Initial Assessment	Mean	End of Year Assessment
(out of 24 points)	7	12-14	15

An analysis of the data from each of the child studies is presented in Chapter 6. Patterns of participation and progress in the program are discussed as they relate to each child's development and progress over the school year. The second section of the chapter describes general themes that emerge from the data analysis that relate to all four children. The general themes address aspects of play, literacy activities, and teaching strategies that impacted the children's development and learning.

CHAPTER 6 ANALYSIS

The data in the child studies presented in Chapter 5 describe the development and experiences of four children, two with typical developmental patterns and two with mild to moderate disabilities, in the same classroom during one school year. The children ranged in age from 3 years 11 months to 4 years 11 months. An analysis of the data from the beginning to the end of the school year reveals patterns and general themes that emerge about each child's participation, development, and progress, as well as themes common to all of the children. In this chapter the themes that emerge from the data analysis are presented.

Lucy

Lucy's self-selected constructive play activities supported her cognitive, social, and language development. Lucy practiced skills at the art and writing tables (i.e. cutting, drawing, gluing). Her play had a purpose as she constructed products and used her visual motor skills (one of her strengths noted in the ESI-K; information from previous educational placement) as she practiced writing letters and tracing stencils. She decided what she was going to write or draw and how she would do it. Lucy's constructive play activities supported her cognitive development, in particular her attention skills, as she worked on tasks for sustained periods of time. As she continued to practice, Lucy gained competence in using the materials. She also developed additional problem-solving strategies to complete products. As peers joined her, Lucy observed, listened, and

modeled their behaviors. Instead of choosing any materials for her writing or drawing activities, Lucy selected certain specific materials suitable for the tasks.

Constructive play activities also supported Lucy's language and social skill development. At the beginning of the school year Lucy most often did not answer questions from peers. She had difficulty spontaneously engaging in conversation or answering questions from an adult or peers. When involved in constructive play activities, the materials or play objects served as visual, concrete references which Lucy referred to when peers asked her what she was doing or she asked them. The play materials provided a shared context for conversations and interactions with peers as she discussed what she was doing, asked peers questions, and shared materials. The following is an example of a conversation Lucy had on April 6, 1998 as she drew at the art table. Different from the beginning of the school year. Lucy engaged in a conversation with a peer through three exchanges. The shared context of drawing at the art table provided a reference for the conversation.

- Lucy: Ch, you can do whatever you want. I like your snake.
Le., do you like my snake?
Le.: Yeah.
Lucy: You like mine?
Le: Yeah. Yours is better because it has different colors.
Lucy: Oh, gee, wow. You need a mommy snake. It needs to have an eye. What else? A tongue?

A second pattern that emerged from an analysis of Lucy's participation in the classroom was that by the end of the school year writing and reading activities were interactive processes for Lucy. When she was involved in story reading with the teacher, for example, Lucy's attention was drawn to the print and the pictures. The interactiveness

of the sessions with the teacher supported Lucy's vocabulary development and understanding as they discussed aspects and characters of the story. When Lucy chose books to read or look at with peers, she repeated familiar vocabulary and asked questions.

Lucy's emergent writing activities were interrelated with listening and speaking. She first listened to peers, watched what they were doing, and asked questions. She then began to talk with peers at the writing table about what she wrote and drew. As she accessed and participated in reading and writing activities, Lucy incorporated them into her play as she wrote customers' orders in the restaurant (dramatic play area), made signs for blocks, wrote a grocery list, and read a magazine in the waiting area of the veterinarian's office (dramatic play area). The interactiveness of reading and writing activities supported Lucy's construction of knowledge about the forms and functions of print (see end of year assessments - Morrow's Checklist for Assessing Early Literacy Development; Clay's Concepts of Print).

Another theme that emerged from an analysis of Lucy's play experiences is that integrated play experiences supported her language and cognitive development. After Lucy participated in interactive book reading sessions with the teacher, she participated in activities that related to the book's theme. For example, after she was read *The Mitten*, Lucy drew mittens and gloves, retold the story on the flannelboard, and listened to the same story on tape. She painted mittens, found other versions of the story in the classroom library, and counted (using one-to-one correspondence) how many animals from the story were included at the math table. Each activity related to the story and supported Lucy's active engagement in play activities that promoted her use of new

vocabulary and ways to represent her ideas.

Sheryl

Sheryl came to the college-based inclusive classroom with strengths in each area of development. She had a repertoire of problem-solving strategies which she used to complete tasks. Sheryl also attended to self-selected activities for sustained periods of time. Sheryl participated in associative play with a peer as she shared materials and worked on tasks. Most often Sheryl chose constructive play activities as she created products and guided her activity with private speech (see initial assessment results -ESI-K: teacher-made developmental checklist).

Constructive play served as a context for Sheryl's language, social, and writing development. Sheryl talked about what she was making and drew peers' attention to what she was doing. As the school year progressed, classmates began to interact with her as she shared materials and helped others. By the end of the school year, as she played, Sheryl practiced writing letters which led to writing names and words and making books. Each of these activities was purposeful and meaningful for Sheryl.

Another emerging theme or pattern that emerges from an analysis of Sheryl's participation in the classroom is that problem-solving activities supported her cognitive, social, and language development (note end of year scores on Peabody Picture and Peabody Expressive Vocabulary Tests). For example, when Sheryl played at the computer for the first time in October, she determined ways in which the pictured animals could be sorted "A butterfly and a tiger....they both have stripes." In the block area, as

she played with one child, two others wanted to join her. Sheryl told each child what he/she could do and praised their efforts. In each problem-solving activity, Sheryl applied a variety of strategies to complete the tasks. Solving problems was a critical dimension of Sheryl's play as it required active, purposeful engagement. The cause-and-effect relationship between what was done and the results were clear and connected to what was personally important to her.

Interactive book reading sessions with the teacher supported Sheryl's emergent reading development. As Sheryl discussed books, she noticed similarities and differences in words as she heard them and saw them written down. She practiced listening to and repeating rhyming words in her play. As she read books to peers, Sheryl retold stories using the book's vocabulary. In each instance, as Sheryl listened to, read, and responded to books with the teacher and peers, she learned about print and its purposes (note end of year results on Clay's Concepts about Print; Morrow's Checklist for Assessing Early Literacy Development).

Brett

A theme that emerges from an analysis of Brett's experiences in the classroom is that he observed and listened to peers before entering the same play area. These were beginning strengths that helped him during the course of the school year. Before he participated in constructive play activities, Brett watched peers and how they used materials. When he entered play areas where there were other children, he asked questions about how to use the materials. As he continued to observe peers, he employed

a variety of strategies to enter their play. For example, he referred to a book and suggested to two boys that they could make a house similar to the one depicted in the illustration. While building in the block area on another date, Brett suggested to a peer how they could arrange cars. In each instance, before trying to enter the play, Brett observed and listened. These strategies were different from previous strategies he had employed at the beginning of the year when he entered the same play area and used materials in a different way from his peers.

Brett's participation in specific self-selected constructive play activities - i.e. block-building, construction activities, and puzzle completion - provided a context in which he began to engage in conversations with peers while he was playing, a goal established for him. Brett also began to share personal experiences. The constructive play activities provided the context in which Brett began to use language to communicate with others and, later in the school year, suggest pretend play themes (see end of year results - Peabody Picture and Peabody Expressive Language Tests; teacher-made developmental checklist; ESI-K).

Another theme that emerges from an analysis of Brett's experiences in the classroom is that given time and teacher support, Brett began to play in a variety of classroom areas. A combination of teacher support, facilitation, and direct teaching was employed to support Brett's participation in the classroom. As Brett began to explore different classroom areas where there were peers, he began to play with different materials, observe peers, and participate with them. The goal was to facilitate Brett's interest in the actions of others and provide experiences with his peers.

As Brett participated in daily story reading sessions with the teacher and as the teacher talked with him as he played, he began to speak more often in the classroom as he labeled items and discussed what he was doing. During interactive reading sessions, Brett began to ask questions. For example, on March 23, 1998, Brett and the teacher looked at and discussed the book *Color Farm*.

- Teacher: Where do all the animals live?
 Brett: In the barn. Why is the dog outside?
 Teacher: He didn't go in the barn.
 Brett: That says "Exit."
 Teacher: Yes. What does exit mean?
 Brett: Exit means barn.
 Teacher: Exit means this is the way to go out. Where is there an exit sign in the classroom?
 Brett: Right there (points to exit sign).

After the conversation, Brett joined another peer as they made a barn with shapes using the book as a reference. As the teacher modeled reading behaviors, Brett began to look at books on his own in the classroom, turning the pages, and repeating familiar vocabulary (note end of year assessments - Clay's Concepts about Print; Morrow's Checklist for Assessing Early Literacy Development).

Tom

Tom came to the college-based inclusive preschool with a variety of cognitive and language skills. The primary goal was to support his attention to and participation in free play and also provide challenging and stimulating activities. From an analysis of his experiences and participation in the program, some themes emerge. When paired with a peer, Tom attended to play activities for longer periods of time. In the social context of

the play, Tom suggested different ways to use materials and tried to be the leader. If the peer was not as competent with language as Tom, then Tom became the leader. Tom told the peer what to do and both children rushed through the activities. If the peer did not follow Tom's lead, then Tom talked about what he was doing, negotiated what would come next, and, generally, engaged the peer in his play as they both attended to the activity for an extended period of time (five minutes or more). When Tom and the peer engaged in conversation and discussed what they were doing, Tom played for longer periods of time and constructed a product. The social context of the play and the use of language supported Tom's attention. The teacher was aware that Tom attended to activities for longer periods of time when he was paired with peers who were at the same developmental level. The teacher gave Tom a choice of whom to play with from a teacher-selected group of peers.

Constructive play activities, particularly writing activities, supported Tom's attention, language, and social skills development. As he played with and explored the materials, Tom discussed what he was doing, asked peers questions, and engaged in conversations. At times the conversations centered on the task at hand and, at other times, Tom discussed personal experiences. Social experiences with peers facilitated Tom's sustained participation in constructive writing activities.

Tom incorporated reading and writing activities into his play. He made signs for blocks, blueprints of his block structures, asked a peer to work with him to find their favorite books, and listened to books on tape. When he looked at books on his own, Tom stated, "I don't know how to read." When the teacher encouraged him, Tom said, "I

can't read the words." Tom understood that print rather than pictures is read and that he did not know how to do that. As the school year progressed, Tom became more aware of the form and functions of print (see end of year Morrow's Checklist for Assessing Early Literacy Development; Clays Concepts about Print).

General themes from data

General themes emerge from the analysis of each child's participation in the classroom. The principles that the data support apply to all of the children in the study.

The themes are:

- Children in the study, whether they had special needs or not, initiated play activities for themselves at the beginning of the school year, and, in time, for others. Self-selected play activities sustained each child's attention. The play activities provided opportunities to practice skills and explore activities of interest. The play activities provided a shared context for the children as they interacted with peers.
- Each child had strengths, interests, and needs. The two children with typical developmental patterns, as well as the two children with mild to moderate special needs, came to the program with particular abilities. The children chose activities that were of interest to them, building on their strengths as they began to explore new tasks and activities.
- Repetitive play served a number of functions as each child practiced skills and employed different strategies to solve problems while playing. While involved in

repetitive play, each child perfected skills (i.e. cutting, building with blocks, printing name), attempted new activities, and added to their repertoire of problem-solving strategies.

- Shared experiences such as building with blocks, writing or drawing at the writing table, listening to a story, created situations where the children had common experiences in the classroom, (i.e. drawing activities related to the curriculum theme, stories that have been read, or play in the dramatic play area). The language and activity in play episodes provided a shared, common reference for extended play with the materials and peers.
- All the children in the study used the available literacy materials with increasing frequency over the school year. Each child accessed literacy materials, practiced writing and reading, and incorporated both into their play. The literacy activities in which the children participated had a purpose and meaning for each child.
- Learning took place in an interaction between two people (or more) and between two activities such as reading and writing. The children interacted and participated with each other in their play as they built with blocks, participated in games, and played with each other in the dramatic play area. Reading books with the teacher or peers led to writing or drawing activities. Writing and reading were interactive processes as children discussed what they were doing, how they did it, and what it meant.
- By careful observation, the teacher made use of the children's self-selected activities to encourage further elaboration of existing skills and/or to establish

intervention strategies to model or teach new skills. The teacher facilitated the play of all four children in the study and, at times, directly taught skills, facilitated play with others, or modeled ways in which problems could be solved. Teacher observations were the foundation for the establishment of goals and objectives for each child. Observations were also used to monitor each child's progress.

- Teacher intervention in play partner selection was an important strategy for several different reasons. For example, children were partnered to support each child's participation in a variety of activities, to help both children attend to tasks for sustained periods of time, or to facilitate social interactions with each other. There was a goal and purpose to partnering, that is, children were partnered for specific reasons that supported their play and interaction with peers.
- Curriculum integration served as an effective tool for repetition and practice which contributed to deepening understanding. As children practiced skills they made connections between what they were doing and curricula concepts. As the children explored and practiced skills in one particular area, they applied the same skills and knowledge in a different way in another classroom area. Through this process the children began to understand concepts and curriculum themes.
- A well-prepared environment (designed by the teacher) supported the children's play processes and their access and participation in literacy activities. Each classroom area included play materials, related books, and writing materials that the children used in their play.

In Chapter 7, conclusions from the data are discussed as they relate to including children with mild to moderate special needs in regular early childhood programs. Recommendations for teaching, based on the strategies employed in this study, in inclusive early childhood programs are detailed. In the last section of the chapter, suggestions for future research investigations are presented.

CHAPTER 7 CONCLUSIONS

Different theories of development and learning have influenced practices in early childhood and special education. As more children with disabilities attend regular early childhood programs, all teachers need instructional strategies that support each child's participation and development. This study documented teaching strategies that supported the participation and progress of four children in the same inclusive early childhood program. In the context of the inclusive early childhood program, conclusions from the data suggest that both the children with mild to moderate special needs and typically developing children made gains in social, cognitive, language, and literacy development.

Conclusions from the Data

Conclusions from the data indicate that the children with mild to moderate special needs and the typically developing children entered the program with particular strengths, interests, and needs. All four children made play selections based on their interests and abilities. As they participated in self-selected play activities, each child responded spontaneously in a variety of situations. As all four children played, they talked about what they were doing and interacted with peers. Repetitive play, in particular, served a number of functions. In their repetitive play, the children explored materials, constructed products, solved problems and completed tasks. Play promoted both the nonrepresentational and representational use of objects as each child practiced manipulating and using materials. The development of play skills in all four children was

gradual and continuous. The data further suggest that as the children played, they increased the scope and flexibility of various problem-solving strategies.

Shared experiences in the classroom created specific situations where the children practiced ways in which to use and pretend with materials. Common play experiences were also the bases for interactions between two or more people in the classroom. As the children interacted with each other and the teacher, they expanded their knowledge and skills about the materials, solved problems, initiated and sustained play with each other.

By careful observation the teacher made use of the children's self-selected activities to encourage further elaboration of existing skills. Teacher observations provided detailed information about each child. Established goals and objectives for each child served as a way to guide and determine progress during the school year. The teacher developed particular intervention strategies, based on information from observations, that combined practices from early childhood and special education. A variety of intervention strategies from play facilitation to direct teaching were developed to support each child's active participation in the classroom.

Integration of curriculum themes into classroom play areas served as an effective tool to support children's understanding of concepts. As the children played with related curriculum materials in different classroom areas, they made connections between, for example, stories about a veterinarian and pretend play in the dramatic play area (veterinarian's office). Integrated classroom play areas provided opportunities for the children to perfect their skills as they explored relationships between play materials and activities. In addition, the integration of the curriculum theme throughout the play areas

supported each child's exploration of the topic and its related concepts.

The children had access to reading and writing materials throughout the classroom. They interacted with peers and adults about the stories that were read to them and the books they chose to look at during their play. Each child participated in reading and writing activities with increasing frequency over the school year. As the children chose and explored literacy materials, they practiced reading and writing behaviors. When the children chose reading or writing activities as part of their play, they talked with peers about what they wrote or the stories they told in their own words. The context of the environment, that is the accessibility of literacy materials as well as interactions with peers and the teacher, supported each child's literacy learning.

Results from informal and formal assessments indicate that all four children in the study made progress in cognitive, social, language, and literacy skill development as they participated in the same educational environment. Combined teaching practices from early childhood and special education supported each child's acquisition of new skills in an environment that provided time, opportunities to practice, and interactions with a variety of peers and adults.

Recommendations for Teaching

This study suggests that a variety of teaching strategies, some commonly used in special education and others commonly used in early childhood education, can be employed to support each child's participation and skill acquisition. For example, teacher-directed lessons in this study, generally considered a special education

practice, focused on specific concepts or skills. If a child did not immediately apply or generalize information from direct teaching, the strategy was not abandoned. Instead, the teacher observed the child over time to determine if the child applied what was learned in different situations.

To support oral language development, a combination of visual and oral cues, generally considered special education strategies, were used to build on one child's visual strengths. American Sign Language and picture cues (pictures of the classroom areas), helped two of the children decide in what classroom areas they wanted to play. Photos of classmates gave each of the children visual references to determine who they wanted as a play partner during free play. Picture books provided visual references for discussions between the children and teacher. The teacher based book conversations on the book's illustrations and related them to the curriculum topic. Pictures in each classroom area provided visual references for children as they matched play materials in the area with the pictures. Each of these strategies provided a joint reference for language, a shared context, in which all children could use language to communicate their wants, needs, and ideas.

Another teaching strategy included previewing books with children. Books that were going to be read to the whole class later in the day were previewed earlier in the day with the children with mild to moderate delays. The teacher introduced the story, reviewed vocabulary, and, generally, provided opportunities for the children to become familiar with the book. When the book was introduced to the whole class, the children with mild to moderate delays participated in the class discussion as they answered

questions and pointed out interesting characteristics of the story. The preview session gave each child time to practice and learn about the story in a one-to-one session with the teacher.

Play facilitation, generally considered an early childhood education strategy, was employed to support each child's participation with different play materials and different peers. The teacher introduced the materials in a play area and modeled ways in which to initiate play with and engage peers. For example, the teacher showed a child the various materials in the bakeshop. She told the child what the materials were, modeled ways in which they could be used, and invited peers to join her. When the child began to model the teacher's behaviors with the materials and with peers, the teacher faded support and moved out of the area. The goal was to teach and support the child as he/she began to participate and play with others.

Another recommendation for teaching strategies includes making meaningful reading and writing activities available to all the children in the classroom. Reading and writing had a purpose and meaning in the classroom and children were involved in both processes every day. The attendance board contained the printed names of every child in the classroom. As the children entered class each day, they took their nametags off the board and placed them in an envelope. Placing one's nametag in the envelope indicated that person was in school. Each child in the study participated in this activity every day. Recognizing one's name and taking it down from the board each day was meaningful for each child. The teacher also modeled writing by making lists, writing children's comments about stories on a class bulletin board, and writing notes. What was written was read and

discussed with the children. As the children wrote in the classroom, they talked with their peers and the teacher about what they were doing and their writing. Teaching strategies included recognizing and valuing each child's writing efforts.

Teaching also involved reading books in every area of the classroom. Small group book reading sessions with the teacher included discussions about the story, the vocabulary, and the text. The teacher pointed out where print was in the books, how print was read, and how the print related to the pictures. Children were encouraged to note similarities and differences in words. Looking at, reading, and listening to stories were important aspects of the literacy-rich environment. Formal and informal teaching sessions about books were part of daily teaching. All the children in the study incorporated reading and writing activities into their play activities. The play provided meaningful opportunities for the children to explore the structure and function of print.

Peer partnering, an early childhood and special education strategy, was employed for a variety of reasons in this study. One child, for example, was paired with specific partners who had similar language and cognitive skills. Partnering the children supported the first child's attention to and participation in tasks. The teacher supported another child as she chose different partners with whom she could participate and begin to involve in play. Using information from regular, systematic observations, the teacher determined that partnering supported each child's participation in the classroom. The teacher took an active role in determining who should be partnered and with whom. The children were given choices (from the teacher's choices), an early childhood strategy, as to who they wanted as a partner.

All the children in the study participated in self-selected play activities. Teaching involved understanding that from a developmental perspective, child-initiated play is viewed as an activity that is intrinsically rewarding rather than an activity that relies on external rewards. Different from a behaviorist perspective, a developmental perspective presents the view that children develop skills when involved in activities that serve his/her needs and desires. The results of this study indicate that typically developing children and children with disabilities participate in play and literacy activities that are intrinsically rewarding and support their development in all areas.

Future research

Further research about the inclusion of children with special needs in regular education programs will provide needed information to teachers and administrators about teaching strategies, how to support children in various areas of development, and how to prepare a classroom environment. Research studies can also provide detailed information about various aspects of inclusion that affect children's progress and participation. Although inclusion is part of American education at all levels, there is a need for data about how and whether children with and without disabilities benefit from being in the same classroom. Future research studies can employ a variety of methodologies to investigate how inclusion influences teaching and children's education.

This study demonstrates the value of child study as a tool for the teacher and for research purposes. Future research investigations using the child study method would provide specific data that describes children and their interactions with peers, teachers, and

materials. The methodology is particularistic and descriptive. For teachers, information from child studies is invaluable to understand particular children's development and participation in an inclusive classroom. Child study also helps teachers reflect on their own practices. Studying teaching practices in inclusive programs would provide data to determine what strategies are effective.

Child study is a form of descriptive research which is useful when defining an area of research interest and its features and phenomena.. Descriptive research is a necessary step in identifying specific variables for systematic investigation. Inclusive programs are a recent phenomenon in early childhood education. Child study research would provide the necessary descriptive information to identify specific aspects of inclusion that could be systematically studied. Future research studies could investigate what particular supports are needed for improved academic outcomes for children with particular disabilities. Studies focusing on the effects of class size and the proportion of children with special needs in a regular classroom may also provide information about how best to educate all children in an inclusive classroom.

This year-long study focused on the cognitive, social, language, and literacy development of typically developing children and children with mild to moderate delays. Future research studies on the inclusion of children with moderate to severe delays in regular education classrooms would provide data about the impact of a literacy-rich play environment. Inclusion raises concerns from teacher and administrators as they question whether the inclusive classroom penalizes, or, in some way, jeopardizes typically developing children. Do children with special needs take a disproportionate part of the

teacher's time? Research studies designed to study this question would provide data to begin to answer this question.

Recommendations

Conclusions from this dissertation study suggest ways to prepare teachers to work in inclusive early childhood programs. The successful inclusion of young children with disabilities begins with the attitude and assumption that all children can learn. The progress of the children in the study supports this premise. This premise is based on understanding that each child's sense of self-esteem is built on what he/she can do in a supportive educational environment that emphasizes the child's strengths and interests rather than needs. When all children are viewed as active learners, it is understood that they develop at different rates, require various instructional strategies and environments in which to learn, and are similar yet different from their peers. The development of the child is viewed from multiple perspectives including the theoretical perspectives of both early childhood and special education. As teachers prepare to work in inclusive programs, they need to develop a variety of strategies that will support each child's active participation and progress.

The preparation of teachers for inclusive environments needs to include a foundation in understanding the purposes of classroom observation. Practice writing different types of observations will help teachers determine what type of observation will provide the most information about each child's development. Detailed observations provide useful and essential information for teachers about how each child approaches

situations and tasks. Goals and objectives for each child based on information from their observations, will help teachers monitor each child's progress. Observations will also provide information about teaching practices as the teacher assesses and examines how to best support each child's learning.

Conclusions from this study also suggest that children with and without disabilities participate in literacy activities. As teachers prepare to work in inclusive early childhood programs, a foundation in early literacy development will provide a developmental and theoretical perspective for understanding children's early efforts at reading and writing. A variety of learning experiences both formal and informal create a dynamic and active classroom context for literacy development. Literacy learning is an interactive process. As teachers prepare literacy-rich inclusive environments, strategies need to be developed that involve typically developing children and children with delays in a variety of self-initiated play and teacher directed activities that engage them in literacy learning

The preparation of teachers to work in inclusive environments needs to also involve learning about how to work with specialists. As practitioners and specialists work together, they observe and learn about the children in the classroom. As the teacher works in the classroom, the specialist observes and learns about how to support these children in the classroom. Similarly, as the specialist works with children with disabilities, the teacher gains information about how to support them in the classroom. As the teacher and specialist share information they learn how to reflect on their own practices and develop ways in which to build on their strengths as practitioners.

This study supports the growing body of research that documents the ability of children with mild and moderate special needs to initiate and engage in play activities by themselves and with other children. Conclusions from this study suggest that when young children are immersed in a literacy-rich play environment and interact with the teacher and peers, they incorporate literacy activities into their play. By careful observation, the teacher makes use of children's self-selected play activities to encourage further elaboration of existing skills and establishes intervention strategies to model or teach new skills. Teaching strategies from both early childhood and special education can be combined to support each child's progress and development.

APPENDIX - A

OBSERVATION GUIDELINES FOR COGNITIVE DEVELOPMENT

from: Linder, T. (1990). *Transdisciplinary Play-Based Assessment: a functional approach to working with young children*. Baltimore, MD.: Paul H. Brooks.

- I. Categories of Play
 - A. What range of categories are observed in the child's play?
 1. Exploratory or sensorimotor play
 2. Relational or functional play
 3. Constructive play
 4. Dramatic or symbolic play
 5. Games -with- rules
 6. Rough- and- tumble play
 - B. Primary category in which the child engages
- II. Attention Span
 - A. Attention Preferences
 1. What is the average length of time the child spends per activity?
 2. What activities engage the child for the longest time?
 - a. Observation
 - b. One of the categories listed in I., A.
 3. What activities engage the child for the shortest time?
 4. Does the child demonstrate preference?
 - a. Visual preference -the child attends longer to the visual features of objects or to objects that have strong visual features
 - b. Auditory preference-the child attends longer to toys with auditory features
 - c. Tactile preference-the child attends longer to toys that provide strong tactile input
 - d. Vestibular preference-the child attends longer to toys that provide movement or vestibular input
 - B. Locus of control
 1. Does the child select activities and stay with them without external prompting or reinforcement?
 2. What type of external support, direction, or reinforcement is needed in order for the child to maintain attention in an activity?
 - a. Verbal
 - b. Physical
 - c. Other
 3. Distractibility -Do external stimuli interfere with an activity?
 - a. Do visual stimuli(materials,toys, etc.) distract the child?
 - b. Do auditory stimuli (bells, voices) distract the child?

- c. Do nearby activities distract the child?
 - d. Do people in the room distract the child?
- III. Early Object Use
 - A. Type and range of schemes
 - 1. What type and number of low-level schemes were observed (mouthing, banging, shaking, etc.)?
 - 2. What type and number of more complex adaptive schemes were observed (pushing, poking, pulling, throwing)?
 - 3. Does the child use a large variety of schemes?
 - 4. How frequently does the child use various schemes?
 - B. Scheme use and generalization
 - 1. Which schemes does the child use spontaneously?
 - a. Indiscriminate use of scheme with all objects (i.e. mouths all objects)
 - b. Selective appropriate use of schemes (i.e. stirs with spoon)
 - 2. Scheme use after modeling by facilitator
 - a. What higher level schemes can be instigated by modeling?
 - b. What prompting is necessary (vocal, gestural)
 - C. Linking of schemes
 - 1. What behaviors demonstrate linking of schemes in a related sequence (filling a pitcher, pouring into a cup, then pretending to drink)?
 - 2. What behaviors demonstrate linking of schemes in representational "script" play (child fixes dinner, serves it, washes dishes, and goes to bed).
- IV. Symbolic and Representational Play
 - A. Symbolic object use
 - 1. To what degree is the child capable of abstracting a concept - or using one object to represent another?
 - a. Real objects needed for activity
 - b. Realistic object may substitute for real object
 - c. Unrealistic item may be substituted for real object
 - d. Can pretend an object exists without a prop
 - B. Symbolic play roles
 - 1. What role is the child capable of assuming in representational play?
 - 2. Toward whom or what are the child's pretend actions directed?
 - a. Self
 - b. Object or toy (baby doll)
 - c. Another adult
 - 3. How does the child demonstrate understanding behaviors

important to specific roles that he or she assumes (gas station attendant pumping gas with hose)?

4. To what degree can the child direct the play scenario without being a player or role taker (has soldiers fighting, etc.)?
5. When the child is directing actors (person, doll, puppet, or symbolic substitute for actor) in scenarios, how does he or she indicate understanding of the behaviors of the actors (has store clerk doll act out stocking the shelves, checking out groceries)?
6. What level of role imitation is demonstrated in the child's play (having doll assume more than one role at a time, such as mother and wife)?

V. Imitation

A. Level of imitation

1. Simple visible gestures (child can observe his or her imitative actions, such as clapping hands)
2. Simple invisible gestures (child cannot observe his or her imitative actions, such as patting top of head)
3. Single scheme imitations using objects
4. Complex imitations - sequence of schemes using gestures or objects (see also symbolic play)
5. Imitation of problem-solving approaches
6. Imitation of dramatic play sequences
 - a. Familiar
 - b. Unfamiliar
7. Imitation of drawing
 - a. Within child's repertoire
 - b. Novel

B. Timing of imitations

1. Are the majority of imitations immediate (right after model)?
2. Are the majority of imitations delayed (after several elapsed seconds)?
3. What examples of deferred imitation are seen (imitation after a period of elapsed time, such as Mom washing dishes)?
 - a. Are deferred imitations replicated within the appropriate context?
 - b. What behaviors denote deferred imitation in inappropriate or non-meaningful contexts?

C. Turn-taking

1. What type of imitative sequences or turn-taking play takes place?
 - a. Physical movement or tactile play (bouncing, tickling)
 - b. Vocal imitative play (vocalizations, words, rhymes)
 - c. Imitative turn-taking with objects

- d. Imitative turn-taking in representational play
- e. Imitative turn-taking in structured games
- 2. Does the child modify the turn-taking game by changing some aspect of the behavior?
- 3. Does the child repeat a modification made by another person in the turn-taking?

VI. Problem-Solving Approaches

- A. What interest does the child show in cause-and-effect objects and events?
 - 1. Does the child use physical “procedures” or bodily movement to make events recur?
 - 2. What behaviors were observed where the child uses the adult as an agent to make something recur?
 - 3. What behaviors were observed where the child acted as the agent to make something recur?
 - 4. What behaviors were observed where the child used an object as a tool to solve a problem?
- B. What means does the child use to accomplish goals? How does he or she figure out challenging tasks?
 - 1. Does the child use a repetitive approach, doing the same act over and over to cause something to happen (continually bangs box to get it open)?
 - 2. What evidence was observed of trial-and-error problem-solving using alternative approaches to achieve a goal?
 - 3. What evidence is observed of advance planning in problem-solving?
 - a. The child uses physical searching behaviors in selecting an approach
 - b. The child uses visual scanning to select an approach
 - c. The child uses verbal meditation (talking to self) or questioning of another to select a problem-solving approach

VII. Discrimination/Classification

- A. How does the child show knowledge of classification of concepts?
 - 1. What behaviors demonstrate combining related objects (spoon and plate)?
 - 2. What behaviors demonstrate combining like objects in sets (trucks all together)?
 - 3. What behaviors demonstrate spatial matching (stacking same size blocks or lining up objects)?
 - 4. What behaviors demonstrate sorting or matching objects by color?
 - 5. What behaviors demonstrate sorting or matching objects by

shape?

6. What behaviors demonstrate sorting or matching objects by size (big, little)?
7. What behaviors demonstrate that the child can sequence objects by size (nesting or stacking order)?
8. What behaviors demonstrate that the child can sort or match objects by functions (things that roll)?
9. What behaviors demonstrate sorting or matching by a more complex functional relationship (stop signs on road in block area)
10. What behaviors demonstrate that the child can identify objects by attributes?
 - a. Single attributes
 - b. Multiple attributes (big, blue square)
11. What behaviors demonstrate that the child can match simple patterns or designs (puzzles, Lotto)?
12. What behaviors demonstrate that the child can match more complex patterns or designs (parquetry blocks)?
13. What behaviors demonstrate the child's ability to group or label objects within a classification or categorical system? (e.g. an apple is a fruit, a poodle is a dog, a dog is an animal)

VIII. One-to-One Correspondence

- A. How does the child demonstrate understanding of number concepts?
 1. How does the child demonstrate ability to count discrete objects using the correct number (can use corresponding number for separate objects, rational counting)?
 2. How high can the child count by rote?
- B. What concepts demonstrate the child's ability to compare quantities (big/little, one/many, more/less, equal/not equal)?
- C. What evidence is show of understanding measurement concepts (heavy/light, full/empty, short/long, before/after, hot/cold)?
- D. Does the child demonstrate any understanding of conservation of number (changing the configuration doesn't change the number of items)?
- E. Does the child demonstrate one-to-one correspondence with words and pictures?
 1. Identifies pictures in books with the correct word or action
 2. Identifies words in print that correspond to pictures of common objects (labels on food cartons)

IX. Sequencing Ability

- A. What behaviors demonstrate sequencing ability?
 1. Sequencing of schemes (see Linking of Schemes, III., C.)
 2. Sequencing (seriation of concepts)

- a. Number
 - b. Size
 - c. Sensory input (textures, sounds, smells)
 - 3. Sequencing of stories
 - a. In dramatic play
 - b. Through pictures in a book
 - 4. Sequencing of time
 - a. In dramatic play
 - b. In conversation
- X. Drawing ability
 - A. What developmental level is represented in the child's drawing of lines and shapes?
 - B. What developmental level is represented in the child's drawing of people or objects?

OBSERVATION GUIDELINES FOR COGNITIVE DEVELOPMENT

from: Gowen, J. The early development of symbolic play. *Young Children*, March, 1995.

Category	Description	Example
Pre-pretense	Child engages in approximate pretense but gives no confirming evidence	Child briefly touches telephone to ear; briefly puts bottle to doll's mouth
Pretend other	Child engages in pretense behavior directed toward self, in which pretense is apparent	Child raises cup to lip, tips cup, makes drinking sounds
Substitution	Child uses a 'meaningless' object in creative or imaginative manner, or uses object in pretense act	Child feeds doll with block as 'bottle'; puts piece of playdough on plate and calls it a hamburger
Imaginary objects or beings	Child pretends that an object, substance, person, or animal is present in way that differs from usual use.	Child tips an empty teapot over cup and says "coffee"; moves around room making motor sounds, as though riding an imaginary motorcycle.
Active agent	Child animates a toy (e.g. doll, toy animal) that represents a being so that toy becomes an active agent in the pretend activity	Child hops toy animal across rug as though it were running, puts doll's hand to its mouth as though it were feeding itself; talks in a high voice as though the doll were talking.
Sequence no-story	Child repeats a single pretense/act scheme with multiple receivers	Child gives mother a drink from cup, then gives doll a drink from cup.

Sequence story	Child uses more than one related scheme in pretense activity	Child stirs in cup, drinks from cup, and says "Mmmmm tastes good."
Planning	Child engages in pretend play preceded by evidence in planning	Child says that she will feed the baby before putting toy baby bottle to doll's mouth.

CATERGORIES OF EMERGENT WRITING

categories from: Sulzby, E. (1985b). Kindergartners as writers and readers. In M. Farr (Ed.), *Advances in writing research, Vol. I: Children's early writing development*. Norwood, NJ: Ablex.

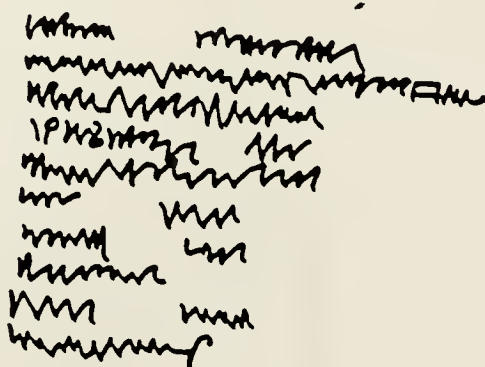
examples from: Temple, C., Nathan, R., Temple, F. & Burtis, N.A. (1993) *The Beginnings of Writing (3rd edition)*. Boston: Allyn & Bacon. AND

McGee, L. M. & Richgels, D.J. (1996) *Literacy's Beginnings: Supporting Young Readers and Writers (2nd edition)*. Boston: Allyn & Bacon.

WRITING VIA DRAWING



WRITING VIA SCRIBBLING



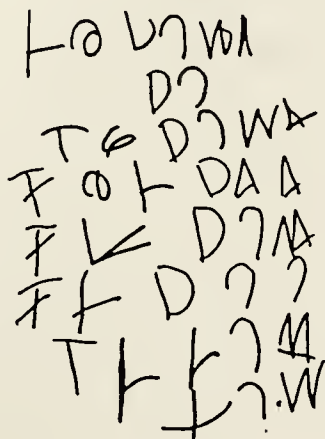
WRITING VIA LETTERLIKE FORMS



WRITING VIA WELL-LEARNED UNITS

-takes a word or wordlike unit like one's name and reorders the letters in various ways to form different words

-the child will take elements from a sequence, particularly the alphabet and repeat the elements in different manners.



WRITING VIA 'INVENTED SPELLING'

- takes one graph per syllable with some variation
- represents more of the phonemes than one per syllabic unit
- indicates through writing that not all of the phonemes must be represented by a letter

I GOT BET
 BAY M SKED AS
 AN ETHRT.
 .(

WRITING VIA CONVENTIONAL ENGLISH ORTHOGRAPHY



CHECKLIST FOR ASSESSING EARLY LITERACY DEVELOPMENT

from: Morrow, L. (1989). *Literacy development in the early years*. Englewood Cliffs, NJ: Prentice Hall.

Checklist for Assessing Early Literacy Development

Child's Name _____

Date _____

Language Development

Makes phoneme sounds			
Speaks in one-word sentences			
Speaks in two-word sentences			
Identifies familiar sounds			
Differentiates similar sounds			
Understands the language of others when spoken to			
Follows verbal directions			
Speaks to others freely			
Pronounces words correctly			
Has appropriate vocabulary for level of maturity			
Speaks in complete sentences			
Uses varied syntactic structures			
Can be understood by others			

Attitudes Toward Reading and Voluntary Reading Behavior

Voluntarily looks at or reads books
Asks to be read to

Listens attentively while being read to
Responds with questions and comments to stories read to him or her
Takes books home to read
Reads voluntarily at home

Concepts about Books

Knows that a book is for reading
Can identify the front, back, top, and bottom of a book
Can turn the pages properly
Knows the difference between the print and the pictures
Knows that pictures on a page are related to what the print says
Knows where to begin reading
Knows what a title is
Knows what an author is
Knows what an illustrator is

Comprehension of Text

Attempts to read storybooks resulting in well-formed stories
Participates in story reading by narrating as the teacher reads

Demonstrates knowledge of the following phonic generalizations:

- a. In a consonant-vowel-consonant pattern, the vowel sound is usually short
- b. In a vowel-consonant-e pattern, the vowel is usually long
- c. When two vowels come together in a word, the first is usually long and the second is silent (train, receive, bean)

Writing Development

Explores with writing materials

Dictates stories, sentences, or words he or she wants written down

Copies letters and words independently attempts writing to convey meaning, regardless of writing level

Can write his or her name Collaborates with others in writing experience

Writes in varied genres: narrative (stories), expository (personal and informational reports) Writes for functional purposes

Check (✓) the level or levels at which the child is writing

- _____ uses drawing for writing and drawing
- _____ differentiates between writing and drawing
- _____ uses scribble writing for writing
- _____ uses letter-like forms for writing
- _____ uses learned letters in random fashion for writing
- _____ uses invented spelling for writing
- _____ writes conventionally with conventional spelling

Mechanics for Writing

Forms uppercase letters legibly

Forms lowercase letters legibly

(See Figure 8-16)

Writes from left to right

Leaves spaces between words

Uses capital letters when necessary

Uses periods in appropriate places

Uses commas in appropriate places

Halliday's Language Functions

from: McGee, L. & Richgels, D.J. (1996) *Literacy's Beginnings: Supporting Young Readers and Writers, second edition*. Allyn & Bacon: Boston.

Language	Function	Spoken language examples	Written language examples
Instrumental	satisfies wants and needs	"I want to watch Big Bird." "I want the colors."	advertisements, bills, reminders notes, sign-up sheet
Regulatory	controls others	"Don't use purple." "Andrew, stop."	traffic signs, policy statements, directions
Interactional	creates interaction with others	"Let's go in the playroom." "Who wants the rest?"	personal letters, notes
Personal	expresses personal thought or opinion	"I like Mr. T." "I'm not tired."	journals, diaries
Heuristic	seeks information	"What does this say?" "What is that?"	letters of request and inquiry, application forms
Imaginative	creates imaginary worlds	"You be Judy and I'm Peewee." "This is a big green haystack."	poetry, drama, stories
Informative	communicates information	"I'm going to Florida." "The flowers opened."	textbooks, reports, telephone books

Parten's categories of social participation

from: Parten, M. (1932). Social participation among preschool children. *Journal of Abnormal and Social Psychology*. 27, 243-269.

"Unoccupied behavior: The child apparently is not playing, but occupies himself with watching anything that happens to be of momentary interest. When there is nothing exciting taking place, he plays with his own body, gets on and off chairs, just stands around, follows the teacher, or sits in one spot glancing around the room.

Onlooker: The child spends most of his time watching other children play. He often talks to the children whom he is observing, asks questions, or gives suggestions, but does not overtly enter into the play himself. This type differs from the unoccupied in that the onlooker is definitely observing particular groups of children rather than anything which happens to be exciting. The child sits or stands within speaking distance of groups so that he can see and hear everything that takes place.

Solitary independent play: The child plays alone and independently with toys that are different from those used by other children within speaking distance and makes no effort to get close to other children. He pursues his own activity without reference to what others are doing.

Parallel activity: The child plays independently, but the activity he chooses naturally brings him among other children. He plays with toys that are like those which the children around him are using but he plays with the toy as he sees fit, and does not try to influence or modify the activity of the children near him. He plays beside rather than with the other children. There is no attempt to control the coming or going of children in the group.

Associative play: The child plays with other children. The conversation concerns the common activity; there is borrowing and loaning of play material; following one another with trains or wagons; mild attempts to control which children may or may not play in the group. All members engage in similar if not identical activity; there is no division of labor, and no organization of the activity of several individuals around any material or goal or product. The children do not subordinate their individual interests to that of the group; instead each child acts as he wishes. By his conversation with the other children one can tell that his interest is primarily in his associations, not in his activity. Occasionally, two or three children are engaged in an activity of any duration, but are merely doing whatever happens to draw the attention of any of them.

Cooperative or organized supplementary play: The child plays in a group that is organized for the purpose of making some material product, or of striving to attain some competitive goal, or of dramatizing situations of adult and group life, or of playing formal games. There is a marked sense of belonging or not belonging to the group. The control of the group situation is in the hands of one or two members who direct the activity of the others. The goals as well as the methods of attaining it necessitates a division of labor, taking of different roles by the various

group members and the organization of the activity so that the efforts of one child are supplemented by those of another." (pp. 249-251)

OBSERVATION GUIDELINES FOR COMMUNICATION AND LANGUAGE DEVELOPMENT

from: Linder, T. (1990). *Transdisciplinary Play-Based Assessment: A Functional Approach to Working with Young Children*. Baltimore, MD.: Paul H. Brookes.

- I. Modalities of Communication
 - A. What is the primary method of communication used by the child?
 1. Eye gaze
 2. Gesture
 3. Physical manipulation
 4. Vocalization (nonspeech, e.g. grunts)
 5. Sign language
 - a. Idiosyncratic
 - b. Formal
 6. Verbalization
 7. Augmentation (e.g. symbol board)
 - B. What supplemental forms are used in communication?
 - C. What is the frequency of communication acts?
- II. Pragmatics
 - A. What pragmatic stage or level of intention is demonstrated by the child?
 1. Perlocutionary stage - lack of specific intent on the part of the infant, but behaviors are interpreted by the parent or caregiver
 2. Illocutionary stage - use of conventional gestures or vocalizations to communicate intentions
 3. Locutionary stage - use of words to show intent
 - B. What meaning is implied by the child's gestures, vocalizations and verbalizations?
 1. Seeking attention
 2. Requesting object
 3. Requesting action
 4. Requesting information
 5. Protesting
 6. Commenting on an object
 7. Greeting
 8. Answering
 9. Acknowledging other's speech
 10. Other
 - C. What functions does the child's communication fulfill?
 1. Instrumental (to satisfy needs or desires)
 2. Regulatory (to control the behavior of others)
 3. Interactional (to define or participate in social interchange)

4. Personal (to express personal opinions or feelings)
 5. Imaginative (to engage in fantasy)
 6. Heuristic (to obtain information)
 7. Informative (to provide information)
- D. What discourse skills does the child demonstrate (typically and optimally)?
1. Attending to speaker
 2. Initiating conversation
 3. Turn-taking
 4. Maintaining a topic
 5. Volunteering/changing a topic
 6. Responding to requests for clarification
 7. Questioning
- E. Does the child demonstrate echolalia in communication?
1. Timing
 - a. Immediate
 - b. Delayed
 2. Echolalia
 - a. Exact
 - b. Mitigated (changed)
 3. Function
 - a. To continue interaction
 - b. To demonstrate comprehension
 4. Degree of pragmatic success
- III. Phonology: Sound Production Patterns
- A. What phonemes or speech sounds are produced by the child?
1. Preverbal sounds
 2. Speech sounds
 3. Babbling - consonant vowel sounds
 4. Jargon - speech sounds combined into patterns with cultural intonations
 5. Words
- B. Phonological processes or errors
1. Deletions
 - a. Consonants
 - b. Syllables
 - c. Sounds
 2. Assimilations (one sound becomes similar to another in the same word)
 3. Substitutions
 - a. Initial sounds
 - b. Final sounds
 - c. For liquids, /l/, /r/

- d. Vowels
 - C. Intelligibility
 - 1. In known context
 - 2. In unknown context
 - 3. By familiar person or family member
 - 4. Appropriateness of intonation
 - 5. Dysfluencies or stuttering
- IV. Semantic and Syntactic Understanding
- A. What cognitive level of understanding is demonstrated in the child's language?
 - 1. Referential (specific objects)
 - 2. Extended (more than one object)
 - 3. Relational (relations between objects)
 - 4. Categorical (discrimination and classification)
 - 5. Metalinguistic (talking about language)
 - B. What types of words are used?
 - 1. Nouns
 - 2. Verbs
 - 3. Adjectives
 - 4. Adverbs
 - 5. Prepositions
 - 6. Negatives
 - 7. Conjunctions
 - C. What semantic relations are expressed in the child's language?
 - 1. Agent (baby)
 - 2. Action (drink)
 - 3. Object (cup)
 - 4. Recurrence (more)
 - 5. Nonexistence (all gone)
 - 6. Cessation (stop)
 - 7. Rejection (no)
 - 8. Location (up)
 - 9. Possession (mine)
 - 10. Agent-action (baby drink)
 - 11. Action-object (drink juice)
 - 12. Agent-action-object (baby drink juice)
 - 13. Action-object-location (throw ball up)
 - 14. Other
 - D. What type of sentences are used by the child?
 - 1. Structure
 - a. Declarative
 - b. Imperative
 - c. Negative

- d. Questions
 - 2. Level of complexity
 - a. Simple
 - b. Compound
 - c. Complex
- E. What morphological markers does the child use?
 - 1. Present progressive (-ing)
 - 2. Prepositions (in, on)
 - 3. Regular and irregular past tense (-ed, came)
 - 4. Possessive ('s)
 - 5. Contractible and uncontractible copula (dong's little; he is - in response to question, "Who's happy?")
 - 6. Regular and irregular third person (jumps, does)
 - 7. Contractible and uncontractible auxiliary (Mommy's drinking; he is - response to question - "Who is coming his hair?")
- V. Comprehension of Language
 - A. What early comprehension is demonstrated?
 - 1. What is the child's reaction to sounds?
 - 2. Does the child exhibit joint referencing with an adult?
 - a. With visual regard
 - b. With verbal cue
 - c. With physical cue
 - 3. Does the child respond to common routines or statements?
 - a. With contextual cues
 - b. Without contextual cues
 - B. What comprehensions of language forms is demonstrated?
 - 1. To which semantic relations does the child respond?
 - 2. To which questions does the child respond?
 - a. Yes/no questions
 - b. Simple "wh" questions (where, what, who)
 - c. Advanced "wh" questions (which, when, why, how)
 - 3. What commands can the child follow?
 - a. Complexity (one-step, multistep)
 - b. With/without contextual cues
 - 4. What prepositions can the child understand?
 - a. Simple (in, on)
 - b. Advanced (next to, behind, in front of)
 - 5. What temporal terms does the child understand?
 - 6. What relational terms does the child understand?
- VI. Oral Motor
 - A. What cup drinking skills does the child demonstrate?
 - 1. Is the head aligned with the body?
 - a. Midline

- b. Head extension or retraction
 - 2. What degree of lip control is seen?
 - a. Degree of lip seal when cup to lips
 - b. Ease with which jaw and lips meet cup
 - c. Lip control when cup removed from mouth
 - 3. What degree of tongue control is seen?
 - a. Degree of tongue protusion under cup
 - b. Lack of tongue thrust forward
 - 4. How does the child coordinate suck/swallow?
 - a. Sequence of suck/swallow
 - b. Amount child can drink without pause
 - c. Frequency of coughing and choking
 - B. How adept is the child at chewing and swallowing solids?
 - 1. Can the child sustain and control a bite?
 - 2. What jaw movement is observed?
 - a. Bite release
 - b. Rotary pattern - diagonal
 - c. Rotary pattern - circular
 - 3. To what degree does the tongue assist in moving food from side to side?
 - 4. What degree of lip control is seen?
 - a. Movement is independent of jaw
 - b. Mouth closure
 - c. Amount of food loss or salivation while chewing
- VII. Observations Related to Other Areas
- A. Hearing
 - B. Voice quality
 - C. Cognitive development
 - 1. What level of imitation is indicated in the child's language?
 - a. Motor acts
 - b. Oral motor acts
 - c. Speech and nonspeech sounds
 - d. Word approximations
 - e. Words (one-syllable, two-syllable, multisyllable)
 - f. Word combinations (two-word, three-word, etc.)
 - g. Complete sentences
 - h. Morphological markers
 - 2. What cognitive prerequisites to language are evident?
 - a. Object permanence (ability to represent objects and events not perceptually present)
 - b. Means-ends behaviors (actions to achieve a goal)
 - c. Functional object use and object classification (perception of relationships)

- d. Symbolic behavior (ability to internalize and reproduce information)
- D. Social-emotional development
- 1. Pragmatic skills related to social interaction
 - 2. Are topics of communication appropriate?
 - 3. Does the child communicate in a similar manner with all partners?

APPENDIX - B

Assessments

Each child's cognitive, language, and emergent literacy skills were assessed during the first month of school. The assessments administered were: the Early Screening Inventory (ESI-Revised 1997 (P-Preschool: K-Kindergarten); the Peabody Picture Vocabulary Test - III (Third Edition; 1997); the Peabody Expressive Vocabulary Test (EVT - Revised, 1997); Morrow's Checklist for Assessing Early Literacy Development; Clay's Concepts About Print; and a teacher-made developmental checklist. A description of each assessment, including how each is administered, what is assessed, and an explanation of scoring criteria follows.

The Peabody Picture Vocabulary Test assesses listening comprehension of the spoken word in English and vocabulary acquisition. It is an individually administered test with items that are arranged in order of increasing difficulty. Each item consists of four black and white illustrations arranged on a page called a PicturePlate. The task of the test taker is to select the picture that best represents the meaning of a stimulus word presented orally by the examiner. Standard scores, percentile ranks, normal curve equivalents, and stanines are deviation-type norms, that is, they indicate how far an individual's test performance deviates from the average of persons of the same age on whom the test was standardized. The Peabody Picture Vocabulary Test is a measure of vocabulary knowledge that does not require a spoken response.

The Peabody Expressive Vocabulary Test, also individually administered, assesses expressive vocabulary knowledge with two types of items, labeling and synonyms. The examiner presents a picture and a stimulus word or words within a carrier phrase. The examinee responds with a one-word answer that is a noun, verb, adjective, or adverb. The

normative samples for both the Peabody Expressive and Peabody Picture Vocabulary Tests were identical. Word retrieval is evaluated by comparing expressive and receptive vocabulary skills using the standard score differences between the Peabody Expressive Vocabulary Test and the Peabody Picture Vocabulary Test.

Clay's Concepts About Print assesses concepts and knowledge about print, pictures, and books. The assessment is an indicator of one group of behaviors which support reading acquisition. Either booklet, *Sand* or *Stones*, can be used with non-readers. The child is asked to help the examiner by pointing to certain features as the book is read to him/her. One point is given for each feature correctly identified and is noted by the teacher on an accompanying form. Some of the concepts listed on the form are: front of the book; where to start to read; which way to go when reading; word by word matching; and the meaning of a comma. The assessment is a diagnostic tool that helps the teacher learn what a child knows about print.

Morrow's Checklist for assessing early literacy development is a compilation of literacy objectives to be rated based on teacher observations. The rating categories are *always*, *sometimes*, or *never*. It is a diagnostic assessment tool which lists skills in the following categories: language development; reading attitudes and voluntary reading behavior; concepts about books; comprehension of story; concepts about print; and writing development.

The Early Screening Inventory (Revised 1997, ESI-Preschool and ESI-Kindergarten) is a brief, individually administered, assessment procedure intended to identify children who may need further evaluation. It is a developmental screening assessment that provides a quick overview of a child's development in three major areas: Visual-Motor/Adaptive, Language

and Cognition, and Gross Motor. All three sections are designed to investigate a child's abilities within a particular area. Screening recommendations are based on the total scores. The ESI is intended to survey a child's ability to acquire skills, rather than a child's current level of skill achievement and performance. The total screening score is based on the child's chronological age and the number of points received during the assessment. Point totals are divided into three categories: *okay*, *rescreen*, and *refer*. According to the ESI Examiner's manual, a score of *okay* suggests that the child's skill level is appropriate for his/her age. A score in the *rescreen* category suggests that there is a question regarding the point total and the child should be rescreened at a later date. A score in the *refer* range suggests a lack of general knowledge and the possibility of a delay or disorder in the child's potential for acquiring knowledge.

The teacher-made developmental checklist is individually administered during the first month of school. In five, five to ten minute sessions, the child is given various tasks to complete using classroom materials. Skill areas on the checklist include: classification, language, memory, logical sequence, concentration, number skills, motor skills, and social emotional skills. Some examples of tasks are: the child is given a variety of attribute blocks and asked to sort them; the child is asked to draw a picture and identify the colors he used. The teacher notes what the child does and how the task is completed. Information from the checklist is used to identify general areas of strength and need.

APPENDIX - C

Lucy

grocery list
in socio-dramatic
play - 9/19/97

H P A

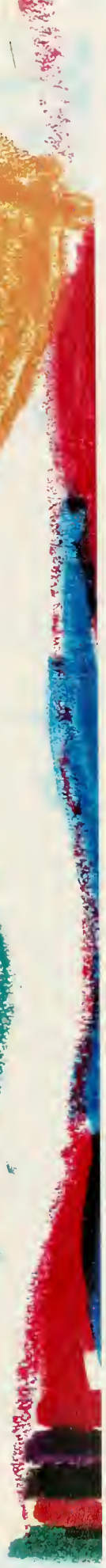
writing via letterlike
forms

Handwriting practice lines with vertical lines and some scribbled marks.



2/10/98

Kuey





AL Ex Tim

DAD

DAD

MOM

KELLI
KELLI

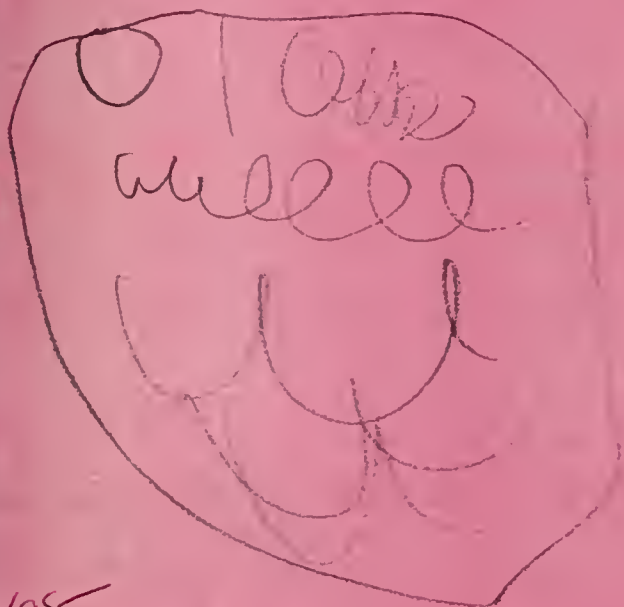
Shannon

C

Sheryl
4/7/98
write down all
the words you
know.

Writing via conventional
orthography

O | O | J L B K O
 O O O (| | |) W



1/23/98

he got an x-ray and
 a cast. (my cast)

Sheryl

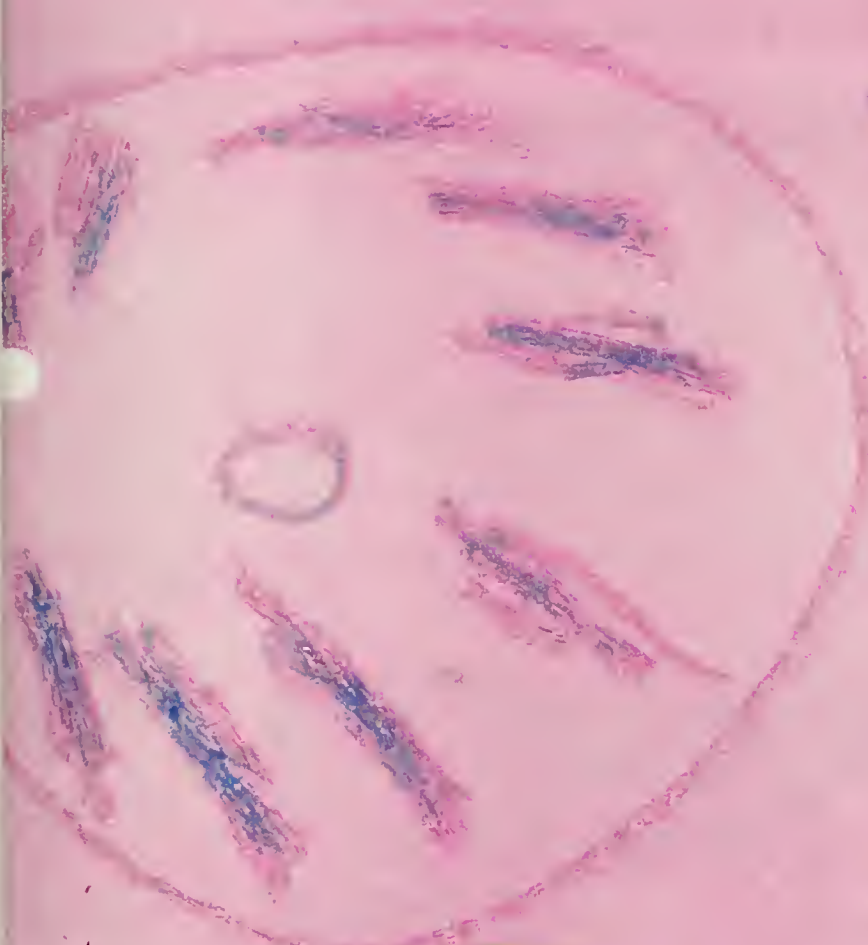
Scribbles and letterlike
 forms

Brett



X X

C
B
R
B
R
A



writing via
well-learned
units

bagel
and
apple juice

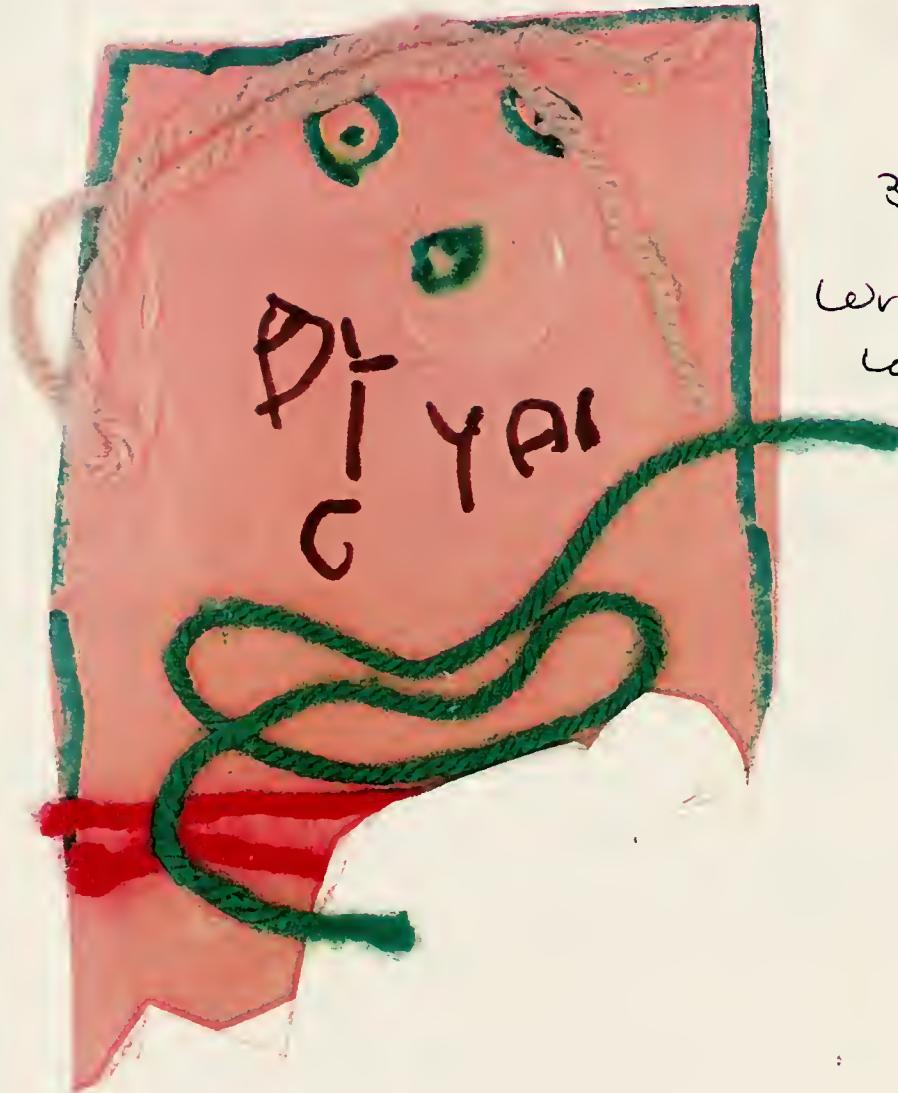


9-24-97

Brett

243

Writing via
scribbling



3/31/98

Writing via
well-learned
units

3/13/98

Bark A

M O M M O L T L O M O M M O M O M

T M O I O O I I A K O

I T N A H H

Brett! (from dictation)

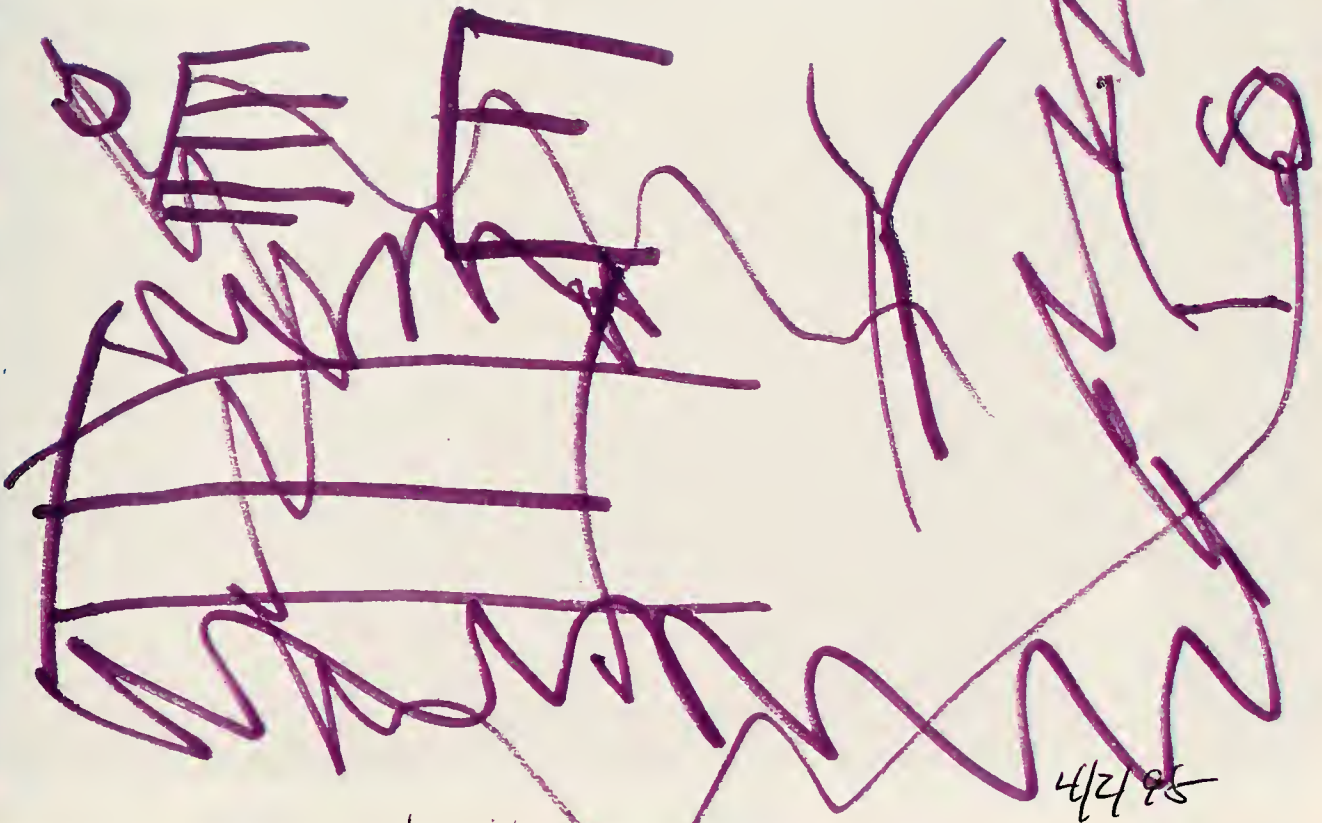
Writing via letterlike forms

B B P Y A T I

E I N A + T O
T P U O

Brett
4/2/98

Once upon a time, "there was
a baby named Cinderella."



4/2/98

Writing via well-learned writs

Tom



X instruments

247

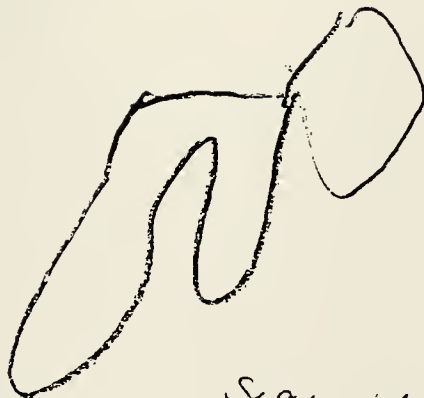
the music table

3/9/78

A treasure map

fossil
allowed

Writing via
well-learned
units



4/23/98

Tom

sign on block
structure

- fossil allowed

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