INCLUSIVE LEARNING ENVIRONMENTS:

AN ANALYSIS OF EARLY INTERVENTION SERVICE OPTIONS

FOR PRESCHOOLERS WITH SPECIAL NEEDS

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Inclusive Learning Environments:

An Analysis of Early Intervention Service Options

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Abstract

Mimi Lilly Heath. INCLUSIVE LEARNING ENVIRONMENTS: AN ANALYSIS OF EARLY INTERVENTION SERVICE OPTIONS FOR PRESCHOOLERS WITH SPECIAL NEEDS. (Under the direction of Dr. Samuel J. Smith)

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In the quest to restructure educational programming toward higher student outcomes for preschoolers with special needs, professional educators are continuously challenged to provide with integrity a free appropriate public education (FAPE) in the least restricted environment (LRE) as mandated by law. This study analyzed the effectiveness of an inclusive programming model for preschoolers with special needs by examining achievement gains in the developmental domains of adaptive, motor, and cognitive skills as assessed by the Battelle Developmental Inventory-Second Edition. Analysis of an inclusive learning environment for six preschoolers with special needs as guided by IEP committee recommendations occurred. In order to analyze progress, the developmental quotient was assessed by juxtaposing pretest and posttest functioning. A paired samples *t* test indicated no significant gains in the performance of preschoolers with special needs receiving services in an inclusive learning environment with respect to adaptive, motor, and cognitive skills. The results of this study indicate that an inclusive learning environment did not facilitate an increase in the progress of preschoolers with special needs. Suggestions for further research are also included.

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Chapter 1: Introduction

Paramount to the development and subsequent implementation of any educational policy within the early childhood framework is the absolute necessity that these policies adhere to the assorted needs of the children participating in the educational system. It is only through the commitment to such a foundation that positive learning environments are developed and true growth occurs. Children's developmental needs, therefore, should become the very heart of any learning structure (Allen & Marotz, 2003).

All children have the right to learn and deserve the best education possible. Educators must be accountable for creating, facilitating, and adapting various instructional experiences when children do not learn. With such impetus being placed upon the needs of learners, recent mandates outlined in special education law become highly significant within the realm of early childhood special education. The 1991 revision of the Individuals with Disabilities Education Act (IDEA) mandates early intervention services for 3- to 5-year-olds with special needs (Hooper & Umansky, 2004).

Central to IDEA is specific wording that formalizes a pervasive educational philosophy of inclusiveness. Inclusion itself demands significantly more than the mere physical presence of children with special needs in a learning environment with typically developing peers. Odom, Peck, Hanson, Beckman, Kaiser, and Lieber (2000) stated "inclusion is the active participation of young children with disabilities and typically developing children in the same classroom . . . and community settings" (p. 1). The overall rationale behind inclusion is to expose children with special needs to typical settings, activities, and peers, thus fostering dynamic interactions between typically developing children and their atypically developing counterparts. Also inherent to the

wording of IDEA is a stalwart promotion of the principle of natural environments. In essence, children with special needs should receive early intervention services in an environment such as a home or daycare setting where they would be naturally learning basic skills if they did not have a special need (Hooper & Umansky, 2004).

Within the concept of *natural environments,* the intervention services themselves basically transpire in an environment set by the child. For all intents and purposes, because of the substantial amount of time that young children generally spend with their respective families, the family becomes a primary setting for early intervention. Family members are generally viewed as the main constant in the life of a young child with special needs. Consequently, a family-guided, activity approach to instruction whereby families work in close partnership with early intervention specialists is adopted. Early interventionists, in conjunction with family members, collaborate to develop learning outcomes that may be easily integrated throughout the day in "naturally occurring play, routines, and activities using the child's interests, favorite toys, and materials" (Hooper & Umansky, 2004, p. 106).

Initiating and implementing learning outcomes within the child's natural environment necessitates significantly more than a mere change in location from specialized environments. With the adoption of the natural environments philosophy comes a careful consideration of specific routines, materials, activities, and individuals common to the targeted child and his or her family so that best opportunities for teaching and learning may be established. In a sense, service providers function in the role of coaches to family members, assisting in the augmentation of confidence and competence necessary to meet the needs of preschoolers with special needs.

Working collaboratively with families to firmly entrench early intervention activities within the ongoing daily activities of the preschooler with special needs and his or her family is indeed of prime importance. When early interventionists utilize natural environments as sources of learning opportunities, a meaningful difference can thereby be made in the life of a young child with special needs. Dunst, Bruder, Trivette, Raab, and McLean (2001) asserted that what is especially appealing about the utilization of natural learning environments is that these sources of a child's opportunities for learning are literally everywhere in a child's family and environment.

When examining the concept of inclusion as it pertains to early childhood special education, one must first actively identify the children with special needs. IDEA defines children with special needs as being those children with mental retardation, hearing impairments, speech or language impairments, visual impairments, serious emotional disturbance, orthopedic impairments, autism spectrum disorders, specific learning disabilities, traumatic brain injury, other health impairments, or multiple disabilities and who, because of these impairments, need special education and related services (Hooper & Umansky, 2004). Any child from birth through 21 years of age who meets the specific criteria for any of these categories outlined by IDEA may be eligible to receive special education services. In addition, under Part C of IDEA, states may also elect to serve both infants and toddlers who present as exhibiting either biological or environmental risks for a particular disability. In accordance with Part B of IDEA, states may also provide special education services for children from 3 years of age who are exhibiting "significant developmental delays as defined by the state using objective measures of physical, cognitive, social-emotional, and adaptive development" (Hooper & Umansky, p. 23). In

accordance with the 1997 Amendments to IDEA, utilization of the "developmental delay" heading may be extended to age 9. The term is frequently used to "encompass a variety of disabilities of infants or young children indicating that they are significantly behind the norm for development in one or more areas such as motor development, cognitive development, or language" (Hallahan & Kauffman, 2006, p. 66).

Sound rationale exists for the provision of early intervention services for children falling under the disability classification of developmentally delayed. The range of variation in development can itself be substantial, even among children of similar chronological age, gender, and ethnic orientation (Wolff, 1981). In some instances, the degree of variation in development is so substantial that subsequent identification of a special need is clear under the IDEA guidelines. Behr and Gallagher (1981), however, embraced the notion of a more flexible definition for those young children who may present as having a special need "not so much as a result of the extent of the developmental variation as of the type of variation" (p. 114). Included within such a flexible definition would be those children:

> who, prior to their third birthday, have a high probability of manifesting, in later childhood, a sensory motor deficit and/or mental handicap which may be the result of a birth defect, disease process, trauma, or environmental conditions present during the prenatal and/or postnatal periods. (Behr & Gallagher, 1981, p. 114)

The prime advantage to the adoption of such a flexible definition for young children with special needs is that "more serious impairments can be prevented by serving a child early" (Hooper & Umansky, 2004, p. 24). It is believed that early provision of services to these children may completely eliminate or, at the very least, substantially reduce the need for services later in childhood.

A basic understanding of typical development is a foundational mainstay when creating an educational environment that is steeped in appropriate instructional practices for the young learner. Such a grasp of typical growth and development provides an overall foundation upon which numerous needs of learners can be thoroughly assessed and thereby subsequently met. This foundational knowledge also yields a basic guideline for the identification of children with an assortment of differences and exceptionalities and will effectively steer the concentrated efforts of early interventionists in successfully addressing the needs of children with atypical developmental characteristics (Allen & Marotz, 2003).

The term *typical development* implies "that a child is growing, changing, and acquiring the broad range of skills characteristic of the majority of children of similar age within the same culture" (Allen & Marotz, 2003, p. 7). The term atypical development, on the other hand, is generally utilized to "describe children with developmental differences, deviations, or marked delays: children whose development appears to be incomplete or inconsistent with typical patterns and sequences" (Allen & Marotz, p. 14). In essence, the child with developmental delays often presents as a much younger child.

At its most rudimentary level, child development involves changes both of a cumulative and systematic nature. According to Schuster (1992), growth—the addition of new components and/or skills—can be distinguished from development—the refinement, improvement, and/or expansion of existing skills. More specifically, three inherent criteria must be met prior to a simple change being deemed as development (Hooper & Umansky, 2004):

1. The change itself must be orderly, not simple indiscriminate behavior fluctuations.
2. A consistent adaptation in behavior must be the direct result of said change.
3. The change must directly correspond to an advanced level of functioning exhibited by the individual.

According to Schuster, it is only when a particular alteration in behavior meets these criteria that true development has occurred.

Development itself may be described either qualitatively or quantitatively. Quite simply, quantitative changes are those that are directly measurable such as height, weight, and activity level. On the other hand, qualitative changes, such as various physiological and psychological processes, are more difficult to measure. Educators must also then further discriminate between the concepts of development and maturation. Similar to development, the concept of maturation deals with the refinement of skills and functions over time. Maturation, however, also refers to the "unfolding of personal characteristics and behavioral phenomena that emerge through the processes of growth and development" (Hooper & Umansky, 2004, p. 41). When examining development within such a framework, it becomes inevitable to acknowledge the notion of individual differences. In essence, children will develop at distinctive rates, thereby creating "variations among individuals" (Hooper & Umansky, p. 41).

A variety of dynamics supplemental to genetic and biological ones contribute to the very creation of the uniqueness of an individual. Temperament, gender roles, and ecological factors are all of key importance in the overall notion of individual differences.

Temperament itself may simply be viewed as an individual's response to daily events and activities. It is a given that young children vary in their "activity levels, alertness, irritability, soothability, restlessness, and willingness to cuddle" (Allen & Marotz, 2003, p. 13). Qualities such as these often lead to specific labels such as the easy or difficult child. Such labels appear to have definite ramifications on the response of others to a particular child. These responses, in turn, may serve to reinforce a given child's self-perceptions.

During the early and highly seminal years of life, each child will discover and learn gender roles appropriate to his or her culture. A child will then develop an array of "behaviors, attitudes, and commitments that are defined, directly or indirectly, as acceptable male or female attributes" (Allen & Marotz, 2003, p. 13). Additionally, a child will carry out these gender roles in conjunction with everyday experiences. Allen and Marotz asserted that each child's "sense of maleness or femaleness will be influenced by playmates and play opportunities, type and amount of television viewing, and especially adult models (parents, neighbors, teachers)" (p. 13).

Ecology, the "environmental influence of family and home, community and society" (Allen & Marotz, 2003, p. 13), affects aspects of development commencing at conception. These extremely compelling ecological factors affecting the notion of individual differences include the following:

1. Income level and adequacy of food and shelter
2. General health and nutrition, more specifically the availability of pre- and postnatal care for the mother and child
3. Parents' educational levels

4. Parents' overall comprehension regarding obligations and responsibilities prior to, and after, the child's birth
5. Established patterns of communication and child-rearing philosophies
6. Amount and degree of family stress
7. Family structure, inclusive of single- or two-parent, extended, or nontraditional

Specific factors such as these contribute to each child being unlike any other.

It is extremely vital to recognize that the notion of individual differences provides the very core upon which one child is juxtaposed to another. The recognition of these individual differences constitutes the basic idea essential to the creation of all standardized, formal educational assessments. A generalized awareness of such individual differences provides the rudimentary structure for identifying typical variations as well as extreme outliers, thereby greatly aiding in the identification of those children with special needs (Hooper & Umansky, 2004). In essence, then, the basic purpose of the normed instrument is twofold: (a) to ascertain what is typical for a specific group and (b) to establish what range of scores would be within that average range so that educators can thereby recognize the outliers.

With respect to overall child development, certain principles are inherent to all individuals. Development progresses in a sequential manner; it is both orderly and systematic. According to Allen and Marotz (2003):

> a sequence of development is comprised of predictable steps along a developmental pathway common to the majority of children. The critical consideration is the order in which children acquire these developmental skills, not their age in months and years. The appropriate sequence in each area of development is an important indication that a child is moving steadily forward along a sound developmental continuum. (p. 9)

Within the field of child development, the term *norm* must be fully clarified. In its most simplistic form, the term signifies “age-level expectancies associated with the achievement of developmental skills” (Allen & Marotz, 2003, p. 11). Careful analysis of the findings of educational investigators who engaged in systematic observation of children of various ages have been compiled to yield the average chronological age “at which many specifically described developmental skills are acquired by most children in a given culture” (Allen & Marotz, p. 11). Hence, such an average age is generally termed the norm. It should be duly noted that age-level expectancies “*always represent a range and never an exact point in time when specific skills will be achieved*” (Allen & Marotz, p. 11). Thus, sequence rather than age is of prime importance when assessing a child’s progress. The range of normalcy is, therefore, quite extensive; typical development often presents with immense variability.

Development proceeds from the simple to the more complex. It is a cumulative process in which each new skill incorporates and builds upon previous ones. Hence, accomplishment in one skill level becomes a prerequisite for success in the next. Rates of development vary among children as well as among specific areas for a particular child. All development is interrelated; development does not generally transpire in discrete areas while completely halting in others. It should be noted that a slower rate of progress may be evident in one area as opposed to another (Hooper & Umansky, 2004).

Development itself is also strongly influenced by both heredity and environmental factors. It is commonly accepted that while a particular child’s heredity or genetic inheritance provides the basic foundation for future learning, environmental factors such as social and/or cultural influences also play a contributing role (Allen & Marotz, 2003).

Simply defined, heredity may be seen as the "totality of characteristics transmitted from the parents to the offspring" (Hooper & Umansky, 2004, p. 43). The French philosopher Jean Jacque Rousseau initiated the belief that a child's growth and development are determined primarily by nature with little emphasis upon the child's surroundings and environmental influences (Smith, 2007). The maturational theory, as touted by Gesell (Allen & Marotz), focuses upon a biological approach to development in which internal forces govern.

The belief that environmental factors are chiefly responsible for the manner in which a child develops has its origins with the British philosopher John Locke. Locke advocated the idea of *tabula rasa,* or "blank slate." Locke proposed that all of a child's experiences aid in filling this blank slate. Basically then, the child is thought to be a passive recipient of information and therefore easily molded by various environmental influences (Smith, 2007). Piaget's cognitive development theory proposes that children create their own knowledge through direct exploration of the environment. Piaget asserted that four stages of cognitive development—sensorimotor, preoperational, concrete, and formal—occur throughout the life of a child.

In the sensorimotor state which lasts from birth to approximately 2 years, simple reflexive behavior yields to intentional behavior and movement. The preoperational state, which lasts from approximately 2 to 7 years, is characterized by thinking in terms of symbols regarding incidences and phenomenon within the immediate environment. The emergence of language, also a form of symbol usage, generally has its origins within this particular stage. Piaget's third state, concrete operational, initiates between 5 and 7 years and is characterized by the development of internal schema to comprehend the immediate

environment. The formal operational stage begins at approximately 12 years of age and continues into adulthood. This stage is characterized by the development of complex thinking skills related to objects and experiences, as well as abstract thoughts and ideas (Piaget, 1952). Skinner (1953) also stressed the importance of the environment. His learning theory postulates that development is a series of learned behaviors formed from an individual's interactions with the environment.

Education of the whole child is indeed a valuable concept. It emphasizes both essential physical and psychological needs that must be met in order for a child to thrive and obtain his or her greatest potential. According to Allen and Marotz (2003), physical and physiological needs are both interrelated and interdependent. A child's physical and psychological needs are as follow:

Physical Needs

1. Satisfactory shelter and protection from harm, violence, and neglect
2. Ample and nutritious food
3. Clothing suitable to both the climate and season
4. Preventive health, dental care, and treatment of physical and mental conditions as warranted
5. Cleanliness
6. Rest and activity

Psychological Needs

1. Affection and consistency
2. Nurturing caregivers who exhibit warmth, caring, and attention to physical needs

3. Caregivers who provide security and trust by responding consistently to the child's needs
4. Reciprocal exchanges between child and caregiver
5. Suitable adult expectations regarding developmental achievements
6. Acknowledgement of varying cultural, ethnic, language, or developmental differences that typify the child and his or her family
7. Access to developmentally appropriate practices
8. Errors and failures are expected and are accepted steps in the overall learning process
9. Adult modeling of expected appropriate behaviors
10. A supportive atmosphere in which a child's actions and efforts are strongly encouraged

When embracing this concept of education of the whole child, professionals must focus upon specific developmental domains in order to best describe and assess a given child's progress. Within the realm of early childhood special education, five key developmental domains are classically considered as being comprehensive.

The first domain, personal and social development, is a rather broad area that encompasses how a child feels about himself or herself and his or her relationships with others. More specifically, this domain embraces a child's "behaviors and responses to play and work activities, attachments to parents and caregivers, and relationships with brothers, sisters, and friends" (Allen & Marotz, 2003, p. 29). Additional basic components of personal and social development skills include "gender roles, independence, morality, trust, and accepting rules and laws" (Allen & Marotz, p. 29).

The second developmental domain, adaptive skills, incorporates those skills directly related to a child's ability to function independently in meeting specific daily needs such as toileting, feeding, and dressing. Common to this specific domain is the coordination of movement with sensory processes inclusive of tactile sensation and vision. Skills in this domain are, to a certain extent, dependent upon gross motor and postural skills that provide the scaffold upon which self-care skills are cultivated.

Communication skills, the third pivotal domain in the education of the whole child, are those basic skills that permit a child to give and receive information. It should be noted that communication itself "includes not only the use of words but also gestures, pictures, facial expressions, and augmentative devices" (Hooper & Umansky, 2004, p. 131).

The fourth developmental domain operates under the heading of motor skills. A child's ability "to move about and control the various body parts is the major function of this domain" (Allen & Marotz, 2003, p. 23). Inherent to motor skills are two subdomains: gross motor and fine motor. In their most simplistic forms, gross motor skills necessitate the utilization of large muscles and movement for walking, running, and jumping, whereas fine motor skills refer to the utilization of small muscles and more refined movements, including grasping, cutting, and writing. It is generally accepted that motor activity during the very early development is purely reflexive; a child develops voluntary motor control with the passage of time and exposure to experiences. According to Allen and Marotz, three basic tenets govern motor development, which include the following:

1. Cephalocaudal: refers to bone and muscular development that proceeds from head to toe. In essence, the child initially learns to control muscles that

support the head and neck, the trunk, and those that allow for reaching. Muscles for walking develop last.

2. Proximodistal: refers to bone and muscular development that initiates with improved control of those muscles in close proximity to the central portion of the body, gradually moving to the extremities.
3. Refinement: refers to overall muscular development that progresses from the general to the more exact in both fine and gross motor activities.

The fifth developmental domain of concern with respect to young learners and education of the whole child is cognitive skills. This particular domain focuses upon the "expansion of a child's intellect or mental abilities" (Allen & Marotz, 2003, p. 27). Essentially, cognition involves "recognizing, processing, and organizing information and then using the information appropriately" (Allen & Marotz, p. 28). Cognitive development is an ongoing, continual process of direct interaction between a child and objects and/or events within his or her identifiable environment.

These early formative years of child development are absolutely critical when considering all that transpires at such a young age: walking, talking, thinking, and socializing. Never again in his or her life will a child be quite so dependent upon the adults in his or her environment (Allen & Marotz, 2003). In recognizing and building upon the plethora of knowledge regarding child growth and development, the initial creation and subsequent implementation of an effective inclusive learning environment, particularly during these highly formative preschool years, does indeed become a daunting task.

Rationale for the Study

Special education is, essentially, specialized instruction based upon individual learner needs. The inclusion of preschoolers with special needs in learning environments with typically developing peers is a relatively recent departure from the more traditional early intervention service delivery models in which educational instruction occurred in isolated environments. Given this relatively new variation, it is not surprising that outcome data within literature is somewhat limited. Much of the available data surrounding the effectiveness of early childhood inclusive environments centers primarily on the more socially oriented outcomes. However, within developmentally appropriate environments, the domains of motor, adaptive, cognitive are also of great interest (Newborg, 2005).

Statement of the Problem

According to the National Network for Child Care (1990), educational leaders agree that there is no one correct method for facilitating appropriate and effective learning. Early childhood professionals, however, have formulated basic guidelines that address both age appropriateness—predictable sequences of growth and change that occur in children in early life—and individual appropriateness—unique growth sequences of each child with his or her own pattern and timing. Hence, it becomes the goal of the learning facilitator to assist in matching a given child with his or her skill level, materials, and experiences so that each child is challenged rather than frustrated. In an effort to better comply with federal mandates regarding the concepts of free appropriate public education (FAPE), No Child Left Behind (NCLB), and least restrictive environment (LRE), the public school system, which participated in this research study,

is implementing an inclusive service delivery model at the preschool age level. In order to establish the effectiveness of this delivery model for preschoolers with special needs, growth in the developmental domains of adaptive, motor, and cognitive skills merits close examination.

Directional Hypotheses

Given that a study conducted by Cole, Mills, Dale, and Jenkins (1991) found that preschoolers with special needs functioning at a higher level exhibited greater gains developmentally overall in inclusive learning environments, several areas to be examined within the context of this research study have emerged. These suppositions include the following directional hypotheses:

1. Preschoolers with special needs who receive instruction in an inclusive learning environment with typically developing peers will make significant gains in the domain of adaptive skills.
2. Preschoolers with special needs who receive instruction in an inclusive learning environment with typically developing peers will make significant gains in the domain of motor skills.
3. Preschoolers with special needs who receive instruction in an inclusive learning environment with typically developing peers will make significant gains in the domain of cognitive skills.

Null Hypotheses

1. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of adaptive skills.

2. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of motor skills.
3. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of cognitive skills.

Definition of Terms

Adaptive skills. Refers to those behaviors that encompass the subdomains of self-care and personal responsibility. The subdomain of personal care includes a series of activities that reposition a child from full dependence on the parent/guardian to a self-sufficient and functional individual. The personal responsibility subdomain involves a child's ability to assume responsibility for his or her own actions and to maneuver safely and productively throughout his or her environment (Newborg, 2005).

Attention and memory. Signifies the subdomain of cognitive skills on the BDI-2, which assesses a child's ability to "visually and auditorily attend to environmental stimuli for varying lengths of time and to retrieve information when given relevant cues" (Newborg, 2005, p. 10).

Autism spectrum disorder. Term inclusive of the conditions of autism, Asperger's Syndrome, Rett Syndrome, childhood disintegrative disorder, or pervasive developmental disorder characterized by difficulties with communication skills, social interactions, and repetitive and stereotyped patterns (Hallahan & Kauffman, 2006).

Battelle Developmental Inventory, Second Edition (BDI-2). "A standardized, individually administered assessment battery" (Newborg, 2005, p. 1) of developmental

skills for use with children from birth to 7 years of age. It effectively measures individual functional abilities in five basic domains: personal-social, adaptive, motor, communication, and cognitive skills (Newborg).

Chronological age. A child's age of existence in terms of years and months (Allen & Marotz, 2003).

Cognitive skills. Refers to conceptual skills and abilities. This domain is comprised of three subdomains: attention and memory, reasoning and academic skills, and perceptions and concepts on the BDI-2 (Newborg, 2005).

Developmental age. A child's level of developmental functioning in terms of years and months (Allen & Marotz, 2003).

Developmental delay. Term utilized to indicate that young children are more than two standard deviations behind the norm in one or more areas of development (Hallahan & Kauffman, 2006).

Developmental milestones. Refers to key markers or points of accomplishment of a child's advancement.

Developmental quotient (DQ). A standard score that represents a child's development with a mean of 100 and a standard deviation of 15 (Newborg, 2005).

Domain. A major area of child development. The BDI-2 includes five domains: personal-social, adaptive, motor, communication, and cognition (Newborg, 2005).

Fine motor skills. Refers to fine muscle control and coordination, particularly in the arms and hands. This classification of skills is a subdomain of motor skills on the BDI-2 (Newborg, 2005).

Gross motor skills. Refers to the "development of large muscle systems utilized in locomotion skills such as walking, running, jumping, and throwing" (Newborg, 2005, p. 19). This classification of skills is a subdomain of motor skills on the BDI-2.

Hearing impairments. Inclusive of the headings deaf and hard of hearing. Whereas deafness is a "hearing disability that precludes effective processing of linguistic information through audition, with or without a hearing aid" (Hallahan & Kauffman, 2006, p. 322), an individual described as hard of hearing is a "person . . . with the use of hearing aid, has residual hearing sufficient to enable successful processing of linguistic information through audition" (Brill, MacNeil, & Newman, 1986, p. 67).

Inclusive learning environment. A learning situation in which a child with special needs actively participates and interacts with typically developing peers.

Learning disability. Refers to a:

> heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction and may occur across the lifespan. Problems in self-regulatory behaviors, social perception, and social interaction may exist but do not by themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions . . . or with extrinsic influences . . . they are not the result of those conditions or influences. (National Joint Committee on Learning Disabilities, 1989, p. 1)

Mental retardation. Term utilized to indicate substantial limitations in intellectual functioning existing concurrently with limitations in two or more adaptive skill areas (American Association on Mental Retardation, 2002).

Motor skills. Denotes a child's ability to use and control large and small muscles of the body. This heading is comprised of three subdomains on the BDI-2: fine, gross, and perceptual motor (Newborg, 2005).

Noninclusive learning environment. A learning environment in which children with atypical characteristics and typically developing peers are separated. Children with special needs are served in self-contained settings.

Orthopedic impairments. Term signifying "defects or diseases of the muscles or bones . . . ability to move is affected" (Hallahan & Kauffman, 2006, p. 474).

Other health impairment. Refers to:

> limited strength, vitality, or alertness as a result of chronic or acute health problems related to a heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, diabetes, or other conditions that adversely affect a child's educational performance. (Hooper & Umansky, 2004, p. 28)

Perception and concepts. Denotes a child's ability to actively interact with the immediate environment as well as his ability to conceptualize and discriminate object features, identify relationships among them, and appropriately respond to them. This classification is a subdomain of cognitive skills on the BDI-2 (Newborg, 2005).

Perceptual motor. Refers to a child's ability to integrate fine motor and perceptual skills. Perceptual motor skills are a subdomain of motor skills on the BDI-2 (Newborg, 2005).

Preschoolers. Those children with a chronological age of 3 to 5 years (Allen & Marotz, 2003).

Reasoning and academic skills. Refers to the:

> critical thinking skills a child needs in order to perceive, identify, and solve problems; analyze and validate components of a situation; identify absent components, contradictions, and inconsistencies; assess and evaluate ideas, processes, and products. These items…measure the scholastic abilities necessary for reading, writing, spelling, enumeration, and mathematics. (Newborg, 2005, p. 19)

Reasoning and academic skills are a sub-domain of cognitive skills on the BDI-2.

Self-care skills. A child's ability to perform tasks associated with daily routines inclusive of eating, dressing, and toileting (Newborg, 2005).

Serious emotional disturbance. Term specifying a "disability characterized by behavior or emotional responses . . . so different from appropriate age, cultural, or ethnic norms that they adversely affect educational performance" (Hallahan & Kauffman, 2006, p. 251).

Speech and language disorders. Term referring to "oral communication that involves abnormal use of the vocal apparatus, is unintelligible, or is so inferior that it draws attention to itself and causes anxiety, feelings of inadequacy, or inappropriate behavior in the speaker" (Hallahan & Kauffman, 2006, p. 540). This heading also encompasses "oral communication that involves a lag in the ability to understand and express ideas, putting linguistic skills behind an individual's development in other areas, such as motor, cognitive, or social development" (Hallahan & Kauffman, 2006, p. 536).

Subdomain. A specific strand of development on the BDI-2 (Newborg, 2005).

Traumatic brain injury. Refers to:

> injury to the brain (not including conditions present at birth, birth trauma, or degenerative diseases or conditions) resulting in total or partial disability or psychosocial maladjustment that affects educational performance; may affect cognition, language, memory, attention, reasoning, abstract thinking, judgment, problem solving, sensory or perceptual and motor disabilities, psychosocial behavior, physical functions, information processing, or speech. (Hallahan & Kauffman, 2006, p. 541)

Visual disturbances. Refers to both blindness and low vision. The term blindness refers to an impairment so significant that the affected individual must employ Braille or other aural methods such as audiotapes. Low vision signifies an individual who has "difficulty accomplishing visual tasks, even with prescribed corrective lenses, but whose

ability to accomplish these tasks with the use of compensatory visual strategies, low vision or other devices, and environmental modifications" (Corn & Koenig, 1996, p. 4) is augmented.

Major Assumptions of the Study

For purposes of this study, several assumptions regarding overall research design have been made. Perhaps first and foremost is that the Battelle Developmental Inventory, Second Edition (BDI-2) is considered to be a valid and reliable assessment device. The BDI-2 is a "standardized, individually administered assessment battery of developmental skills in children from birth through age seven" (Newborg, 2005, p. 1). With the utilization of the BDI-2, data is collected through a structured test format; interviews with parents, guardians, and/or other professionals; and direct observations of the child. These data sources provide a more complete evaluation of a given child's functional abilities and are consistent with mandates for a multifaceted assessment. Due to nationwide standardization, the BDI-2 provides normative data that may function as a basis upon which eligibility and placement decisions may be made. Each item on the BDI-2 may be administered to children having various special needs by utilizing modifications devised and provided for this purpose. The behavioral content and sequence of the developmental milestones represented on the BDI-2 are compatible with the content and organization of typical preschool curricula. Hence, this compatibility facilitates the connection of assessment results and instructional interventions.

A second assumption underlying this study is that the early childhood educator providing instruction in the inclusive learning environment does so in a qualified and competent manner. With such impetus being placed upon the needs of learners, all

professional educators involved will utilize developmentally appropriate practices, which may be defined as “learning experiences that are individualized based on a child’s level of skills, abilities, and interest” (Allen & Marotz, 2003, p. 5). In order to better meet the needs of the learners, educators will employ a variety of instructional strategies and techniques that will address visual, auditory, tactile, and kinesthetic learning styles. Activities will be presented in a rotating manner in order to better hold the attention of the young learners.

Chapter 2: Review of the Literature

Special Education

History

The field of special education has grown tremendously since its earliest inception and subsequent implementation. With the magnanimous goal of structuring educational programs to better augment outcomes for students with special needs, educators are charged with providing learners with a FAPE in the LRE (Crockett, 2000). Hence, to better create both effective and viable learning structures within the special education framework, a basic understanding regarding its guiding principles is paramount.

It is a given that all persons are unique individuals. With such individuality inherent to the basic compositional framework of society, one would think that such uniqueness in a formal learning environment would long have been recognized and accepted. Such is not the case. According to Hallahan and Kauffman (2006), “there have always been exceptional learners, but there have not always been special education services to address those needs” (p. 23).

Throughout the prerevolutionary years, society generally provided care in the form of asylums for children with special needs. It was not until the idea of democracy spread through both America and France that there was a significant alteration in this attitude. It was then that reformers and educators rallied around the belief that individuals with special needs should be taught specific skills designed to increase their level of autonomy (Hallahan & Kauffman, 2006).

The roots of special education may be traced to the early 1800s. It was during this time that both viable and effective methods were formulated for instructing those learners

with significant sensory impairments such as deafness or blindness. Systematic attempts in the delivery of instruction for those individuals deemed mentally retarded were also initiated (Winzer, 1993).

A considerable number of special education pioneers were European physicians (Kanner, 1964). According to Hallahan and Kauffman (2006), Jean-Marc-Gespard Itard, a French physician and authority on the education of learners who were deaf, “is the person to whom most historians trace the beginning of special education as we know it today” (p. 24). It was Itard who attempted to educate Victor, a 12-year-old boy found roaming the woods of France. While Itard (1962) did not completely eradicate all of Victor’s unique needs, he did manage to substantially impact Victor’s behavior through the employment of consistent educational procedures. Procedures employed by Itard that formulate the basic framework for current special education include (a) individualized instruction in which a child’s particular needs dictate the teaching techniques utilized, (b) a fastidiously sequenced series of learning tasks ranging from the simple to the more complex, (c) an emphasis on a child’s appropriate responsiveness to assorted stimuli, (d) careful arrangement of a child’s learning environment, (e) consistent provision of reinforcement for desirable behaviors, (f) direct instruction and tutoring in functional life skills in order to better foster self-sufficiency, and (g) adherence to the notion that every child can improve and should therefore be educated to the greatest extent possible (Hallahan & Kauffman).Coupled with compulsory school laws, the relative maturation of the field of general education itself soon convinced educational professionals that a significant number of learners would benefit from supplementary classroom experiences. Elizabeth Farrell, a New York City educator, was highly instrumental in the development

of special education as a profession. Farrell and her colleagues attempted to utilize knowledge concerning child development, social work, mental assessment, and varied instructional strategies in order to better meet the needs of learners who did not fit the mold of typical classrooms. In 1922, Farrell and an assortment of colleagues founded the Council for Exceptional Children (CEC), still the chief professional organization for special educators today (Hallahan & Kauffman, 2006).

Legislation

Legislation has played a dominant role in the realm of special education. A substantial amount of the progress pertaining to meeting the requirements of learners with special needs may be credited to various laws mandating that states and localities include such learners in the public education arena. The federal government's first truly committed response to special education was the establishment of Gallaudet College for the Deaf in Washington, DC, in 1864. However, it was not until 1930 that the federal government "directly addressed the issue of special education" (Hooper & Umansky, 2004, p. 5) through the creation of a Section on Exceptional Children and Youth in the Office of Education of the Department of Health, Education, and Welfare.

Prior to the 1960s, the role of the federal government in the realm of special education was somewhat narrow in scope. A transformation began in 1965 with the passage of the Elementary and Secondary Education Act (ESEA) that (a) made funds available to schools whereby children aged 3 to 21 years who were educationally disadvantaged and/or disabled could be better aided, (b) created the Bureau of Education for the Handicapped, and (c) funded research to augment appropriate and viable special education services (Hooper & Umansky, 2004).

With the passage of the Education for All Handicapped Children Act of 1975 (P.L. 94-142), a federal milestone was created. Contained within P.L. 94-142 are mandates addressing issues regarding children with special needs. According to Kirk and Gallagher (1983), some of the stipulations of P.L. 94-142 include the following:

1. Public educational agencies must pledge that all children for whom special education and related services are required must be identified and evaluated.
2. Parents/guardians of children with special needs have assorted procedural safeguards in place designed to protect the rights of each child in receiving a FAPE. These safeguards include the rights of parents/guardians to:
    a. Examine a child's educational records
    b. Obtain an independent and unbiased evaluation of a child
    c. Receive a written notification prior to the onset of the special education process
    d. Request a hearing before an impartial official in the event of a discrepancy regarding placement and/or other program pronouncements.
3. Child must receive a comprehensive multidisciplinary appraisal. Intellectual, social, and cultural information must be documented in this appraisal which is to be completed every 3 years.
4. An individualized education plan (IEP) must be written annually for each child participating in special education. Educational personnel and parents/guardians must collaborate on the creation of the IEP.

5. An individualized education plan (IEP) must be written annually for each child participating in special education. Educational personnel and parents/guardians must collaborate on the creation of the IEP.
6. To the maximum extent possible, children with special needs should participate in learning environments with typically developing peers.

With the passage of P.L. 99-457 in 1986, the federal government further solidified its commitment to young children with special needs. Inherent to P.L. 99-457 are 16 components inclusive of (a) a comprehensive definition of the term developmentally delayed to be utilized by a state, (b) a timetable for appropriate service availability to all eligible children, (c) a thorough multidisciplinary assessment to better evaluate the specific needs of a child, (d) the development of an individualized family service plan (IFSP), (e) a widespread child find and referral system, (f) a concentrated public awareness agenda, (g) a central directory of services and experts, (h) a systematic structure of personnel development, (i) a single authority in a lead agency as selected by the governor, (j) a policy dealing with local service providers, (k) a procedure for appropriate reimbursement of funds, (l) a system of procedural safeguards, (m) established policies regarding personnel standards, (n) a data compilation system, (o) a state interagency coordinating council, and (p) established policies to ensure that early intervention services are provided in a natural environment to the maximum extent possible (Hooper & Umansky, 2004).

The Education for All Handicapped Children Act (1975) was amended in 1990 to become the Individuals with Disabilities Education Act (IDEA). It was reauthorized in 2004 as the Individuals with Disabilities Education Improvement Act (IDEIA). Several

basic characteristics intrinsic to IDEA/IDEIA consist of identification, FAPE—every child with a special need has the right to an appropriate public education at no monetary cost to the parent/guardian, LRE—every child with a special need is to be educated in the least restrictive environment consistent with his specific needs and as much as possible with typically developing peers, development of an IEP, adherence to a code of confidentiality, provision of a nondiscriminatory evaluation—each child is to be assessed in all areas of a suspected special need in a manner not biased by his language or culture, and due process (Hallahan & Kauffman, 2006).

Early Intervention Services

The belief that the earlier a special need is identified and appropriate services initiated shares a correspondence with higher learner outcomes is widely accepted by educational professionals. Hallahan and Kauffman (2006) provided specific rationale for justification indicative of early intervention services. Perhaps first and foremost is the notion that a child's early learning forms the very agenda upon which all later learning builds. In essence, the earlier appropriate early intervention services are activated, the greater the likelihood that a child will personally experience a higher proficiency level with respect to more complex skills. It is also generally accepted by educational professionals that active participation in intense early intervention programs may aid in alleviating additional problems and/or issues for the child with special needs and his or her family. A third rationale of extreme merit is that early intervention itself may provide necessary support for a particular family unit as they adjust to having a child with special needs by offering recommendations of supplementary support services inclusive of counseling, medical assistance, and/or parenting skills. Thus, early childhood special

education emphasizes intervention—activities designed to yield progress in the mastery of specific developmental goals for children with special needs. Such intervention is itself founded upon the premise that it is indeed both plausible and desirable to assist a child in maneuvering through a particular developmental sequence at a quicker pace than would transpire without the intervention. Children with special needs, therefore, are systematically taught functional skills that enable them to adapt and be competent in the environment (Carta, Schwartz, Atwater, & McConnell, 1991).

The very foundation upon which early intervention services are grounded is that of developmental theory. While merit may be directed towards assorted early intervention programs, it is quite logical to assume that specific models of early intervention program models may ascribe to varying developmental theories. Given this pivotal role that developmental theory plays in early intervention, several of the more prevalent perspectives necessitate further clarification.

The first intervention model is that of the developmental. Within such programming, a child's biological disposition and maturation are paramount. Such models have their roots in the theories of Piaget and Dewey. The belief that development transpires along a natural pathway intrinsic to a child is a defining principle (Hallahan & Kauffman, 2006). With such a defining principle comes the notion that a child will be internally motivated to explore environmental stimuli. Hence, children learn most effectively through direct manipulation and hands-on experience with the environment. In a sense, the term discovery learning in which children function as their own teachers in an environment created to foster intensive exploration is promoted (Bowe, 1995).

Behavioral program models advocate the structured principles of behavioral psychology as a central tenet. Such models deemphasize the internal forces of a child and instead rely heavily on the concepts of reinforcement, shaping, and modeling to cement targeted behaviors. In its most basic form, behavioral theory relies greatly on the principles of reward and punishment. More specifically, if a child is rewarded for a given behavior, the child is more likely to engage in the behavior again. Conversely, the application of some type of negative connotation to a particular behavior diminishes the likelihood that the behavior will be repeated. Programs guided by behavioral theory tend to heavily accentuate the direct instruction of specific target skills (Hallahan & Kauffman, 2006).

The third perspective necessitating further scrutiny is that of the contextual. This particular model underscores the role of the environment in determining the development of a child. Through his ecological model, Urie Bronfenbrenner (1986) asserted that a child, his or her family unit, community, and society as a whole may be viewed as concentric circles that impact a child's development. Vygotsky's theory emphasized social context in the "acquisition of domestic, vocational, and communication skills that increase a child's self-sufficiency and independence in daily life" (Hooper & Umansky, 2004, p. 173). Early intervention models adhering to such a contextual model stress the need for strong, highly supportive social networks for the family of a child with special needs.

It is a given that while there are indeed variations among the three main early intervention perspectives, there is also a pervading sense of similarity. All of the intervention models are firmly entrenched in the basic belief that a child is an active,

competent, and decidedly social creature. Accordingly, a child's developmental outcome is the result of biological constituents, the environment, and all transactions among them (Hooper & Umansky, 2006).

Recommended Practices for Early Intervention

In order to facilitate excellence in any program implementation, it is indeed advisable to have established standards of practice. The acceptance of such recommended practices presents a benchmark whereby overall program quality may be measured. Currently, no such firmly established standards of practice for early intervention programs exist other than those specified by IDEA. However, several proposed standards that are believed to be consistent with appropriate practice have been suggested by assorted state educational agencies. Carta, Schwartz, Atwater, and McConnell (1991) and Hooper and Umansky (2004) advocated that best practices in early intervention include the following:

1. A span of services that vary in intensity based upon the unique needs of the learner
2. Individualized instructional plans comprised of specific goals and objectives as determined by careful analysis of learner strengths and weaknesses
3. A transdisciplinary assessment procedure appropriately scheduled in order to adequately monitor learner progress
4. Utilization of instructional approaches that are effective, efficient, and functional
5. Utilization of instructional approaches that actively engage learners with special needs and their families

6. Flexible, accessible, and responsive early intervention services to meet identified areas of concern
7. Provision of early intervention services in accordance with the normalization principle—preschoolers with special needs should have "access to services that are provided in as normal a fashion and environment as possible and that promote the integration of the child and family within the community" (Hooper & Umansky, 2004, p. 179)
8. Incorporation of multiple agencies and disciplines in both planning and service delivery
9. Presence of parent/guardians at all decision-making opportunities

The Early Interventionist

By virtue of necessity, the educational professional working with preschoolers with special needs may function in an assortment of positions: educator, social worker, psychologist, counselor, and/or public relations official. Coupled with the simple fact that such a professional may work in a variety of settings—a public school classroom, a center-based program under the jurisdiction of a nonschool agency, a clinical setting, or in a consultative capacity—with a population with whom limited persons have valid experience, the early interventionist may also serve as a resource for the parent, for colleagues, and for community agency personnel.

In an attempt to provide a basic framework for the ultimate preparation of educational professionals for such a unique and diverse population as young learners with special needs, the Division of Early Childhood (DEC) of the Council for Exceptional Children in collaboration with the Association of Teacher Educators and the National

Association for the Education of Young Children (*Personnel Standards for Early Education and Early Intervention,* 1984) specified minimum competencies with respect to the early interventionist. The competent and effective early interventionist is one who (a) is knowledgeable about information pertaining to child development; (b) adheres to a specific theoretical intervention model and can justify this approach when questioned; (c) supports and responds to children with special needs while promoting their ultimate independence; (d) adapts swiftly to new and challenging situations; (e) administers and interprets assessment instruments; (f) evaluates individual learner success routinely and systematically; (g) utilizes an assortment of available resources in order to better understand and thereby meet the unique needs of the atypically developing learner; and (h) encourages, facilitates, and accepts input related to instructional development and modification from qualified sources.

Continuum of Services

A laudable goal pertaining to special education is the location of the most productive setting, both physical and instructional, in which maximum assistance towards the realization of individual potential is offered. Current special education law mandates placement of each child with a special need in the LRE. Extreme care should be taken, however, in the application of the LRE concept in placement decisions. Interventions simply must be consistent with individual needs. According to Cruickshank (1977), a greater restriction of the physical environment does not necessarily denote a greater restriction of psychological freedom or human potential.

Given the notion that the LRE must correlate highly with individual need, there is a continuum of service options within the special education arena. These service options

range in both degree and specialization provided and gradation of separation from that experienced by typically developing peers.

The first placement option is both the least specialized and separate. In such a placement, the child with special needs requires no direct services from special educators; the general education teacher is acutely cognizant of learner needs and is successfully able to address these needs through utilization of appropriate materials, equipment, and instructional methodology within the general education environment.

In the second placement option on the continuum of services, the general education teacher may require consultation with a special educator who provides guidance regarding instructional and/or other additional supports. Little direct contact may transpire between the learners with special needs and the special educator. Rather, the special educator provides support to the general education teacher.

With the third service option, special education services may be provided through collaborative instruction services to the student with special needs and/or the general education teacher. An offshoot of this service delivery model is that of cooperative teaching (coteaching) and supportive instruction. The concept of coteaching according to Fennick (2001) necessitates that both mutuality and reciprocity characteristic of collaborative consultation are taken one step further. In its most simplistic form, coteaching means two or more professional educators deliver substantive instruction to a diverse or blended group of students in one physical space. In essence, the special education teacher may provide direct services to learners individually and/or in small groups. Additionally, it is the responsibility of the special education teacher to offer specific proposals pertaining to both instructional strategies and materials; the general

education teacher must then implement these suggestions within the daily curriculum. Supportive instruction signifies that a special education paraprofessional provides assistance for the learner with special needs in the general education environment.

When enrolled in a resource program, students with special needs receive instruction in a general education environment with typically developing peers of a portion of the school day. Direct services are provided by a special education teacher "for a length of time and at a frequency determined by the nature and severity of their particular problems" (Hallahan & Kauffman, 2006, p. 15). Direct services by the special education teacher for the student with special needs may occur individually or in small groups in an alternate classroom.

The fifth service alternative on the continuum of services involves a special, self-contained class in which learners with particular characteristics are enrolled. In such a placement, the special education teacher provides the majority of the daily instruction.

Special day schools provide assistance for learners with special needs who require a concentrated level of service. Learners remain at the day school for an alloted time and return to their individual homes during all noninstructional hours.

The seventh placement alternative is termed hospital or homebound instruction. In this particular placement option, a student with special needs is generally confined to either the hospital or home for a specific period of time. Continual contact is maintained by the hospital/homebound instructor with the general education teacher.

The eighth placement alternative on the continuum of services is that of a residential school. By its very nature, this particular option operates under the highest level of specialization mandated by federal law. In addition to concentration of academic

instruction, learners with special needs experience a controlled management of their daily life environment (see Appendix A).

As evidenced by the many variations attributed to the prescribed options on the continuum of services, placement in special education varies significantly. Kauffman and Hallahan (2005) stated that “the degree to which education is special is itself a continuum” (p. 16).

Special Education and Inclusion

Prior to 1975, placement options for children with special needs were dependent upon a disability category: children with intellectual disabilities attended a school for those so classified; children with visual impairments attended elsewhere. The intent of the LRE requirements of the Education for All Handicapped Children Act (EAHCA) was to halt such a nonindividualized approach to placement. Weintraub (Crocket & Kauffman, 1999) offered the assertion that a majority of EAHCA creators believed that the rather generalistic and categorical disability label did not define service delivery. A decision was therefore made to follow an individualized approach to placement dependent on a set of procedures as opposed to a certain outcome. Hence, the issue of effective educational opportunity for each child with a special need was addressed.

Ed Martin, Director of the Bureau for the Education of the Handicapped when the law and its regulations were written, asserted that while the concept of LRE was a significant component of IDEA, the most important component was that of a free appropriate education (Crockett & Kauffman, 1999). Not every child with a special need should be educated in a classroom with typically developing peers. Appropriate placement is based upon the individual IEP under the law. Hence, the intent was never all

children, just those for whom it was appropriate (Crockett & Kauffman, 1999). Burgdorff (1980) further offered the assertion that the law provides a framework with accompanying guidelines within which professional educators can utilize discretion in choosing an educational program and placement designed to meet the essentials of each student with special needs.

To better aid in all placement decisions, several elements intrinsic to the idea of LRE itself should be considered. Perhaps first and foremost is that the determination of the LRE is based upon the individual needs of the learner. While concentrated efforts are a necessity in maintaining learners with special needs in general education classrooms, no district is legally required to place a child with special needs in a general education environment prior to the recommendation of an alternate placement being made. Each school district must provide a complete continuum of alternative placements in order to meet the needs of each learner with special needs. When best placement is determined to be separate programs, learners with special needs are to be included in typical educational environments to the maximum extent *appropriate to their individual needs* (Crockett, 2000).

Essentially, in formulating the original EAHCA in 1975, legislative persons found the general education classroom to be the desired setting, but foresaw that instruction would transpire in a variety of environments in order to meet individual learner needs. Thus, the IEP requires written rationale and justification when placement alternative to general education classrooms is selected.

Early Childhood Special Education and Inclusion

With such lofty charges pertaining to overall learner outcomes governing the special education arena, it seems only logical that early intervention services are indeed vital to the field. The inclusion of preschool-age children with special needs in learning environments with typically developing peers is a relatively recent occurrence that has gained momentum since the 1990s (Odom, 2000). This movement from the more traditional and segregated special education programs is supported by recent data indicating that over 50% of all preschool children with special needs are currently receiving intervention services in some type of inclusive learning environment (U.S. Department of Education, 1998).

Rationale regarding justification for preschool-inclusive learning environments has centered primarily on several basic dimensions. From a legal perspective, federal law mandates that children with special needs be presented with educational services in the LRE. Etscheidt (2006) asserted that the term LRE, as it pertains to preschoolers, decrees that to the maximum extent appropriate, children with special needs—inclusive of those individuals attending public or private care facilities—should be educated with typically developing peers. Etscheidt also firmly stated that service delivery models other than those occurring in the general education environment should transpire only when the nature or severity of the special need is so extreme that the child cannot achieve academically with the use of supplementary aides and/or services. From a moral and philosophical perspective, it is felt that children with special needs should not be separated from typically developing peers because segregation itself is anti-ethical to basic human rights. Placement in inclusive learning environments is believed to be highly

conducive to the development of meaningful integrations comprehensive of physical—actual presence in learning environments with age-appropriate typically developing peers, functional—active participation with resources concurrently with typically developing peers, and social integration. According to Grenot-Scheyer, Coots, and Falvey (1989), such assimilations will ultimately result in full societal integration for all individuals. More specifically, it is felt that preschoolers with special needs actively participating in inclusive learning environment exhibit behaviors demonstrating augmentation of self-initiations in social situations (Esposito & Peach, 1983), more complex language and/or communication skills (Guralnick, 1978), increased opportunities for skill generalization (Templeman, Fredericks, & Udell, 1989), and decreased instances of inappropriate play behavior (Guralnick, 1981).

It is also argued that educating preschool children with special needs with typically developing peers has important benefits for the typically developing child as well. Careful observation of typically developing preschoolers is paramount in both the identification and validation of age-appropriate activities (York & Vandercook, 1991). Typically developing peers experiencing interactions with preschoolers with special needs also demonstrate behaviors indicative of an increased understanding of, sensitivity to, and tolerance for, individual differences (Demchak & Drinkwater, 1992).

In perusing the notion of successful inclusion, one must carefully examine several basic components. Foremost is the idea that children with special needs participating in inclusive learning environments must achieve individual outcomes/goals as stated on the IFSP or IEP. Current findings indicate that young children with special needs can exhibit

at least as much developmental progress in inclusive programs as in noninclusive programs (Odom, Schwartz, & ECRII Investigators, 2002).

Additionally, with respect to inclusion, children with special needs must exhibit progress in their overall individual development and in the attainment of both the knowledge and skills inherent to the general education curriculum. By definition, then, an integral component to the term inclusion itself is that children with special needs must be physically present in the same learning environment as their typically developing peers. Quite obviously, the general curriculum for young children is most often available in the early childhood setting that children with typical development attend and less likely to be readily available in self-contained settings (Cross, Traub, Hutter-Pishgahi, & Shelton, 2004).

Thirdly, young children with special needs require the opportunity to interact with typically developing peers in order to view representative patterns of social interactions. If the expectation is present that children with special needs will learn from, interact with, and form relationships with typically developing peers, it only makes sense that children with special needs must physically be in contact with typically developing peers for a significant portion of the day (Odom, 2000). Hanson, Wolfberg, Zercher, Morgan, Guiterroz, and Bainwell (1998) further charged that young children with special needs in self-contained classrooms do not experience the scope of child-to-child relationships that are a necessity in order for true learning to occur.

To further understand the concept of preschool inclusion, several basic premises underlying the concept itself should be closely examined. Perhaps most significant is the idea that preschoolers with special needs participating in inclusive learning environments

engage in social interactions with peers less frequently than typically developing children in inclusive classrooms. Essentially, preschoolers with special needs are at a much higher risk for peer rejection than their typically developing counterparts (Odom, 2000). To combat this, effective intervention strategies must be employed by the adults within the specific learning environment. Preschoolers with special needs must, therefore, be consciously and actively integrated socially into the inclusive learning environment. According to Guralnick (1999), this social integration is achieved when typically developing peers relate to preschoolers with special needs in a manner that is conducive to the maintenance of equivalent quality of interpersonal relationships as those experienced by contemporaries without special needs. Essentially, when a preschooler with special needs enrolls in an inclusive learning environment, educational personnel should determine the child's level of social competence and integration and thereby establish realistic goals, expectations, and learning opportunities.

Inclusion during the preschool years has been particularly advocated with regard to social competence. Typically developing preschool-aged children have generally not formulated negative connotations regarding persons with special needs, thereby reducing the possibility of teasing and rejection for learners with special needs. It has been suggested that if the experiences of typically developing preschoolers in an inclusive learning environment are positive, these experiences will foster the development of positive attitudes towards persons with special needs, both during preschool and subsequent years. Conversely, negative experiences in inclusive preschool learning environments may lead to the formation of prejudices regarding persons with special needs (Diamond, 2001). Additionally, early placement of children with special needs in

environments with typically developing peers aids in developing the precedent among both parents and professional educators that such an inclusive environment is indeed the desired model and perhaps enhances the ability of the preschooler with special needs to function appropriately in typical environments outside the formalized school setting (Holahan & Costenbader, 2000).

School systems are more likely to serve preschoolers with mild disabilities in inclusive learning environments as opposed to those preschoolers with more severe needs. While this may perhaps be attributed in part to the comfort levels of both parents/guardians and educators, it may also stem from the LRE and the notion of appropriateness. Studies have indicated that the level of functioning exhibited by a child with special needs may play a substantial role in both the amount and degree of social interaction with typically developing peers. Typically developing preschoolers have been found to interact socially more with matching counterparts or with those preschoolers who exhibit a mild special need than with less proficient peers. Holahan and Costenbader (2000) also determined that those preschoolers with more pronounced special needs tended to interact equally with all peers.

In keeping with the idea of LRE and individual placement appropriateness, the overall degree of special need present must be carefully examined. According to Cole, Mills, Dale, and Jenkins (1991), preschoolers with special needs functioning at a higher level exhibited greater gains developmentally in inclusive learning environments, while those children functioning less proficiently exhibited greater gains in specialized classrooms. Results from a study conducted by Holahan and Costenbader (2000) indicated that children functioning at lower levels in both social and emotional skills

progressed at comparable rates in both inclusive and noninclusive learning environments, while those children functioning at higher levels showed more gains in inclusive rather than noninclusive settings. Hundert, Mahoney, Munchy, and Vernon (1998) found that preschoolers with more severe special needs demonstrated increased gains in communication skills in inclusive learning environments as opposed to segregated ones. These seemingly conflicting reports only serve to solidify the premise that one type of placement is not appropriate for all learners. The individual needs of the learner with special needs must not be sacrificed simply to promote a particular service delivery model.

At the very least, individualized instructional techniques and curricula must be employed in inclusive learning environments. Specialized instruction is indeed a necessary component of a successful inclusive preschool program model. Instruction may be either naturalistic—in that it blends in with activities and daily routines occurring in the classroom—or specialized (Odom, 2000). Bricker (2000) made the assertion that actively involving typically developing preschoolers in a learning environment with preschoolers with special needs provides the atypically developing preschooler with relevant and appropriate models for acquiring new skills and information. Diamond (2001) further expounded on the concepts of instructional techniques and curricula as it pertains to an inclusive learning environment by stating that such carefully employed components, coupled with carefully structured groupings of typically and atypically developing preschoolers, may provide rich opportunities for learners to become more comfortable with and accepting of all their classmates.

Guralnick (1990) firmly claimed that the contemporary issue is not whether preschool inclusion is feasible and should be strongly encouraged, but rather how professionals can design and implement programming to best maximize its effectiveness. According to Fewell and Oelwein (1990), the overall effectiveness of inclusive learning environments with respect to developmental outcomes and skill acquisition for both typically and atypically developing preschoolers is determined more by the curriculum employed and the quality of instruction rather than the class composition itself.

Assessment of Young Children

According to Greenspan and Meisels (1996), assessment itself is a:

> process designed to deepen understanding of a child's competencies and resources, and of the care giving and learning environments most likely to help a child make fullest use of his or her developmental potential. Assessment should be an ongoing, collaborative process of systematic observation and analysis. This process involves formulating questions, gathering information, sharing observations, and making interpretations in order to form new questions. (p. 11)

From a purely educational perspective, Thurlow and Ysseldyke (1979) further clarified the term as being a process of data collection for the ultimate purpose of decision making.

The assessment process for young children with special needs has been greatly impacted by legal mandates indicative of the past decades. More explicitly, the Education for all Handicapped Children Act (P.L. 99-457), later renamed the Individuals with Disabilities Education Act (IDEA, P.L. 102-119, 1998), and the reauthorized version of IDEA have yielded crucial guidelines for identification, assessment, and treatment options for young children with special needs. Additionally, the Division for Early Childhood (Neisworth & Bagnato, 2000) has advocated essential practices for assessment:

1. Professional and families must collaborate in both the planning and implementation of the assessment.
2. The assessment itself is individualized and fitting for both the child and his or her family.
3. The assessment must impart useful information for possible intervention services.
4. Professionals must share information garnered from the assessment in respectful and beneficial manners.
5. Professionals must successfully converge both procedural and legal requirements.

In correlation with these position statements, Neisworth and Bagnato (1996) advocated four assessment standards inclusive of treatment utility, social validity, convergent assessment, and consensual validity.

In its most basic form, treatment utility "refers to the usefulness of the score and its findings for intervention planning" (Hooper & Umansky, 2004, p. 123). Social validity refers to the "perceived value, acceptability, and appropriateness of the assessment" (Hooper & Umanksy, p. 123). In other words, care should be taken to limit the value assigned to the performance of a task representative of isolated skills. Rather, attention should be geared towards determining whether the assessment task relates to activities within the child's daily routine. Hooper and Umansky stated that " in tandem with the legal mandate that treatment planning not be based on a single assessment procedure, convergent assessment is critical to synthesize information collected from multiple sources and situations using a variety of methods" (p. 124). The resultant information

garnered from multiple data sources imparts a highly comprehensive view of a particular child's relative strengths and weaknesses. The remaining standard, consensual validity, simply refers to the active collaboration of all team members to create an effective assessment plan.

Specific to early childhood intervention are four dynamic assessment stages that offer both formative and summative information throughout service delivery. Inclusive of these four stages are (a) early identification, (b) comprehensive evaluation, (c) program planning and implementation, and (d) program evaluation (Hooper & Umanksy, 2004).

With respect to identification, a pervasive objective in early childhood intervention is the early identification of children who may qualify for special education services. Early identification is itself mandated by IDEA and is generally under the jurisdiction of the public school. Child Find and Screening are integral components of the early identification process.

In accordance with federal mandates, early intervention programs must conduct coordinated and comprehensive actions designed to identify children with special needs as early as possible (Harbin, McWilliam, & Gallagher, 2000). Simply put, Child Find refers to the "systematic methods used to locate young children who may qualify for early childhood services" (Hooper & Umansky, 2004, p.126). It is a communitywide endeavor from numerous agencies with direct contact and/or access to young children. A prime function of Child Find is to augment public awareness in a concentrated effort to identify children who may qualify for early intervention services.

The second component of the early identification stage is that of screening. Child find itself is designed to locate young children to undergo a formal screening process to

"determine their need for a more comprehensive evaluation" (Hooper & Umansky, 2004, p. 126). Ireton (1992) further noted that "the term screening technically refers to the process of selecting for further study those high-risk individuals whose apparent problems might require special attention or intervention" (p. 487). Screening may be either mass or selective. In mass screening, a specific program attempts to screen each child in a prespecified population, thereby augmenting the likelihood that all children with a special need will be identified. In selective screening, only children comprising a specific high-risk group—with an identified chronic illness from poverty-stricken areas or at predetermined developmental points in time—are targeted.

Upon entrance to the second stage of assessment, the overriding purpose shifts from early identification of possible special needs to the determination of whether or not a significant delay truly exists. Given the uniqueness of a child, the central purpose of a comprehensive evaluation can be divergent: a delay may be documented, a specific disability may be diagnosed, or eligibility for early intervention services may be determined. Such a comprehensive evaluation serves as the foundation for phase three, program planning and implementation. It is with data garnered from such a comprehensive evaluation that specific placement options for a child with special needs may be discussed. Relevant IEP goals will also be created from this information.

In stage four, program evaluation, "assessment procedures that measure the progress of the child and the effectiveness of the intervention plan or program are utilized" (Hooper & Umansky, 2004, p. 133). Hence, the ultimate goal of this particular stage is to "reassess the current developmental levels of a child, to monitor progress related to developmental goals established by the team and family members for the IEP

or IFSP, and to determine the need for adjustments and modifications in the child's intervention program" (Hooper & Umansky, p. 133). (See Appendix B).

Assessment Team Typologies

As mandated by IDEA, the preferred means for obtained assessment data for young children with special needs is one that actively involves multiple disciplines in conjunction with the family. Given the complex nature of the assorted needs exhibited by atypically developing learners, it is widely accepted that such a team approach to data obtainment yields a more comprehensive composite of information to be analyzed in order to most effectively address educational planning. Currently, three adaptations of the team process are in existence: multidisciplinary, interdisciplinary, and transdisciplinary (Hooper & Umansky, 2004).

The multidisciplinary team has its origins in the medical profession. With this particular approach, the number of team members may be preset or selected to specifically address the issues presented by the referral source. Regardless of team composition, each professional on the team has a clearly defined role with exclusive areas of responsibility. The assessment itself occurs independently with each discipline and team member providing feedback to the parents or referral source. Hence, one professional does not necessarily confer with other team members regarding his findings (Hooper & Umansky, 2004).

When compared with the multidisciplinary approach, certain similarities are evident in the interdisciplinary team. Perhaps the most obvious parallel between the two approaches deals with the number and type of professionals involved. Team members on an interdisciplinary team may also persist in conducting individual evaluations. A notable

difference, however, between the two approaches is the proliferation of ongoing communication and ultimate development of a more integrated plan by interdisciplinary team members (Hooper & Umansky, 2004).

A third variant of the assessment team model is the transdisciplinary. When utilizing this particular model, team members "meet regularly, share assessment and intervention responsibilities, and always include families as part of the team" (Hooper & Umansky, 2004, p. 134). A specific assessment approach frequently associated with this type of team is an arena assessment. Utilizing this data-gathering approach, a team of professionals observes the targeted child in some manner of interaction with a selected professional. The other professionals then observe and assist in varied ways (e.g., coaching, taking notes). The underlying premise behind such an assessment approach is that numerous tasks of the testing situation will, in fact, overlap or elicit similar behaviors. Basically, when a transdisciplinary approach is used, professionals "do not have to re-administer the same type of item, which should save time, minimize the effects of practice, and preserve the child's stamina for other tasks" (Hooper & Umansky, p. 135).

Assessment Typologies

In order to obtain a more thorough and comprehensive view of a young child with special needs, it is paramount to select a multidimensional assessment approach that employs multiple measures, gathers information from diverse sources, and examines several developmental and/or behavioral domains. Neisworth and Bagnato (1988) established an organizational typology of assessment procedures in order to assist early childhood professionals in the appropriate selection of evaluative instruments and tools.

This typology of measures as outlined by Neisworth and Bagnato (1988) includes norm-referenced, curriculum-based, process, ecological, and interactive measures.

In normative data collection, one of the most frequently used strategies in early childhood assessment, the chief prominence is on how one child compares with another child of a similar chronological age. This type of data collection yields quantitative information regarding a specific child's overall level of functioning such as developmental quotients and IQs (Hooper & Umansky, 2004).

A criterion-referenced assessment, on the other hand, tends to focus upon specific skills a targeted child can successfully demonstrate rather than generating a comparison to peers. Curriculum-based assessment is perhaps one of the most representative evaluative strategies for the criterion-referenced approach. Essentially, curriculum-based assessment "identifies skills, tasks, and behaviors that are important within a particular curriculum" (Hooper & Umansky, 2004, p. 137).

Process-oriented data-gathering strategies center on how a child interacts with both the examiner(s) and the environment. With this particular type of assessment, the targeted child is exposed to a specific task; the child's performance regarding this learning task is then carefully observed and documented (Hooper & Umansky, 2004).

Observational data are crucial components of all assessment processes. In truth, numerous tests and procedures available for early childhood assessment may perhaps be viewed as "little more than structure methods for collecting data on a youngster" (Hooper & Umansky, 2004, p. 139). With this rather simplistic generalization in mind, Benner (1992) advocated a continuum of data-gathering strategies utilizing observational techniques.

On one end of Benner's (1992) continuum is the notion of natural observation. Naturalistic observational strategies necessitate that information be collected in the targeted child's natural environment under routine circumstances. As described by Neisworth and Bagnato (1988), interactive and ecological modes of assessment may be situated on this end of the continuum under the classification of natural observation. In interactive types of measures, the "reciprocity between and compatibility of a child and caregiver(s) is examined" (Hooper & Umansky, 2004, p. 139). Dimensions of these interactions frequently explored include the reading of and response to partner cues, the altering and managing of identifiable behaviors, and the ability to initiate and sustain interactions. Ecological assessment techniques strive to carefully examine factors within a child's life that may be a contributing dynamic in individual developmental status, thereby providing a more comprehensive profile of identified strengths and weaknesses. A child's ecological context may include "the family, home, and classroom characteristics such as room layout, materials, available opportunities for stimulation, peer interaction, social responsibility, discipline, and social support" (Hooper & Umansky, p. 139).

Individualized Education Plan and the IEP Committee

In accordance with federal mandates, every learner with a special need must have an individualized education plan (IEP) that delineates and incorporates the educational programming process itself. Essentially, the IEP outlines exactly what educational professionals propose to do in order to meet the needs of atypically developing learners. Patton, Beirne-Smith, and Payne (1990) and Hallahan and Kauffman (2006) designated specific components characteristic of IEPs inclusive of the following: (a) present levels of

performance (PLOPs) determined by information garnered throughout the assessment process; (b) measurable goals and objectives that present an unmistakable direction for both instruction and continual evaluation of learner progress; (c) assessment status encompassing relevant objectives paired with instruction geared specifically towards acquisition as determined by reliable and valid evaluation devices; (d) statement outlining all special education and related services necessitated; and (e) statement describing the extent of an atypically developing learner's participation in the general education environment. The extent of this learner participation may differ depending upon the nature and degree of special need present, (f) time frame for the initiation and duration of service delivery, and (g) a means of progress reporting.

The creation of an appropriate and effective IEP signifies a "compliance with the spirit and letter of IDEA" (Hallahan & Kauffman, 2006, p. 31). Bateman and Linden (1998) further reiterated such compliance by stating that when an IEP is created as intended by the law, certain characteristics are evident. These characteristics include the following: (a) the needs of the atypically developing learner have been carefully evaluated; (b) a program of education to meet effectively the needs of the learner has been engineered by a panel of professionals in direct conjunction with the parents/guardians; and (c) goals and objectives contained within the IEP are plainly stated in order to insure ease of progress monitoring.

The task of creating a comprehensive and appropriate educational program falls within the jurisdiction of an interdisciplinary team. As mandated by federal law, the responsibility of this team consists of making eligibility and placement decisions as well as formulating and executing IEPs. Justification regarding the utilization of an

interdisciplinary team/committee stems from the belief that atypically developing learners have an assortment of special needs varying in scope and severity. It is generally accepted that these assorted special needs can best be met through “input from people with a broad range of training, experience, skills, insights, and perspectives” (Patton et al., 1990, p. 326). The unique needs of an atypically developing learner determine the ultimate composition of a particular team; educators—both general and special, psychologists, school administrators, parents, healthcare providers, social workers, and therapists may serve on an IEP committee.

Early Childhood Education Versus Early Childhood Special Education

With an increasing concentration of children with special needs participating in general education environments, professionals must continually strive to identify and refine strategies conducive to effective learning within such an inclusive setting. These efforts mandate the synthesis of standard practices from two distinct yet related fields: Early Childhood Education (ECE) and Early Childhood Special Education (ECSE).

The ECE’s chronicles cover more than a century. Attempts to distinguish accepted best practices can be traced to the early 1900s (Bredekamp & Rosegrant, 1992). The National Association for the Education of Young Children (NAEYC) has outlined practices that mirror the overriding philosophy of ECE. According to Bredekamp (1993), the first set of standards adopted by NAEYC in 1984 “included only one criterion specifically addressing children with special needs” (p. 258). The standard itself stated that “Modifications are made in the environment for children with special needs” (NAEYC, 1984, p. 11). With the presence of only one standard in the 1984 guidelines, it may be assumed that most ECE programs simply did not serve children with special

needs. NAEYC's outline of its position standards initially originated with the publication of a handbook discussing developmentally appropriate practice (DAP) in program models encompassing children from birth to age 8 (Bredekamp, 1987). NAEYC's document was underscored by the guiding principle that learning environments as well as instructional strategies and practices should be developed and implemented based on what is expected of children of assorted ages and stages; adaptations should be made for the vast variety of differences inherent to individual children. According to Bredekamp (1993), NAEYC "reflects a constructivist, interactive approach to learning and teaching, strongly influenced by Piagetian theory, emphasizing play and active, child-initiated learning" (p. 259). It should be noted, however, that DAP defines cognitive development as a highly interactive process between the child, physical environment, and social environment. Hence, the misconception that in DAP classrooms teachers do not teach and children dominate the classroom is negated. NAEYC's position may perhaps be better clarified by stating that exclusive utilization of teacher-directed instruction is not appropriate due to the simple fact that it diminishes prospects for meaningful social integration with peers (Bricker, 1978).

ECSE, on the other hand, has a much briefer saga. The compensatory education movement of the mid-1960s, coupled with the Handicapped Children's Early Education Act of 1968, served to formulate the basic foundation of ECSE. P.L. 94-142, passed in the mid-1970s, and further solidified the requirement for states to initiate service provision for preschool-age children with special needs (McLean & Odom, 1993).

ECSE services have increased tremendously over the last three decades. The Division for Early Childhood of the Council for Exceptional Children (DEC) originated

in 1973. In an effort to provide assistance to both educational professionals and families of young children with special needs, DEC "established a task force to identify practices that would reflect quality in ECSE programs" (McLean & Odom, 1993, p. 275).

When juxtaposing ECE and ECSE, it is a given that diversity exists between the two fields. Bredekamp (1993) asserted that generalizations labeling early childhood educators as being developmentalists while early childhood special educators are behaviorists have long been accepted. With careful comparison of ECE and ECSE, however, a variety of themes central to both distinct yet related fields may be acknowledged. These themes convey similarities characteristic of the two fields. McLean and Odom (1993) designated these themes as being "the inclusion of children with special needs in ECE programs, family involvement, assessment, individualized education plans and individualized family service plans, curriculum and intervention strategies, service delivery models, and transition" (p. 275).

In discussing the inclusion of children with special needs in early childhood programs, attention must be directed to the concept of individually appropriate practice. ECSE is required by federal law to "systematically plan, implement, and evaluate programs for the individual child" (Bredekamp, 1993, p. 260). Hence, a strong emphasis upon individual, developmental appropriateness exists. According to Bredekamp (1993), while ECE recognizes and greatly values the individual child, it is to a lesser degree than ECSE. The primary focus on age appropriateness as opposed to individual appropriateness may perhaps be better understood given the nature of the clientele that is served within the ECE environment. Traditionally, formalized learning environments have grouped children according to prescribed and pre-determined chronological ages.

Thus, educators have predicted children's needs based on what has simply been age appropriate.

With respect to family involvement, both ECE and ECSE recognize and strongly value such an occurrence. There does, however, appear to be somewhat of a divergence regarding emphasis. More specifically, family centeredness and family/child advocacy permeate the ECSE arena, while the field of ECE displays a somewhat constricted analysis geared more towards communication between families and professional educators. While partnerships with parents/guardians have long been a staple of ECE, as children are perceived to be less at risk, less vulnerable, or chronologically older, the emphasis on family involvement sharply declines (Bredekamp, 1993). While it is a given that perhaps a greater degree of family involvement is necessitated by the presence of a child with special needs, ECE should perhaps continue to strive towards the provision of more comprehensive family-centered services and support (Kagan, 1989).

Regarding assessment, both ECE and ECSE strongly recommend that assessment procedures utilized with young children must result in some manner of benefit for the learner such as better tailoring of the educational program to more effectively meet the specific needs of a particular child. According to McLean and Odom (1993), assessment should yield information that is (a) specific to instructional planning, (b) in conjunction with the identification of children with special needs, and (c) for utilization in overall program evaluation and accountability. Furthermore, both ECE and ECSE advocate the usage of assessment procedures on an ongoing basis not limited to a solitary contrived evaluation situation. It is widely accepted that ongoing informal observations across time

and settings in correlation with a more traditional formal standardized assessment may yield information that is perhaps more accurate and thereby more useful.

According to McLean and Odom (1993), the individualization of educational plans for young learners is a tenet reflected in both ECE and ECSE. Within the ECE realm, teachers plan the curricular activities of their respective programs based upon the individual skills, abilities, interests, and unique needs of the children participating in that program. Rosegrant and Bredekamp (1992) affirmed that as the specified curriculum is actively implemented, educators "continually assess the needs and interests of children in relation to curriculum goals and adapt the curriculum and instructional strategies to be more responsive" (p. 71). Characteristic of this process is the role of the educator as the primary planner.

Within the field of ECSE, specificity in planning is mandated by law (P.L. 94-142 and P.L. 99-457) in the form of IFSPs or IEPs. Rather than a solitary primary planner, teams of individuals inclusive of an assortment of relevant professionals and family members create the individualized plans (IFSPs or IEPs) that reflect the processes and decisions reached by the team in a collaborative agreement.

Innate to both ECE and ECSE are specific characteristics related to curriculum and intervention strategies. The most prevalent similarities deal with the development of curricular strategies that recognize and accommodate a wide array of individual differences, make provisions for positive relationships with families, recognize and validate cultural diversity, and actively engage children in appropriate learning. There does appear, however, to be a variance in emphasis between ECE and ECSE with respect to curriculum strategies. McLean and Odom (1993) claimed that there is a greater focus

in ECE upon children's thinking processes as a foundation upon which specific curriculum is developed. In the field of ECSE, performance of skills such as those skills outlined in the developmental domains presented on the BDI-2 is paramount.

When examining service delivery models, ECE and ECSE are related, yet somewhat diverse. ECE focuses primarily upon the provision of services in a center-based, home child care, or public school environment. It is generally accepted that service provision in such a setting will both effectively and appropriately address the requirements of typically developing learners. Given that the requirements of atypically developing children may be wider in scope, service provision settings have been extended to include clinic-based and medical care units (McWilliam & Strain, 1993).

The final theme central to both ECE and ECSE is that of transition. Transition, as defined by Chandler (1992), is a term used to convey the movement of children across programs or service delivery models. Bredekamp (1987) strongly advocated specific elements designed to ease the transition process for young learners: (a) follow DAP across varying levels of educational settings, (b) maintain effective communication and cooperation among staff, (c) adequately prepare learners for the transition, and (d) actively involve parents/guardians in the transition.

Head Start and the High/Scope Curriculum

Curriculum development is indeed a highly dynamic procedure necessitating a firm adherence to a particular educational philosophy, extensive wisdom pertaining to human growth and development, and realistic experiences with young children. Grounded in the very philosophy of Jean Piaget (1970), the High/Scope preschool

curriculum utilized by the participating school system's Head Start program is guided by several curriculum principles.

Perhaps first and foremost is the concept of active learning. According to Hohmann and Weikart (2002), the term itself signifies "having direct and immediate experiences and deriving meaning from them through reflection—young children construct knowledge that helps them make sense of their world" (p. 5). The notion of *personal initiative* is highly reflective of a child's innate desire to explore his or her environment. To better ensure the overall effectiveness of this active learning, environments exhibiting developmentally appropriate learning opportunities are indeed central to the High/Score curriculum. Such opportunities are themselves indicative of several underlying and fundamental assumptions: (a) children develop unique and individual potentials in sequences that are both predictable and established, (b) each child presents as having unique characteristics upon which individual learning transpires, and (c) there exists a distinct and appropriate time wherein certain specific skills are learned more effectively. Given these basic suppositions, the term developmentally appropriate may be further clarified to include the tenets of challenging a learner's abilities and potentials at a given developmental level, encouraging a learner in the development of his distinct interests and/or goals, and presenting learning opportunities via a time frame through which learners are successfully able to master, generalize, and retain what has been learned (Hohmann & Weikart, 2002).

Certain characteristics are natural to the concept of active learning. The first deals with a child's direct manipulation of objects and materials. Such concrete interactions serve to augment a learner's ability to formulate and comprehend more abstract concepts.

Flavel (1963) claimed, “children perform real actions on materials which form the learning base” (p. 50). These direct manipulations of objects and materials in order to produce assorted effects will in turn foster a child’s personal interpretation of these said effects. In essence, then, analytical reflection is initiated. The third characteristic driving active learning within the early childhood Head Start classroom is a child’s intrinsic sense of motivation whereby assorted problem-solving skills are cultivated and utilized (Hohmann & Weikart, 2002).

The High/Scope preschool curriculum itself is specifically intended for children functioning at what Piaget (1970) termed the preoperational stage of development. While in this particular stage, a child interacts with varied environmental stimuli in order to construct his concept of reality. Also prominent in the High/Scope curriculum is the work of John Dewey. Given that Dewey’s view of learning can be defined as “an active change in patterns of thinking brought about by experimental problem-solving, the primary goal of any formal educational program should be to support a child’s innate interactions with the environment” (Kohlberg & Mayer, 1972, p. 455).

The second guiding principle of the High/Scope curriculum is that of adult-child interaction. With the accepted notion that a child learns most effectively through his or her own experiences and discoveries, the role of the adult within the High/Score curriculum is to serve as a supporter of such endeavors. In essence, the adult must carefully observe and interact with each child in order to determine how he or she thinks. The adult’s supportive role within the High/Scope curriculum involves the (a) organization of environments and routines for active learning; (b) the establishment of opportunities for positive social interactions; (c) the reinforcement of an individual

child's direct action, problem solving, and personal reflections; (d) the careful observation and subsequent interpretation of each child's actions; and (e) the planning of experiences that address each child's particular actions and interests (Hohman & Weikart, 2002). According to Piaget (as cited in Banet, 1976):

> in our view, the role of the teacher remains essential but very difficult to gauge: it consists essentially in arousing the child's curiosity and in stimulating the child's research. It accomplishes this by encouraging the child to set his own problems, and not by thrusting problems upon the child or dictating solutions. Above all, the adult must continually find fresh ways to stimulate the child's activity and be prepared to vary his approach as the child raises new questions or imagines new solutions. In particular, when these solutions are false or incomplete, the role of teacher will consist primarily in devising counter examples on control experiments so that each child will be able to correct his own errors and find fresh solutions through direct actions. (p. 7)

In keeping with this philosophy, Dewey (1933) proposed that "[the educator's] problem is to protect the spirit of inquiry, to keep it from becoming blasé from over excitement, wooden from routine, fossilized through dogmatic instruction, or dissipated by random exercise upon trivial things" (p. 34).

A third guiding principle of the High/Scope curriculum deals with the learning environment itself. Because the physical environment is highly influential upon both child and adult behavior, the High/Score curriculum heavily emphasizes the tangible layout of the classroom. Hohmann and Weikart (2002) contended that the physical space should be organized in a way so that a child has as many prospects for active learning as possible. The duo also recommends that a child have as much jurisdiction over his environment as possible. In essence, the learning classroom should be inviting to children and divided into well-defined areas of interest (e.g., block, housekeeping, art) that should accommodate practical considerations such as visibility and ease of movement as well as the changing interests of the children.

The fourth guiding principle of the High/Score curriculum pertains to the daily routine itself. To better facilitate active learning by its young constituents, the High/Scope daily routine employs the plan-to-do process in which children "express their intentions, carry them out, and reflect on what they have done" (Hohmann & Weikart, 2002, p. 7). This plan-work-recall sequence is paramount to the High/Scope curriculum in that emphasis is placed upon a child's articulation of his intentions as well as reflections of his unique actions. Such occurrences serve to cultivate a child's sense of himself or herself as a skilled thinker, decision maker, and problem solver. The plan-to-do process is characterized by three key elements that aid in the development of a child's self-confidence and independence: planning time, work time, and recall time.

The concept of planning may perhaps best be seen as the thought process whereby intrinsic aspirations determine individual action. The High/Score curriculum's strong emphasis on planning is founded upon Erikson's (1950) stage of "initiative versus guilt." It is during this time period that preschoolers have the desire to act upon assorted ideas. When the child is able to engage in such desired actions, a sense of initiative is firmly entrenched in his developing schema. When the child's attempts to act upon his personal interests and desires are stifled, he or she tends to feel extremely guilty about even making the attempt. Dewey (1968) asserted that the occurrence of a desire and impulse is an occasion that demands the formation of both a plan and a method of activity. According to Jordan (1976), "children who grow up having no experience in setting their own objectives and pursuing the steps required to achieve them never become full independent, responsible, and self-reliant human beings" (p. 294).

Work time is the portion of the High/Scope curriculum during which a child actively implements his stated intentions from the planning phase. Hence, a purposeful series of actions in which initial thoughts are transformed into concrete actions is begun. Such actions, as well as being purposeful, are playful. Dewey (1933) proposed that "to be playful and serious at the same time is possible and it defines the ideal mental condition" (p. 286). A rather simplistic overview of work time yields several basic characteristics: (a) children are actively instrumental in the development, modification, alteration, and completion of personalized plans; (b) children engage in active play in an assortment of social situations; (c) children participate in varied typed of play (e.g. solitary, parallel, associative, and cooperative); and (d) children engage in conversations with both peers and adults (Hohmann & Weikart, 2002).

Recall time is the time during which children reflect upon what has occurred during the work phase. Essentially, young learners participate in an enthusiastic story-telling process by which memory is assembled. By engaging in such a story-telling process, a mental picture of personal experience is formulated. Schank (1990) stated that:

> we need to tell someone else a story that describes our experiences because the process of creating the story also creates the memory structure that will contain the gist of the story for the rest of our lives. Talking is remembering. (p. 15)

By reflecting upon their own actions, young learners are beginning to reason more abstractly.

While a relatively abundant amount of material comparing the developmental progress of children with special needs enrolled in inclusive learning environments to typically developing peers is available for review, limited material juxtaposing developing achievement of children with special needs in inclusive versus noninclusive

preschool learning environments exists. Additionally, those studies that are available for review tend to focus upon the more socially oriented domains such as communication and personal–social skills (Holahan & Costenbader, 2000). The goal of this study is to examine gains achieved in the developmental domains of motor, adaptive, and cognitive skills of learners with special needs in inclusive learning environments.

Chapter 3: Methodology

Design for the Study

This particular study adhered to a quasi-experimental design in which random assignment of intact groups to a specific treatment was involved. For purposes of this study, one grouping of preschoolers with special needs participating in an inclusive learning environment was analyzed in conjunction with achievement gains in the developmental domains of adaptive, motor, and cognitive skills.

Directional Hypotheses

With respect to recent program alterations in the participating public school system regarding an inclusive learning environment at the preschool level, several areas to be examined within the context of this research study have emerged:

1. Preschoolers with special needs who receive instruction in an inclusive learning environment with typically developing peers will make significant gains in the domain of adaptive skills.
2. Preschoolers with special needs who receive instruction in an inclusive learning environment with typically developing peers will make significant gains in the domain of motor skills.
3. Preschoolers with special needs who receive instruction in an inclusive learning environment with typically developing peers will make significant gains in the domain of cognitive skills.

Null Hypotheses

1. There will be no significant achievement gains in the domain of adaptive skills for preschoolers with special needs who receive instruction in an inclusive learning environment.
2. There will be no significant achievement gains in the domain of motor skills for preschoolers with special needs who receive instruction in an inclusive learning environment.
3. There will be no significant achievement gains in the domain of cognitive skills for preschoolers with special needs who receive instruction in an inclusive learning environment.

Participants

The sample for this study was selected from the total population of approximately 200 preschool students served at a local Head Start and/or Early Intervention Program in a public school setting. Approximately 23% of this population was African American, 67% Caucasian, 7.5% Hispanic, and 2.5% were classified as other. Of this total population, 66% of students qualified for free lunch; 9% qualified for reduced lunch; and 25% were ineligible for free or reduced lunch. From this initial populace, a sample population of 10 preschoolers identified as having some type of special need and found eligible for early intervention services in the public school setting through an eligibility and IEP meeting was identified. In accordance with the 1997 Amendments to IDEA, the IEP committee was comprised of the child's parents/guardians, a special education teacher, a general education teacher where appropriate, an educational professional to interpret the educational implications of the evaluation results, and other individuals as

warranted, more specifically professionals in the fields of occupational therapy, physical therapy, speech-language therapy, nursing, and/or social work. Of this number, four received all services in a noninclusive learning environment. The remaining six students received at least 2 hours daily instruction in an inclusive learning environment. For purposes of this study, focus was directed towards those six preschoolers with special needs attending an inclusive learning environment.

Instruments

The Battelle Developmental Inventory, Second Edition (BDI-2) is a "standardized, individually administered assessment battery" (Newborg, 2005, p. 1) of crucial developmental skills in children ages birth through 7 years. The complete BDI-2 is comprised of key developmental skills classified into five basic domains inclusive of personal-social, adaptive, communication, motor, and cognition. The complete BDI-2 battery (approximately 450 assessment items) is presented in a standard format that specifies the developmental milestone to be assessed, materials required, the procedures for administration of each test item, and the objective criteria for scoring each individual response.

Inherent to the BDI-2 are certain specific features. Perhaps first and foremost are those dealing with data collection. The BDI-2 test format itself is highly structured; interviews with parents/guardians, caregivers, and/or educational professionals are also vital BDI-2 components; and opportunities for observations of a given child in natural settings are also an integral part of the BDI-2. The utilization of such varied and multiple data sources is conducive to a more thorough and ecological evaluation of a child's

functional abilities. In addition, the use of such multiple data sources is consistent with legislative mandates that decree a multidimensional assessment (Newborg, 2005).

The standardization of BDI-2 assessment items is centered upon a nationally representative sample of 2,500 children ages birth through 7 years, 11 months. This sample corresponds to percentages of age, gender, ethnicity, geographic region, and socioeconomic levels as specified by the U.S. Census Bureau. Such normative data serves to form a solid scaffold upon which eligibility and placement decisions can dependably be made and to establish the reliability of individual scores as a true measure of initial learner level and subsequent progress (Newborg, 2005).

In addition to its high level of comprehensiveness, the BDI-2 has the desired characteristic of strong applicability across an assortment of situations. Prior to its release for assessment purposes, bias reviews for all test questions were conducted with respect to gender, ethnic, cultural, religious, regional, and socioeconomic issues. Additionally, all test items were stringently reviewed to ensure that they could be administered to children with special needs with the utilization of specific accommodations. Hence, the identification of children with special needs to provide assistance in determining eligibility and subsequent placement decisions is fundamental to the BDI-2. The BDI-2 is therefore useful in the development of an individual education plan (IEP) when appropriate. In addition, the assessment of the typically developing child with respect to designation of strengths and weaknesses is also possible (Newborg, 2005).

The content of assessment items and the very sequence of developmental milestones presented in the BDI-2 are themselves “directly compatible with both the content and organization of infant, preschool, and early primary program curricula and

reflect current early childhood and Head Start standards" (Newborg, 2005, p. 2). Such compatibility assists in the translation of specific evaluative results into appropriate learning activities in an assortment of settings and/or environments.

Given the incorporation of such a multifaceted approach to data accumulation inclusive of structured administration by a number of trained professionals, observation of a child in natural settings, and the utilization of personal interviews with parents, and/or other professionals, the BDI-2 has six standard applications. These applications include (a) the identification of the developmental strengths and weaknesses of typically developing children, (b) the identification of developmental strengths and opportunities for learning for children with special needs, (c) the assessment of children believed to be at risk in any developmental area, (d) the general screening of preschool-age and kindergarten children, (e) an arena assessment and creation of either an individualized family service plan (IFSP) or an individualized education program (IEP), and (f) the unbiased monitoring of learner progress on either a short- or long-term basis (Newborg, 2005).

With respect to assessment of the typically developing child, the BDI-2 aids in the identification of relative strengths and weaknesses. The BDI-2 itself yields a longitudinal account of development for the totality of the critical early childhood years. Hence, the transition of a given child among assorted professionals inclusive of medical personnel, preschool educators, and Head Start staff is greatly facilitated. Given the nature of the BDI-2 itself—an assessment of skills in multiple domains—it is plausible to obtain a rather broad record of development for a given child (Newborg, 2005).

With respect to the creation and subsequent implementation of specific programming, the widespread behavioral content, item sequence, and range of skill areas included on the BDI-2 augment its conduciveness in the development of either IFSPs or IEPs. Additionally, targeted instructional activities directly corresponding to goals and objectives outlined in the IFSP or IEP may be easily created through usage of the BDI-2. Specific assessment bases that are characteristic of the BDI-2 include those that are norm referenced, curriculum referenced, and criterion referenced (Newborg, 2005).

Simply put, norm-referenced instruments are those assessment tools that juxtapose the performance of a particular child with other children of a similar chronological age (Ary, Jacobs, & Sorenson., 2006). The true purpose of any normed instrument is to identify what is typical for a specific and similar group. A span of scores indicating what is acceptable within this average range is then determined. By doing so, the presence of outliers can be identified. The BDI-2 provides specific information regarding a given child's relative position when compared with peers of the identical chronological age. Such properties of the BDI-2 are a necessity when decisions concerning either significance of the delay or eligibility of services are questionable.

Mercer and Mercer (2002) decreed that curriculum-referenced assessment incorporates any methodology that employs unequivocal observation and recording of a student's performance in the school curriculum as the root for obtaining information to formulate instructional decisions. Jones (1998) provided further clarification by stating that curriculum-based assessments may include rudiments of criterion-referenced tests and informal tests. Like informal tests, curriculum-based evaluations are centered on the content of the district, or state-adopted, curriculum. Similar to criterion-referenced tests,

curriculum-based evaluations are rooted in pre-kindergarten through 12th grade skills hierarchies—scope and sequence—embedded in the district- or state-adopted curriculum. In essence, the subdomains inherent of the BDI-2 become the very curriculum to which learners are exposed.

Criterion-referenced assessments juxtapose a particular child's performance to a fixed criterion in order to ascertain whether a specific task has been mastered or a given stage of development realized (Ary et al., 2006). Quite simply, criterion-referenced assessments focus upon a task analysis of a particular skill and/or concept. Individual progress in skill mastery is then thoroughly examined.

Within each of the five basic developmental domains on the BDI-2 (personal-social, adaptive, motor, communication, and cognition), test items are further assimilated into subdomains in order to facilitate evaluation in specific skill areas. Subdomain items are sequenced by appointing each item to a specific age level based upon the scores of children in the norming sample. This was accomplished by placing specific items in the age level at which approximately 75% of participating children obtained full credit for the test item (Newborg, 2005). (See Appendices C-H).

The personal-social domain of the BDI-2 is comprised of 100 items that assess those abilities and characteristics that assist children in actively participating in substantial social interactions. The three subdomains include (a) adult interaction—the overall quality and frequency of a child's interactions with adults, (b) peer interaction—quality and frequency of a given child's interactions with children of a comparable chronological age, and (c) self-concept and social role quality of a child's self-awareness and personal knowledge in addition to the ability to handle a variety of situations in an

effective manner. It should be noted that self-concept and social role are examined throughout the entirety of the BDI-2. Evaluation of adult interaction begins at birth, whereas assessment of peer interaction initiates at the chronological age of 2 years (Newborg, 2005).

The BDI-2 adaptive domain is comprised of 60 evaluative items that explore a child's ability to assimilate and effectively utilize information assessed in the other domains. The two subdomains include (a) self-care—child's overall ability to successfully perform tasks associated with daily routines with an increasing degree of autonomy. Specific attention is directed towards the areas of eating with particular emphasis on proficiency in eating and drinking and manipulation of utensils, dressing with emphasis on a child's competence in don/doffing as well as fastening/unfastening articles of clothing, and toileting with prominence directed towards the child's overall ability to establish bladder and bowel control and meet both sleeping and bathing needs; and (b) personal responsibility—ability of a child to assume dependability in the areas of initiation of appropriate activities, completion of specified tasks, and avoidance of common dangers. Self-care items are carefully scrutinized from birth to age 6; personal responsibility tasks are examined from age 2 to 8 years (Newborg, 2005).

The motor domain on the BDI-2 is comprised of 100 items designed to appraise a child's ability to utilize and control both large and small muscles. The three subdomains include (a) gross motor—capacity to initiate and maintain control over large muscles used for locomotion and/or coordination purposes, (b) fine motor—capability of a child's level of muscle control and coordination in the small muscles in the arms and hands, and (c) perceptual motor—the ability of a child to fuse fine muscle coordination and

perceptual skills. Basic gross and fine motor skills are examined from birth to 6 years, while perceptual motor skills are assessed from the age of 2 to 8 years (Newborg, 2005).

The cognitive domain of the BDI-2 is comprised of 105 items that analyze those skills and abilities that are conceptual in nature. The three subdomains include (a) attention and memory—ability of a child to visually and auditorily attend to stimuli and to retrieve information with appropriate cues; (b) reasoning and academic skill—mastery of a child in critical thinking skills that are integral to perception, identification, and problem solvement in addition to scholastic skills vital to formalized learning environments; and (c) perception and concepts—the ability of a child to perceive concepts and reach conclusions regarding relationships among objects. Attention and memory skills are evaluated from birth to age 6; reasoning and academic skills are measured from the age of 2 years; and skills in the perception and concepts subdomain are calculated throughout the entirety of the BDI-2 (Newborg, 2005).

When utilizing an assessment battery in order to identify learners with developmental differences or to determine eligibility for special services, professional educators must thoroughly examine the concepts of validity and reliability. Validity itself is perhaps the most significant and comprehensive characteristic in the evaluation of assessment tools. According to the *Standards for Educational and Psychological Testing* (1999)—prepared by the American Educational Research Association (AREA), the National Council on Measurement in Education (NCME), and the American Psychological Association (APA)—validity is defined as the “degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests’’ (p. 9). In essence, validity is the extent to which theory and evidence sustain the proposed

interpretations of assessment results for a specific and intended purpose. In order for an assessment tool to be valid, it must measure what it claims to measure.

To establish that inferences generated on the basis of test performance results are indeed appropriate, evidence is an absolute necessity. According to the *Standards for Educational and Psychological Testing* (1999), three classifications of evidence may be utilized in order to ensure the appropriateness of test performance results: evidence based on content, evidence grounded in a relationship to a criterion, and construct-related evidence. These three categories yield evidence that is both overlapping and essential to validity.

With respect to test content, professionals must strive to obtain evidence that the assessment tool in question embodies a reasonable and sufficient sampling of all the relevant knowledge, skills, and dimensions comprising the content domain (Ary et al., 2006). Content validity is chiefly the result of careful analysis of the relationship between the content of the assessment tool and the construct it is purported to measure. Evidence surrounding the issue of content validity for the BDI-2 includes professional discrimination, the coverage of focal constructs, and empirical item analysis (Newborg, 2005).

With regard to professional judgment of content, copious researchers, assessment authorities, and examiners provided feedback during the creation of the BDI-2. Such a facet of content validity is expressed by Gregory (1996) as being the extent to which the questions, tasks, or items on an assessment are representative of the totality of behaviors they are intended to appraise. For the BDI-2, this universe of behavior is the diverse domains of behavior, more specifically the categories of personal-social, adaptive, motor,

communication, and cognition. Every item found on the Tryout and Standardization Editions of the BDI-2 was stringently reviewed by critics representative of various gender, racial/ethnic, and religious groups. All test items were appraised by child development experts. A matrix design chart was utilized in order to match specific assessment items to a particular domain, formulate new items and resultant subdomains, and conduct item analysis. Comprehensive item analysis was conducted on all BDI-II assessment items. Specific criteria retained in the final item selection include (a) high ratings by examiners involving multiple criteria inclusive of significance of developmental milestones, ease of administration, and a child's overall responsiveness; (b) freedom from gender, racial/ethnic, and/or cultural bias; (c) high subdomain internal consistency; (d) appropriateness of difficulty level for a given chronological age; and (e) a positive contribution to a given domain (Newborg, 2005).

A second category used in order to ensure the appropriateness of performance results is that of criterion-related validity. Criterion-related validity evidence may be defined as "the degree to which scores on an instrument are related to other indicators of the same thing [the criterion]" (Ary et al., 2006, p. 631). When BDI-2 scores are correlated with scores that assess a similar construct, convergent validity is demonstrated. When the BDI-2 scores do not correlate highly with results not measuring a similar construct, divergent validity is present (Newborg, 2005).

When examining criterion-related validity, one must scrutinize the validity coefficient. Such a coefficient indicates the correlation between test scores and a selected criterion. As with any correlation coefficient, the:

> size of a validity coefficient is influenced by the strength of the relationship between the test and the criterion . . . As usual, the nearer the coefficient is to 1.00

> (+ or -), the stronger the evidence is that the test is useful for the stated purpose. (Ary et al., 2006, p. 248)

According to Newborg (2005), the BDI-2 has a strong correlation with the original Battelle Developmental Inventory. The Denver Developmental Screening Test –II (DDST-II; Frankenburg et al., 1992) is another assessment battery designed to detect potential developmental difficulties in young children. A high level of correlation exists between the BDI-2 and DDST-II (Newborg).

Construct-related validity is a third category used in order to better ensure the appropriateness of test performance results. According to Ary et al. (2006), construct validity may be viewed as a measure of an intended psychological construct. The *Standards* (1999) further distinguish between two types of evidence generated from relations to other variables: convergent and discriminant. “Relationships between test scores and other measures intended to assess similar constructs provide convergent evidence, whereas relationships between test scores and measures of purportedly different constructs provide discriminant evidence” (*Standards*, p. 250). With respect to the BDI-2, the primarily positive growth trends inherent to the five developmental domains, the high growth rate at younger ages (prior to 3 years, 0 months), domain differences consistent with other assessments, and alterations in a child’s environment such as the onset of participation in a formalized learning environment, are all indicative of construct validity (Newborg, 2005).

With respect to assessment, the term *reliability* refers to the steadfastness with which a tool measures the skill, ability, or knowledge that it is assessing (Ary et al., 2006). Good reliability is vital in order for an assessment tool to generate a score that accurately reflects an individual’s abilities.

Further clarification of the term reliability decrees that professionals thoroughly examine the concept of internal consistency. This concept may be defined as a "reliability assessment procedure measuring the extent to which items of a test are positively intercorrelated and thus all measure the same construct or trait" (Ary et al., 2006, p. 634). In essence, the more the test items correlate with one another, the higher the degree of reliability.

The most basic of the internal consistency procedures is known as the split-half method in which the test is artificially split into two halves. Individual scores on the two halves are then correlated. Certain characteristics are inherent to the split-half method: this method mandates only one form of a selected instrument; there is no time lag involved; and the same physical and mental influences will be present as the learners complete the two halves. The correlation coefficient generated between the two halves underestimates the reliability of the entire test (i.e., longer tests are more reliable than shorter ones). Because reliability is required for the complete BDI-2, the correlation from the half test is transformed into an appropriate reliability estimate using the Spearman-Brown formula. Bracken (1987, as cited in Newborg, 2006), maintained that for scores to be considered minimally reliable, "the reliability coefficients should be higher than .80 for the subdomain scores and higher that .90 for the domain and total scores" (p. 109). Results for the BDI-2 indicate all sub-domain scores ranged from .85 to .95. Coefficients for the BDI-2 domain scores ranged from .90 to .96 (Newborg, 2005).

When an assessment battery is administered to an individual, an *observed* score is obtained. A *true* score, on the other hand, is the "hypothesized average score resulting from many repetitions of the test or alternate forms of the instrument" (*Standards,* 1999,

p. 25). Because such repeated administrations are not realistic, the standard error of measurement (SEM) is utilized. In its most simplistic form, the SEM is the standard deviation of the distribution of differences between the observed and true scores of an individual. The SEM is itself an index of the overall stability of the scores. When the SEM is relatively low in juxtaposition with a particular score, the accuracy of that score is validated (Ary et al., 2006).

Another means of determining the reliability of an instrument is to the employ the technique of test-retest. Test-retest reliability refers to the connections between scores obtained utilizing the same measuring device for the same group of persons at varying times. Thus, the test-retest method is a measure of the stability of test scores over time. This stability is of particular significance for young children due to both their rapid growth and variability in performance. Based upon studies regarding the BDI-2, the "BDI-2 DQ scores appear to be quite stable and less affected by practice effects, possibly due to the use of observations and interviews to collect data, as well as structured assessment" (Newborg, 2005, p. 113).

Procedure

Prior to the onset of the 2007-2008 school year, preschoolers with special needs in the participating public school system were placed into groupings as determined by IEP committee recommendations. Placement of preschoolers with special needs in an inclusive learning environment was determined after careful analysis of pretest scores on the BDI-2 in conjunction with natural observations made by relevant committee personnel. These IEP committees were comprised of general and special educators, general and special administrators, therapists (speech, physical, and/or occupational) as

applicable, and parents and/or guardians. The targeted grouping of preschoolers with special needs received direct early intervention services in a resource setting for approximately 2½ hours daily. The remaining 2½ hours daily were spent in an inclusive learning environment following the Head Start–High/Scope curriculum with typically developing peers. All students who participated in the inclusive learning environment for a portion of the instructional day received some type of related service (e.g., speech, physical, and/or occupational therapies) as mandated by individual IEPs. In accordance with IEP committee recommendations, all delivery of related services occurred during the time spent within the special education resource setting. For the targeted grouping of preschoolers with special needs, models of instructional delivery included whole and small group as well as individual. Instruction for all preschoolers with special needs centered upon the domains of cognition (particularly language arts and mathematics), motor (fine, gross, and perceptual), communication (both expressive and receptive), adaptive, and personal-social skills. Instruction for all study participants was directly related to individual IEP objectives.

In accordance with the local school calendar, this study continued for a time span of approximately 8 months, beginning with the first day of school in the fall of 2007 and concluding in late April 2008 with the administration of the BDI-2 and subsequent IEP committee meeting. Only those preschoolers with special needs who were placed in the inclusive grouping prior to the actual onset of the 2007 school year were eligible to participate. No preschoolers with special needs entering the participating public school preschool special education program after the spring 2007 IEP committee recommendations were eligible to participate in this study.

Analysis of the Data

Data was collected for the 2007-2008 school year for those preschoolers with special needs who participated in inclusive learning environments as determined by IEP committee recommendations. Prior to the onset of the study, the BDI-2 was administered in accordance with local school policy in order to provide a baseline of pretest scores. The BDI-2 was readministered individually in the spring of the school year. Progress in terms of DQ for the domains of adaptive, motor, and cognition as assessed by the BDI-2 was determined. A thorough analysis of the statistical significance of achievement gains made with respect to BDI-2 scores obtained by the preschoolers with special needs participating in an inclusive learning environment for each of the developmental domains was then made.

Data Organization

In this study, analysis of learning environment occurred. DQ scores obtained through administration of the BDI-2 were examined in order to determine the effects of an inclusive learning environment on preschoolers with special needs with respect to adaptive, motor, and cognitive skills.

Statistical Procedures

Given that random assignment of subjects was not possible, a quasi-experimental design of nonrandomized group, pretest-posttest design was employed for this study. In examining progress, the DQ was assessed by comparing pre/posttest functioning. In order to determine the significance of data obtained regarding the performance of preschoolers with special needs served in an inclusive learning environment with respect to adaptive, motor, and cognitive skills, a paired samples *t* test was conducted.

Chapter 4: Results

The overall purpose of the paired samples *t* test, otherwise known as the *t* test for dependent means, is to determine the significance of the difference between two sets of paired data (Zar, 1999). Essentially, then, the paired samples *t* test is utilized to determine if the means for two paired (matched) scores differ significantly from one another. It should be noted that the term *means* within this particular context is simply the mathematical average utilized with interval/ratio data. More specifically, the paired samples *t* test is used when a given score underlying one mean has been paired with a score underlying an additional mean. Hence, the *t* statistic is employed in order to establish whether two means collected from the same sample differ significantly (Ary et al., 2006).

According to Ary et al. (2006), inherent to the paired samples *t* test are certain particulars, which include the following:

1. The paired samples *t* test may only employ interval/ratio data, solely measurement data.
2. The paired samples *t* test can be applied with two means derived from two different scores obtained from the same sample.

The paired samples *t* test scrutinizes the null hypothesis, the assertion hoped to be disproven by the data. In essence, if the *p* value is significant with $p < .05$, the null hypothesis is rejected. If, on the other hand, the *p* value is not significant with $p > .05$, the null hypothesis is retained. With the ultimate retention or rejection of the null hypothesis, the directional hypothesis—a prediction outlining what the researcher supposes to be true—becomes key (Ary et al., 2006).

The performance of preschoolers with special needs participating in an inclusive learning environment with respect to developmental functioning in the domains of adaptive, motor, and cognitive skills as measured by achievement on the BDI-2 was analyzed. For purposes of this inquiry, the following null hypotheses were utilized:

1. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of adaptive skills.
2. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of motor skills.
3. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of cognitive skills.

Table 1 presents the paired samples statistics for the adaptive domain for those preschoolers participating in an inclusive learning environment. Table 2 presents information pertaining to the paired samples *t* test.

Table 1

Paired Samples Statistics for Adaptive Domain

BDI-2 results		Mean	*N*	*SD*	*SE* mean
Pair 1	Adaptive pre	78.50	6	7.583	3.096
	Adaptive post	76.00	6	14.588	5.955

Table 2

Paired Sample Test for Adaptive Domain

		Paired differences							
					95% CI				
BDI-2 adaptive skills		Mean	*SD*	*SE* mean	Lower	Upper	*t*	*df*	Sig. (2-tailed)
Pair 1	Pre - Post	2.500	13.678	5.584	-11.855	16.855	-.448	5	.673

Table 3 presents the paired samples statistics for the motor domain for those preschoolers participating in an inclusive learning environment. Table 4 depicts information pertaining specifically to the paired samples *t* test.

Table 3

Paired Samples Statistics for Motor Scores

BDI-2 results		Mean	*N*	*SD*	*SE* mean
Pair 1	Motor pre	75.17	6	13.877	5.665
	Motor post	80.17	6	19.271	7.867

Table 4

Paired Samples Test for Motor Scores

		Paired differences							
					95% CI				
BDI-2 motor skills		Mean	*SD*	*SE* mean	Lower	Upper	*t*	*df*	Sig. (2-tailed)
Pair 1	Pre - Post	-5.000	8.050	3.286	-13.448	3.448	1.521	5	.189

Table 5 presents the paired samples statistics for the cognitive domain for those preschoolers participating in an inclusive learning environment while Table 6 offers information pertaining to the paired samples *t* test.

Table 5

Paired Samples Statistics for Cognitive Scores

BDI-2 results		Mean	*N*	*SD*	*SE* mean
Pair 1	Cognitive pre	65.17	6	11.618	4.743
	Cognitive post	66.17	6	11.788	4.813

Table 6

Paired Samples Test for Cognitive Scores

		Paired differences							
					95% CI				
BDI-2 cognitive skills		Mean	*SD*	*SE* mean	Lower	Upper	*t*	*df*	Sig. (2-tailed)
Pair 1	Pre - Post	-1.000	6.197	2.530	-7.503	5.503	.395	5	.709

Chapter 5: Summary and Discussion

In an effort to meet the diverse educational requirements of preschoolers with special needs, professional educators are relentlessly confronted with the necessity of presenting a free appropriate public education (FAPE) in the least restricted environment (LRE) as authorized by federal law. In a concerted effort to act in accordance with these such federal mandates regarding the concepts of FAPE and LRE, the participating public school system has implemented inclusive programming at the preschool-age level. In order to ascertain the overall effectiveness of this instructional model for preschoolers with special needs, achievement gains in the developmental domains of adaptive, motor, and cognitive skills as assessed by the Battelle Developmental Inventory, Second Edition (BDI-2) were analyzed. Particular emphasis was directed towards the achievement gains obtained by preschoolers with special needs receiving instruction in an inclusive learning environment. The purpose of this particular study was to determine and subsequently examine the overall achievement gains of preschoolers with special needs with respect to adaptive, motor, and cognitive skills in an inclusive learning environment. With a more concentrated emphasis of educational professionals towards the early identification of and subsequent service provision for preschoolers with special needs, meticulous investigation of appropriate and viable programming models is vital.

Null Hypotheses

1. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of adaptive skills.

2. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of motor skills.
3. There will be no statistically significant achievement gains for preschoolers with special needs who receive instruction in an inclusive learning environment in the domain of cognitive skills.

Directional Hypotheses

1. Preschoolers with special needs receiving instruction in an inclusive learning environment with typically developing peers will make significant achievement gains in the domain of adaptive skills.
2. Preschoolers with special needs receiving instruction in an inclusive learning environment with typically developing peers will make significant achievement gains in the domain of motor skills.
3. Preschoolers with special needs receiving instruction in an inclusive learning environment with typically developing peers will make significant achievement gains in the domain of cognitive skill.

Review of Methodology

This specific study focused primarily upon the achievement gains attained by preschoolers with special needs participating in an inclusive learning environment within a public school setting. More specifically, progress within the developmental domains of adaptive, motor, and cognitive skills were assessed utilizing the BDI-2. The study itself spanned an 8-month timeframe.

The research problem investigated the overall impact and effectiveness of an inclusive learning environment on the achievement gains of preschoolers with special needs who received direct early intervention services via the participating public school system during the 2007-2008 school term. A paired samples *t* test was conducted in which service delivery model was treated as an explanatory/independent variable and postscore on the BDI-2 as a response/dependent variable. A paired samples *t* test was conducted separately for each of the developmental domains of adaptive, motor, and cognitive skills. Within this particular research context, the paired samples *t* test juxtaposed the pretest and posttest means as indicated by performance on the BDI-2. An alpha level of .05 was utilized for all data analysis.

The research design implemented for this study was of a quantitative nature. A paired samples *t* test was performed in order to conclude the statistical significance of achievement gains in the developmental domains of adaptive, motor, and cognitive skills obtained by preschoolers with special needs in an inclusive learning environment.

The researcher utilized the student database from the participating public school system in order to obtain educational information for preschoolers with special needs participating in the early intervention services offered by the system during the 2007-2008 school term. Only those preschoolers with special needs enrolled in the participating public school system for the entirety of the 2007-2008 school term were included in this study. There were six participants.

The participating public school system collects demographic and educational information on its students annually. More specifically, pertinent information pertaining to preschoolers with special needs was obtained through an arena assessment conducted

at the time of initial referral and subsequent evaluation. This preliminary assessment included the administration of the BDI-2 in conjunction with assorted other evaluation instruments. Updated educational information is obtained through the readministration of the BDI-2 by a qualified educational professional in the spring of every year.

Summary of the Research Findings

The results of the findings for this study did not yield data conducive to the rejection of the three null hypotheses, which proposed that atypically developing preschoolers participating in an inclusive learning environment would make no statistically significant achievement gains in the domains of adaptive, motor, and cognitive skills as assessed by the BDI-2. Separate paired *t* tests were conducted for each of the three developmental domains of interest in order to establish the statistical relevance of an inclusive learning environment on the postscores assessed by the BDI-2 for preschoolers with special needs receiving instruction in an inclusive learning environment under the jurisdiction of the participating public school system. A *p* value of $< .05$ was utilized for all testing in order to establish significance.

Summary

This study was an 8-month study involving preschoolers with special needs served in a rural public school division. The purpose of this research analysis was to determine the effect of an inclusive learning environment on the learning outcomes of preschoolers with special needs in the areas of adaptive, motor, and cognitive skills as measured by the BDI-2. Determining the impact of learning outcomes for preschoolers with special needs can better assist administrators in designing and ultimately

implementing programming models that meet federal mandates pertaining to a free, appropriate public education and the least restrictive environment.

A basic overview of special education as a dynamic and integral component of the world of education was presented in order to clarify further the inherent guiding principles. A shortened discussion of legislation governing the field of special education was presented so that premises and constraints placed upon early intervention services themselves could be better elucidated. Within the early intervention framework, assessment procedures pertaining to young children with special needs and resultant service delivery models were outlined. A brief synopsis of early childhood education versus early childhood special education was then offered in order to solidify further a basic understanding regarding the two distinct yet interrelated fields. Based upon a review of the literature, limited material outlining the developmental achievement of preschoolers with special needs in inclusive learning environments in areas other than socially oriented ones was found to exist. Given the quest of the participating public school system to meet the unique needs of its preschool population, this study was undertaken in order to enhance inspection of gains obtained in the developmental domains of adaptive, motor, and cognitive skills of atypically developing preschoolers in an inclusive learning environment.

An overview of the research methodology utilized in this study was accessible in Chapter 3. The research design consisted of a quasi-experimental analysis of the selected variable of an inclusive learning environment and its impact on achievement scores of atypically developing preschoolers within the participating public school system. The

researcher employed a paired samples *t* test in order to determine the consequence of learning environment on achievement as stated in the research suppositions.

A brief description of the participants in this study along with relevant data and corresponding statistical analysis was then made available. An inclusive learning environment was not ascertained to have a significant effect on the achievement scores of the preschoolers with special needs enrolled in the selected early intervention program.

Chapter 5 reiterated the problem statement governing the study, recapitulated the methodology employed, presented significant findings pertaining to the inquiry, conferred upon the implication for practice, revealed limitations of the study, and offered recommendations for future research.

Special education should be instruction based upon individual need; it should be planned with great care and delivered with intensity towards instructional goals. These instructions might denote different things for diverse learners; questions probing basic educational purpose such as what is appropriate for whom and under what circumstances it is appropriate should be addressed.

Indeed, it would appear that service delivery model alone is not the most prevalent force in determining the achievement of preschoolers with special needs. One size does not fit all; preschoolers with special needs vary in response to assorted learning environments. Hence, the magnitude of maintaining a continuum of services within the special education arena is vital.

Discussion of the Findings

This research study sought to ascertain the impact of an inclusive learning environment upon the BDI-2 postscores in the developmental domains of adaptive,

motor, and cognitive skills of atypically developing preschoolers in a public school setting. With an increasing and highly concentrated impetus directed towards the early identification of learners with special needs, the effective provision of a FAPE in the LRE as mandated by federal law is paramount to any public school system. By carefully examining various programming alternatives for preschoolers with special needs with the continuum of service options, educational officials can better develop viable policies and subsequent program models in order to assist such learners in obtaining their greatest potentials.

Interpretation of the Findings

Adaptive Skills

With respect to adaptive skills, a paired samples *t* test was conducted in order to determine the statistical significance of achievement gains as indicated by the performance mean exhibited on the BDI-2 posttest. For purposes of this study, the null hypothesis proposed that there would be no statistically significant achievement gains of preschoolers with special needs who received instruction in an inclusive learning environment in the domain of adaptive skills. The paired samples statistics indicated that the pretest mean (M = 78.50) and the posttest mean (M = 76.00) were not statistically different. The standard error of the mean indicated that the amount of variability increased slightly from pretest (3.096) to posttest (5.955). The *SD*—the extent to which scores differed from one another—increased from pretest (7.583) to posttest (14.588). Such an increase is noteworthy in the analysis of individual learner scores. While pretest means indicated a clustering of scores, the presence of outliers was supported by posttest scores. Thus, the appropriateness of participation in an inclusive learning environment

with respect to adaptive skills did vary in individual learner response. As evidenced by the mean scores, some degree of regression was noted among study participants in the area of adaptive skills. The paired samples *t* test conducted for adaptive skills for preschoolers in an inclusive learning environment resulted in a *p* value of .673, indicating that study results were nonsignificant. Study results, therefore, indicated that the null hypothesis could not be rejected. Within the confines of this particular research context, there was no statistical relevance of an inclusive learning environment upon the performance of atypically developing preschoolers.

Motor Skills

Regarding the developmental domain of motor skills, a paired samples *t* test was conducted in order to establish the statistical significance of achievement gains as evidenced by the performance mean exhibited on the BDI-2 posttest. For purposes of this research, the null hypothesis asserted that there would be no statistically significant achievement gains of preschoolers with special needs who received instruction in an inclusive learning environment in the domain of motor skills. The paired samples statistic indicated that the pretest mean (M = 75.17) and the posttest mean (M = 80.17) were not significantly different. The standard error of the mean indicated that the amount of variability increased slightly from pretest (5.665) to posttest (7.867). The *SD* increased from pretest (13.877) to posttest (19.271). To be considered significant within the context of this study, a *p* value of < .05 was required. The paired samples *t* test for motor skills for preschoolers in an inclusive learning environment resulted in a *p* value of .189 and was deemed nonsignificant. Study results, therefore, indicated that the null hypothesis could not be rejected. Within the confines of this inquiry, an inclusive learning

environment did not have an impact upon the performance of atypically developing preschoolers.

Cognitive Skills

For the domain of cognitive skills, a paired samples *t* test was conducted to establish the significance of achievement gains as demonstrated by the performance mean generated by the BDI-2 posttest scores. For purposes of this study, the null hypothesis proposed that there would be no statistically significant achievement gains of preschoolers with special needs who received instruction in an inclusive learning environment in the domain of cognitive skills. The paired samples statistics indicated that the pretest and posttest means did not significantly differ from one another with only a slight increase from 65.17 to 66.17. The standard error of the mean indicated that the amount of variability rose only marginally from pretest (4.743) to posttest (4.813). The *SD* also increased only minimally from 11.618 to 11.788. The paired samples *t* test conducted for the motor domain for preschoolers with special needs participating in an inclusive learning environment resulted in a *p* value of .709. Since this resultant *p* value was > .05, the *p* value was found to be nonsignificant The null hypothesis was retained; within the context of this research study, there was no statistical relevance of an inclusive learning environment upon the performance of atypically developing preschoolers with respect to cognitive skills.

Relationship of Findings to Prior Research

As Kauffman (2002) rationalized, “the only way to know whether a program is working is by testing” (p. 238). Kauffman further expounded upon this notion by stating that “testing is useful only if you make the right comparisons for the right reason” (p.

240). Indeed, if educational professionals wish to ascertain whether specific programs for learners with special needs are effective, then evaluating outcomes is simply vital.

A chief principle underlying the current trend towards increased integration of learners with special needs into society as a whole is that of normalization—the philosophy that advocates the utilization of "means which are as culturally normative as possible, in order to establish and/or maintain personal behaviors and characteristics" (Wolfensberger, 1972, p. 28). In essence, both the means and the ends of education for learners with special needs should be as comparable as those for typically developing peers as possible.

Historically, educational programming for learners with special needs has centered upon the assumption that an assortment of service delivery options are needed (Crockett & Kauffman, 1999). Current federal law, IDEA, mandates that learners with special needs be placed in the LRE from a continuum of placement options. Generally speaking, most persons have generalized the concept of LRE as "involving only a physical location of the child, with alternatives ranging from residential institutions on one end to regular classes on the other" (Hallahan & Kauffman, 2006, p. 45). Others, however, have proposed that the restrictiveness of a select environment is not merely a matter of physical location. According to a study published by Crockett and Kauffman (2001) and to another by Rueda, Gallego, and Moon (2000), restrictiveness is also determined by what is taught and the manner in which it is presented. The argument can, therefore, be made that, in some instances, special classes are less restrictive in terms of academic, emotional, and social development than is a general education environment (Carpenter & Bovair, 1996).

Proponents of the full continuum of service options claim that “most teachers, parents, and students are satisfied with the current degree of integration into general education” (Hallahan & Kauffman, 2006, p. 50). As evidenced by Guterman (1995) and Semmel, Abernathy, Butera, and Lesar (1991), repeated polls, surveys, and interviews have indicated that an overwhelming number of learners with special needs and their parents or guardians are satisfied with placement options available on the continuum of services.

Because of the rather recent departure from the more traditional segregated service delivery model for preschoolers with special needs, longitudinal data obtained from a comparison of the outcomes associated with such learners virtually do not exist. Subsequently, Guralnick (2001) asserted that a formal rationale whereby one delivery model is selected over another has not yet been firmly established. It should be noted that the prime aspect of successful inclusion is perhaps the ability of children with special needs to attain the outcomes or goals stated on their Individualized Family Service Plan (IFSP) or Individualized Education Plan (IEP). Research has shown that young children with special needs can make “at least as much developmental progress in inclusive programs as they do in noninclusive programs” (Odom et al., 2002, p. 168).

In studies conducted by Vaughn, Elbaum, and Boardman (2001), it was determined that while inclusion might be appropriate for some learners, for others it is often detrimental. Indeed, there appears to be no substitute for an individual determination of the most appropriate placement for learners with special needs. As Gliona, Gonzales, and Jackson (2005) decreed, “every option on the continuum of alternative placements is some child’s least restrictive environment” (p. 138).

Implications for Practice

As professional educators augment their awareness and comprehension regarding factors affecting higher learner outcomes, administrators may then perhaps better select and consequently implement programming models to assist the atypically developing preschooler in the development of individual potential. It may be that general categorical disability labels should not define service delivery. Rather, an individualized approach to instruction whereby effective educational opportunities are presented to each learner with special needs is warranted. Burgdorff (1980) asserted that federal law imparts a framework with accompanying guidelines whereby skilled educators can utilize professional discretions in selecting an educational program and placement designed to meet the unique needs of each learner with a special need. Within the special education arena, the overall objective should be the provision of an effective, free, and appropriate education for those children with special needs. Any and all placement decisions should, therefore, be firmly entrenched in the proverbial holy trinity of FAPE, LRE, and appropriate practices. Emphasis should be placed upon both individuality and exceptionality of learning.

Limitations of the Study

The following limitations may impact the generalization of current study findings to a broader spectrum within the educational arena:

1. Given the nature of the preschool special education population in the participating public school system, the number of study participants was greatly limited in size.

2. According to IEP committee recommendations made in spring 2007, the number of preschoolers participating in an inclusive learning environment was further reduced from the initial participant pool.
3. The present study incorporated only those preschoolers with special needs involved in an inclusive learning environment for participation. Future research might focus upon a comparison between preschoolers with special needs participating in an inclusive versus inclusive learning environment, given the comparability of initial pretest scores.
4. The study was limited to approximately 8 months in duration in accordance with the local school calendar.
5. The current study was limited to one dependent variable—the postscore on the BDI-2.

Recommendations for Future Research

Based upon the findings of this particular study, the following recommendations are suggested for areas of future research related to preschoolers with special needs:

1. Given this study's limitation in size, future research might be conducted to include participants from surrounding localities serving preschoolers with special needs in comparable programming models within the public school setting.
2. The size of study participants might also be increased by including preschoolers with special needs receiving instruction in inclusive settings such as private daycare.

3. Frequent observations and reports of learner frustration and resultant inappropriate behaviors—such as tantrums, crying, and physical aggression—were noted with respect to those preschoolers with special needs participating in an inclusive learning environment. These anecdotal notations may indicate a need for further study regarding the emotional impact on preschoolers with special needs within the various placement options available within the continuum of services.
4. Fewell and Oelwein (1990) stated that the overall effectiveness of inclusive learning environments with respect to developmental outcomes and skills acquisition for both typically and atypically developing preschoolers is established more by the curriculum utilized and the quality of instruction rather than the class composition itself. Such claims may indicate a need for further study regarding the teaching styles employed by educational personnel within the inclusive learning environment in conjunction with the preferred learning styles of participating atypically developing preschoolers.
5. Given the concept of special education as being education based upon individual learner need, future study regarding achievement gains exhibited by preschoolers with special needs participating in an inclusive learning environment from a qualitative perspective may warrant supplementary attention.

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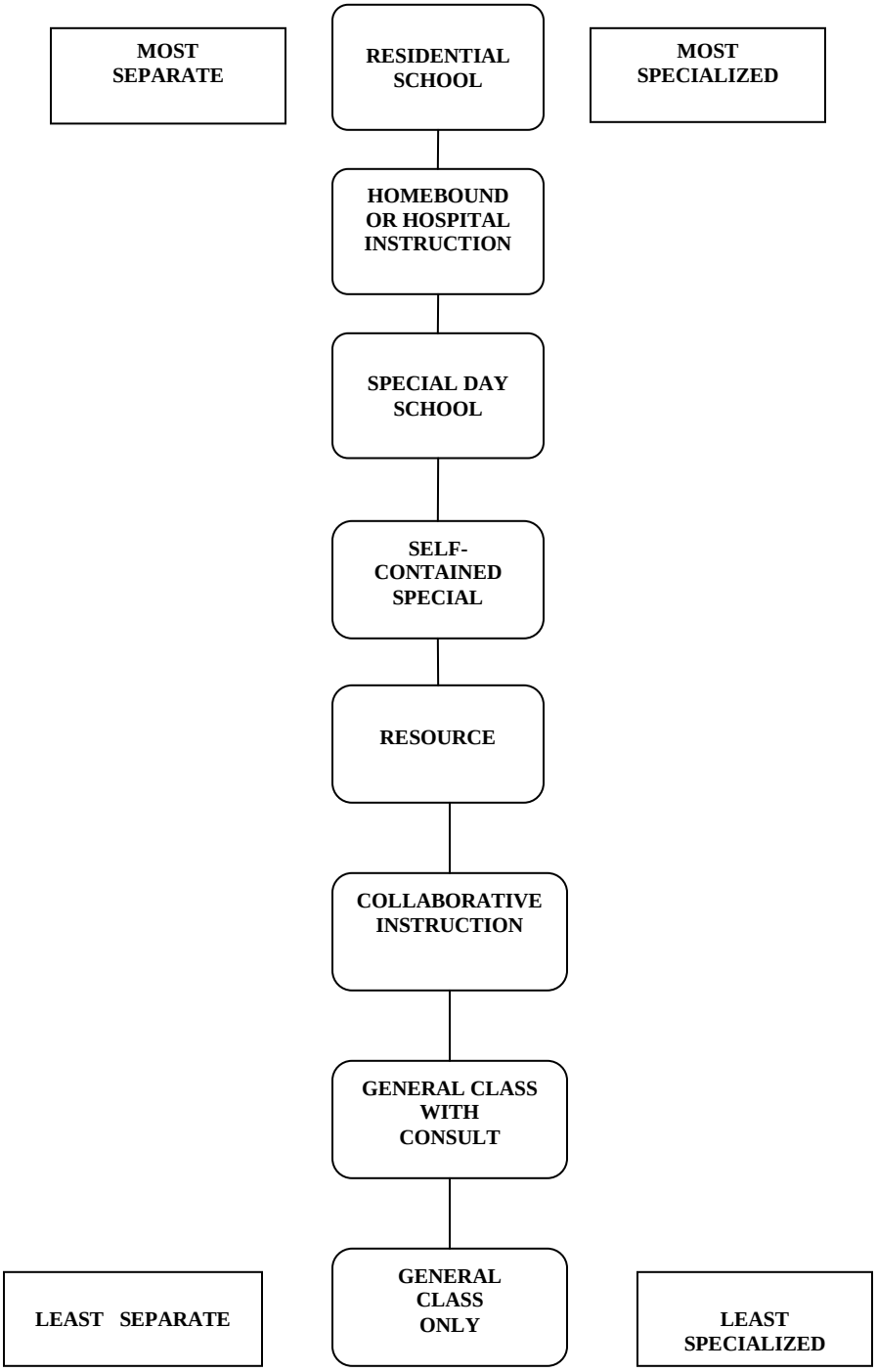
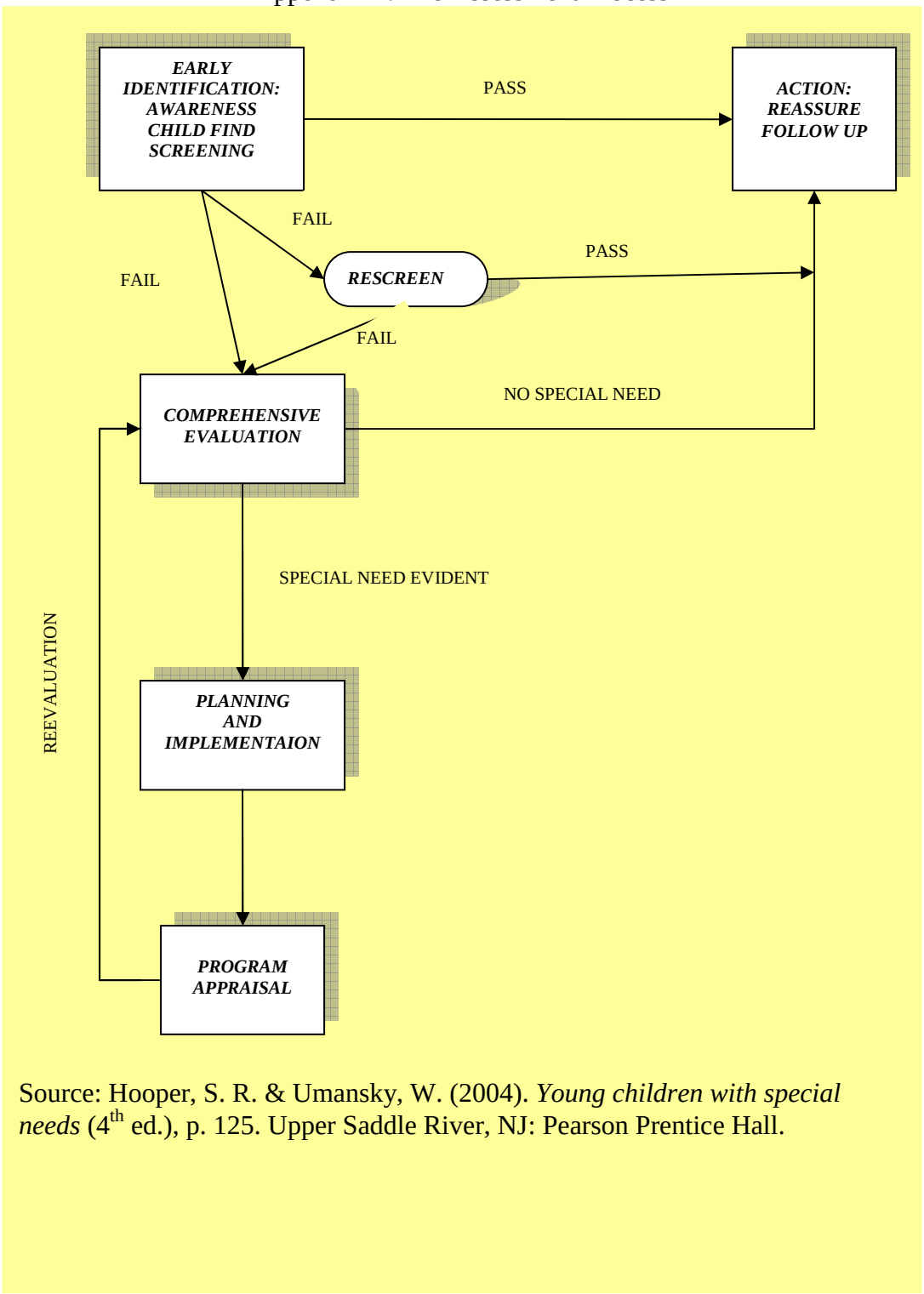
Appendix A: Continuum of Placement Options



Appendix B: The Assessment Process



Source: Hooper, S. R. & Umansky, W. (2004). *Young children with special needs* (4th ed.), p. 125. Upper Saddle River, NJ: Pearson Prentice Hall.

Appendix C: The 3-Year-Old

MOTOR DEVELOPMENT

Walks up and down steps unassisted
Balances for a moment on 1 foot
Kicks a large ball
Feeds self with minimal assistance
Jumps with feet together
Pedals a small tricycle or big wheel
Catches a large ball that is bounced
Makes vertical, horizontal, and circular marks with crayons
Holds crayon between first 2 fingers and thumb
Turns book pages one at a time
Likes building with blocks
Builds a tower of 5 or more blocks
Begins to show hand dominance
Manages large buttons and zippers
Washes and dries own hands but still needs help brushing teeth
Becomes potty-trained for the most part

PERCEPTUAL-COGNITIVE DEVELOPMENT

Listens attentively to age appropriate stories
Looks at books and “pretends to read”
Plays realistically-feeds doll, drives truck with motor noises
Copies circles, squares and some letters imperfectly
Understands triangle, circle, and square; can point to requested item
Sorts objects by one attribute (color or shape)
Names and matches some primary colors (usually red, yellow, and blue)
Points to picture that has “more”

SPEECH AND LANGUAGE DEVELOPMENT

Talks about objects, events, and people not present
Answers simple questions appropriately
Asks large number of questions, especially about location and identity of objects/people
Calls attention to self (watch my car go, etc.)
Uses vocabulary of 300 to 1000 words
Recites nursery rhymes and sings simple songs
Uses speech that is understandable most of the time
Joins in social interaction rituals (hi, bye, please, etc)

PERSONAL-SOCIAL DEVELOPMENT

Seems to understand taking turns, but isn't always willing to do so
Laughs frequently
Has occasional nightmare and fears the dark, monsters, etc.
Joins in simple games
Defends toys and possessions
Engages in make-believe play
Shows affection to children who are younger or who get hurt
Sits and listens to stories for 5 or 6 minutes (resents being disturbed)

DEVELOPMENTAL ALERTS FOR THREE YEAR OLDS

Does not have understandable speech most of the time
Does not understand and follow simple commands
Does not state first name and age
Does not enjoy playing near or with other children
Does not use 3 to 4 word sentences
Does not ask questions
Does not stay with an activity for 3 or 4 minutes
Does not jump in place without falling
Does not help with dressing self

Source: Allen, K. E., & Marotz, L. R. (2003). *Developmental profiles: Pre-birth through twelve* (4th ed). Canada: Delmar Learning.

Appendix D: Developmental Checklist for 3-Year-Old

BY 3 YEARS DOES THE CHILD…

Run well in a forward direction?
Jump in place, with two feet together?
Walk on tiptoe?
Throw ball (without direction or aim)?
Kick ball forward?
String four large beads?
Turn book pages one at a time?
Hold crayon to imitate circular, vertical, horizontal strokes?
Match simple shapes?
Demonstrate number concepts of 1 and 2? (can select 1 or 2; can count 1 or 2 objects)
Use a spoon without spilling?
Drink from a straw?
Put on and take off coat by self?
Wash and dry hands with little assistance?
Watch other children; play near them; sometimes join in their play?
Defend own possessions?
Use symbols in play – for example, a tin pie pan on top of head becomes a helmet?
Respond to "Put _____in the box," "Take the _____ out of the box"?
Select correct item on request: big versus little; one versus two?
Identify objects by their use: show own shoe when asked "What do you wear on your feet?"
Ask questions?
Tell about something with functional phrases that carry meaning: "Daddy go airplane." "Me hungry now"?

NOTE: Several questions answered "no" or "sometimes" warrant further follow-up.

Source: Allen, K. E., & Marotz, L. R. (2003). *Developmental profiles: Pre-birth through twelve* (4th ed). Canada: Delmar Learning.

Appendix E: The 4-Year-Old

MOTOR DEVELOPMENT

Hops on one foot
Pedals and steers a wheeled toy-turns corners, avoids obstacles and oncoming “traffic”
Jumps over objects 5 or 6 inches
Runs, starts, stops, and moves around obstacles with ease
Builds a tower with 10 or more blocks
Forms shapes and objects out of clay
Makes some shapes and letters
Holds a crayon with a tripod grasp
Threads wooden beads on a string

PERCEPTUAL-COGNITIVE DEVELOPMENT

Stacks at least 5 graduated cubes from largest to smallest
Names 18 to 20 uppercase letters
Delights in wordplay, creating silly language
Understands the concepts of “tallest”, “biggest”, “same”, and “more”
Counts out loud to 20 or more (not actual objects)
Recognizes and identifies missing puzzle parts
Understands the sequence of daily events

SPEECH AND LANGUAGE DEVELOPMENT

States first and last name, gender, and sometimes home phone number
Uses the prepositions “on”, “in”, and “under”
Answers simple questions concerning: “Whose?” “Who?” “Why?” “How many?”
Recites and sings simple songs and rhymes
Answers appropriately when asked what to do if tired, cold, or hungry
Uses almost entirely understandable speech

PERSONAL-SOCIAL DEVELOPMENT

Is outgoing and friendly
Changes moods rapidly and unpredictable
Holds conversations and shares with imaginary playmates
Cooperates with others – participates in group activities
Shows pride in accomplishments—seeks frequent adult approval
Tattles on other children
Insists on trying to do things independently
Relies largely on verbal rather than physical aggression ("you can't come to my party")
Beginning to have best friends
Uses name-calling and teasing as a way to exclude other children

DEVELOPMENTAL ALERTS FOR FOUR YEAR OLDS

Can not state own full name
Can not recognize simple shapes (circle, square, triangle)
Can not catch a large ball when bounced
Can not speak well enough to be understood by strangers
Can not hop on one foot
Does not have control of posture and movement
Does not appear interested in, and responsive to, surroundings
Can not dress self with minimal adult help (can not handle buttons and zippers)
Does not take care of own toilet needs (has frequent accidents)

Source: Allen, K. E., & Marotz, L. R. (2003). *Developmental profiles: Pre-birth through twelve* (4th ed). Canada: Delmar Learning.

Appendix F: Developmental Checklist for 4-Year-Old

BY 4 YEARS DOES THE CHILD…

Walk on a line without falling?
Balance on one foot briefly? Hop on one foot?
Jump over an object 6 inches high and land on both feet together?
Throw a ball with direction and aim?
Copy circles and X's?
Match six colors without help?
Count to 5?
Pour liquids from a pitcher? Spread jelly with a knife?
Button and unbutton large buttons?
Know own age, gender, and last name?
Use toilet reliably and by self?
Wash and dry hands unassisted?
Listen to stories for a least five minutes?
Draw head of a person and at least one other body part?
Play with other children?
Share and take turns (with some reminders)?
Engage in dramatic and pretend play?
Respond appropriately to "Put it beside…," "Put it under…"?
Respond appropriately to two-step directions: "Give me the sweater and put the shoe on the floor"?
Respond by selecting the correct object – for example, hard versus soft object?
Answer simple "if," "what," and "when" questions?
Answer simple questions about function: "What are books for?"

NOTE: Several questions answered "no" or "sometimes" warrant additional follow-up.

Source: Allen, K. E., & Marotz, L. R. (2003). *Developmental profiles: Pre-birth through twelve* (4th ed). Canada: Delmar Learning.

Appendix G: The 5-Year-Old

MOTOR DEVELOPMENT

Walks backward without falling
Walks unassisted up and down steps, alternating feet
Can turn a somersault
Walks on a balance beam
Can skip
Catches a ball thrown from 3 feet
Rides a tricycle or wheeled toy with speed and skillful steering
Jumps or hops 10 times in a row without falling
Balances on either foot for about 10 seconds
Reproduces many shapes and letters – square, triangle, A,I,O,U,C,H,L,T
Has control of pencil or marker
Cuts on a line with scissors
Has decided on hand dominance for the most part

PERCEPTUAL-COGNITIVE DEVELOPMENT

Understands concept of same shape and same size
Sorts objects on the basis of 2 shared attributes (color and shape)
Classifies objects (items are food, animals, etc.)
Understands the concepts of smallest and shortest
Identifies the position of objects: first, second, last
Understands the concept of “less than”
Asks tons of questions
Knows alphabet, usually both upper and lowercase
Recognizes penny, nickel, and dime

SPEECH AND LANGUAGE DEVELOPMENT

Has vocabulary of 1500 words of more
Can tell a familiar story while looking at pictures in a book
Identifies and names objects
Makes up simple jokes and riddles
Answers phone appropriately
Produces sentences with 5 to 7 words or longer
Speech is almost completely understandable to strangers

PERSONAL-SOCIAL DEVELOPMENT

Enjoys friendships—usually has 1 or 2 special friends
Shares toys, takes turns, and plays cooperatively
Participates in group play
Is affectionate and caring, especially towards younger children and animals
Follows directions
Has better self-control (fewer temper tantrums)
Likes to tell jokes

DEVELOPMENTAL ALERTS FOR FIVE YEAR OLDS

Does not speak in a moderate voice (is either too loud or too soft)
Does not follow simple directions in the order given: "Go to the cabinet, get a glass, and bring it to me"
Does not use 4 to 5 words in acceptable sentence structure
Does not cut a line with scissors
Does not sit still and listen to an entire short story (approximately 5 minutes)
Does not maintain eye contact when spoken to
Does not play well with other children
Does not handle most self-grooming tasks by self (brush teeth, wash hands, etc)

Source: Allen, K. E., & Marotz, L. R. (2003). *Developmental profiles: Pre-birth through twelve* (4th ed). Canada: Delmar Learning.

Appendix H: Developmental Checklist for 5-Year-Old

BY 5 YEARS DOES THE CHILD…

Walk backward, heel to toe?
Walk up and down stairs, alternating feet?
Cut on a line?
Print some letters?
Point to and name three shapes?
Group common related objects: shoe, sock, and foot; apple, orange, and plum?
Demonstrate number concepts to 4 or 5?
Cut food with a knife?
Read from story picture book –in other words, tell a story by looking at pictures?
Draw a person with three to six body parts?
Play and interact with other children; engage in dramatic play that is close to reality?
Build complex structures with blocks or other building materials?
Respond to simple multi-step directions: "Give me the pencil, put the book on the table, and hold the brush in your hand"?
Ask "How" questions?
Respond appropriately verbally to "Hi" and "How are you"?
Tell about an event using past and future tenses?
Use conjunctions to string words and phrases together—for example, "I saw a bear and a zebra and a giraffe at the zoo"?

NOTE: Several questions answered "no" or "sometimes" warrant additional follow-up.

Source: Allen, K. E., & Marotz, L. R. (2003). *Developmental profiles: Pre-birth through twelve* (4th ed). Canada: Delmar Learning.