4-2017

Working with a Child who has Angelman Syndrome / The Role of an Early Childhood Special Education Teacher in Kindergarten

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by

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A Starred Paper

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

Master of Science in

Early Childhood Special Education

April, 2017

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Chapter 1: Introduction

When Julia was born, her parents thought their family was perfect. They had a son and now a daughter. At Julia's first birthday, she seems to be a happy little girl, but she is not yet crawling. At her second birthday, she still seems to be a very happy, content little girl who is now crawling, but not yet walking and not yet talking. At her third birthday she is walking on her knees and starting to walk upright with a walker. She makes joyful noises—she is happy most of the time—but her mother still longs to hear her say "mama." Needless to say, the parents are very concerned for their daughter. They are grieving the loss of the 'perfect' family they thought they had. They are uncertain about the future. Just before her third birthday Julia started having seizures and irregular sleep patterns. She also started pinching herself. Her daycare providers are pouring much love and attention onto this little girl with an infectious laugh, yet her needs are not fully being met. Home/Daycare visits by early intervention professionals are not enough to support the needs of this child despite numerous providers and outside therapy appointments. At 3, she is very delayed and the gap between her and her same-aged peers' development grows larger as their ages progress. Genetic testing for Julia is 'inconclusive' but all symptoms lead the doctors to give her a clinical diagnosis of Angelman Syndrome.

The articles reviewed for this paper explain the genetic and clinical diagnosis for Angelman Syndrome. Angelman Syndrome is a genetic disorder effected by a deletion or mutation on the 15th chromosome on the part received from the mother. Dan (2009) studied mice with a missing or mutated section of the 15th chromosome. The affected mice had impaired myelination between brain cells resulting in poor neurological functioning similar to people diagnosed with Angelman Syndrome. Clinical symptoms include severe developmental delay,

difficulty maintaining balance and/or ataxic movements, little to no use of words, seizures, and a behavioral 'uniqueness' often described as a happy affect. Within this paper studies are cited that describe specific children who have Angelman Syndrome. The focus is on the developmental expectations and examples of effective strategies that have been used. These studies offer experience toward trying to improve interventions to help the development of children with Angelman Syndrome.

Importance of this Study

This author has been in and around the field of education for most of her life, with a bachelor's degree in early childhood and elementary education, as well as near completion of a master's degree in early childhood special education. Yet encountering Julia brought forth a mystery. Others working with her had told me the extent of her delays and her 'happy affect' were connected to Angelman Syndrome. This was my initial prompting to learn more about this syndrome that was previously unheard of to me.

Angelman Syndrome is not a widely recognized syndrome. This paper seeks to provide information to others in the field not only about the syndrome, but also about how an early childhood special educator can best serve a child with Angelman Syndrome and his or her family.

Research Questions

This paper examines the current research regarding Angelman Syndrome in terms of what an early childhood special education teacher should know. Specifically it will address two questions:

1. What is the etiology and symptomology of Angelman Syndrome?
2. How does Angelman Syndrome impact a young child's development and how can professionals support this child?

Research Review Procedures

My search for understanding in this topic first came through relevant and credible internet sources. When I began collecting information for this paper, I utilized the St. Cloud State University electronic library system, searching for articles in online journal sources in Academic Search Premier, EBSCO, and ERIC. I began searching using the terms Angelman Syndrome, Angelman's Syndrome, early childhood, and toddler. Results were limited to peer-reviewed articles from the years 2000 to present. The bibliographies of these articles had an abundance of resources cited. Maintaining the same limitations of peer-reviewed and 2000 to present, I searched resources that had been cited. Some resources were searched specifically by titles that were applicable. Others were found by performing additional database searches using frequently cited authors with a subject of Angelman Syndrome. Relevant and credible internet sources have also been used for supplemental information within this paper.

Upon learning that Angelman Syndrome was first documented by Harry Angelman in 1965, it was fitting to allow his document to be exempt from the search date limitation. Angelman's original article offers first hand insight into the history of the diagnosis.

Definition of Terms

- Angelman Syndrome—a symptom characterized by happy affect, ataxic movements, hand clapping, and a characteristic facial appearance, often a result of a deletion on chromosome 15 (Batshaw, Roizen, & Lotrecchiano, 2013).

- Clinical Phenotype—informed professional consensus that takes into account behavioral and physical characteristics to create a set of criteria for a diagnosis (Hart, 2008).
- Genetic Phenotype/Molecular diagnosis—an examination of one's chromosomes and genes that yields a set of criteria for a diagnosis (Hart, 2008).
- Genetic testing/Genetics—in each human cell there are 46 chromosomes, 23 pairs with each parent contributing one chromosome to each pair under normal circumstances. With a few exceptions, within each chromosome there are hundreds of genes. The genes contain the blueprints for each cell's function. When there is a defect in the process of cell division, it can result in a defect within the chromosome, possibly leading to a genetic disorder. Genetics is the study of chromosomes, their division, and the resulting genetic makeup (Batshaw et al., 2013).
- Epilepsy/Seizures—a central nervous system disorder (neurological disorder) in which nerve cell activity in the brain becomes disrupted, causing seizures or periods of unusual behavior, sensations, and sometimes loss of consciousness. Seizure symptoms can vary widely. Some people with epilepsy simply stare blankly for a few seconds during a seizure while others repeatedly twitch their arms or legs. About 1 in 26 people in the United States will develop a seizure disorder. Nearly 10% of individuals may have a single unprovoked seizure. At least two unprovoked seizures are generally required for an epilepsy diagnosis (Mayo Clinic Staff, 2014a).
- Electroencephalogram (EEG)—a test that detects electrical activity in your brain using small, flat metal discs (electrodes) attached to your scalp. Brain cells are

constantly communicating via electrical impulses. This activity shows up as wavy lines on an EEG recording. An EEG is one of the main diagnostic tests for epilepsy (Mayo Clinic Staff, 2014b).

- Social Development—often connected with emotional development this area involves how children feel about themselves and their relationships with others (Marotz & Allen, 2013).
- Motor Development—a child's physical growth and the ability to willingly control various body parts (Marotz & Allen, 2013).
- Cognitive Development—addresses intellect or mental abilities beginning with primitive or reflex behaviors to support survival and growing into other skills such as recognizing, processing, and organizing information to then use it appropriately (Marotz & Allen, 2013).
- Adaptive Development—the age-appropriate behaviors needed to live independently and to function safely and appropriately in daily life, including life skills such as dressing, safety, motor skills, cleaning, making friends, communication and social skills, and personal responsibility (Brun Gasca et al., 2010).
- Communication/Language Development—a system of symbols, spoken, written, and gestural that enables us to communicate with one another (Marotz & Allen, 2013).
- Augmentative/Alternative Communication Systems (AAC) —various devices, both electronic and pictorial (such as Picture Exchange Communication System—PECS- and Communication Boards), which aid in a person's communicative attempts (Calculator, 2014).

- Functional Communication—language skills that enables children to get their wants and needs met (Marotz & Allen, 2013).
- Functional Analysis—assessing the behavioral function of behaviors. In other words, discovering the purpose for a given behavior (Radstaake et al., 2013).
- Joint Attention—the ability to share attention between another person and an object (Batshaw et al., 2013).
- Discrete Trial Instruction—a method used to teach a specific skill. This method uses a one-on-one approach with repeated practice and positive reinforcement. The goal is to master a specific skill that could later be generalized to other settings or people (Summers & Szatmari, 2009).
- Autism Spectrum Disorder (ASD) —a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3, that adversely affects a child's educational performance (U.S. Department of Education, 2016).

Summary

Angelman Syndrome is not necessarily something that every early childhood special educator will encounter. However every child with Angelman Syndrome will have a need for an early childhood special educator. Many articles support the benefits of early intervention. The educator that interacts with a child who has Angelman Syndrome would benefit from knowing the etiology and symptomology as well as knowing interventions that have been found successful by others.

Chapter 2: Literature Review

Angelman's History

In 1965 Dr. Harry Angelman, an English pediatrician, published the first report on the condition that would later be named after him. He noticed similarities among three children who were patients at the hospital in which he worked. In addition to what was at the time called 'profound mental retardation' and abnormal physical development of congenital origin, all three children had flat heads, jerky movements, hypotonia, unsteadiness, protruding tongues, and bouts of laughter. Mobility was delayed and speech either had not developed or was very delayed. 'Fits' (seizures) were present in all three children. With the children's physical appearance of smiling faces and movements described as 'jerky,' 'exaggerated,' and 'crude,' Dr. Angelman was reminded of marionettes. He labeled this diagnosis Happy Puppet Syndrome admitting "it is an unscientific name but one which may provide for easy identification" (Angelman, 1965). The Angelman Project website as well as the Angelman Syndrome Foundation website shared the following story: It is said that Dr. Angelman was on vacation in Italy and saw an oil painting in the Castelvecchio museum in Verona called . . . *a Boy with a Puppet*. This painting inspired Dr. Angelman to publish an article about these three 'puppet children.' Despite Angelman's article, the syndrome did not receive much attention until later years when genetic testing became available.

A diagnosis based on a child's clinical phenotype preceded the technology genetics holds to identify the genetic cause of the syndrome. In 1981 the *American Journal of Medical Genetics* observed that Angelman Syndrome appeared to be a result of a mutation within the

central nervous system. In 1987, the chromosomal deletion of region 15q11.2-q13 was identified as a cause of Angelman Syndrome (Williams, 2010).

Prenatal development and early growth parameters are normal for children later diagnosed with Angelman Syndrome. It is rare for a diagnosis to be suspected during the first year of life. It usually occurs before a child is 4 years old. EEG (electroencephalogram) abnormalities resulting in seizures sometimes precede other features related to Angelman Syndrome. Clinical features of Angelman Syndrome such as severe developmental delay, movement, or balance disorder, behavioral 'uniqueness,' and speech impairment begin to become evident as a child's peers become mobile and verbally communicative. Some children with Angelman Syndrome may exhibit the aforementioned clinical features yet have normal results in genetic testing (Williams et al., 2006).

Etiology and Symptomology

By 1995 professionals had created a consensus statement of the clinical features of Angelman Syndrome. A decade later these were reviewed with minor adjustments. The clinical features supported by various medical facilities, universities, and the Angelman Syndrome Foundation are as follows:

2005 Clinical Features of AS

A. Consistent (100%)
- Developmental delay, functionally severe.
- Movement or balance disorder, usually ataxia of gait, and/or tremulous movement of limbs. Movement disorder can be mild. May not appear as frank ataxia but can be forward lurching, unsteadiness, clumsiness, or quick, jerky motions.
- Behavioral uniqueness: any combination of frequent laughter/smiling; apparent happy demeanor; easily excitable personality, often with uplifted hand-flapping, or waving movements; hypermotoric behavior.
- Speech impairment, none or minimal use of words; receptive and non-verbal communication skills higher than verbal ones.

B. Frequent (more than 80%)
   - Delayed, disproportionate growth in head circumference, usually resulting in microcephaly (≤2 SD of normal OFC) by age 2 years. Microcephaly is more pronounced in those with 15q11.2-q13 deletions.
   - Seizures, onset usually <3 years of age. Seizure severity usually decreases with age but the seizure disorder lasts throughout adulthood.
   - Abnormal EEG, with a characteristic pattern. The EEG abnormalities can occur in the first 2 years of life and can precede clinical features.

C. Associated (20%-80%)
   - Some of the associated features include: protruding tongue, tongue thrusting/feeding problems, wide mouth, frequent drooling, excessive mouthing behaviors, hypopigmented skin, light hair, and eye color compared to family, increased sensitivity to heat, abnormal sleep-wake cycles and diminished need for sleep, attraction to/fascination with water, and constipation. (Williams et al., 2006, p. 414)

According to Dan (2009), over 90% of patients with a diagnosis of Angelman Syndrome based on observable characteristics also have genetic testing results that yields a lack of expression of the UBE3A gene or a mutation of this gene. The UBE3A gene is found on chromosome 15, inherited from the mother. It can be a microdeletion or a mutation of the section 15q11-q13. Similar abnormalities affecting the paternally inherited chromosome 15 result in Prader-Willi Syndrome. In some cases of Angelman Syndrome (2-3%), the child inherits both copies of chromosome 15 from the father, having none from the mother. This also results in a lack of expression of the UBE3A gene, but having two intact chromosomes, the effects are less severe.

Dan (2009) studied the effects of inactive UBE3A gene in mice. It produced mice with failure to thrive in the first month and sometimes death. The survivors showed abnormal EEG patterns, impaired motor coordination, and learning impairment. These impairments are linked to the myelination of certain brain cells and synapses or lack of myelination between brain cells. Continued research is needed to further explore the possibilities of UBE3A production in

brain cells, possible cortical networks, and general neuronal functioning. The hope is that greater understanding of the effects associated with these abnormalities of the 15th chromosome will lead to greater management of or possible elimination of Angelman Syndrome.

A study by Tan et al. (2011) included 92 human participants under the age of 5 years whom all had a genetic diagnosis of Angelman Syndrome. Ninety-five percent of participants had received a diagnosis by 36 months of age. Fourteen were suspected of having this syndrome first by either a general pediatrician (n=11) or a parent (n=3). In the remaining 78 participants the diagnosis was first suspected by a pediatric specialist; geneticist (n=47), neurologist (n=28) or another specialist (n=3). While the overall median age of the participants' receiving a diagnosis was 16 months, those with a deletion had a median age of 14 months and all other possible causes had a median age of diagnosis of 24 months. This supports the theory that deletion cases are easier to recognize.

Epilepsy and Sleep

Seizures occur in about 90% of patients with Angelman Syndrome and are more severe with those who have a chromosome deletion. The onset of seizure is often between 1-3 years of age, and often precedes the diagnosis of Angelman Syndrome. Seizures are diagnosed through an EEG which shows the spike/wave patterns of activity in the brain. The most common types of seizures in people with Angelman Syndrome are atypical absence and myoclonic seizures. Atypical absence seizures are characterized by a brief loss of consciousness. Myoclonic seizures are characterized by brief shock-like jerks of muscles. Compared to many other neurodevelopmental disorders, those with Angelman Syndrome seem to have a greater rate of seizure diagnosis. A correlation may exist between the lack of UBE3A expression associated

with Angelman Syndrome and seizures. More research is needed in this area (Pelc, Boyd, Cheron, & Dan, 2008).

Another common feature of 20-80% of those with Angelman Syndrome is a severe disturbance of sleep. A study by Conant, Thibert, and Theile (2009) at the Pediatric Epilepsy Program in Boston, MA, examined questionnaires from 290 individuals with Angelman Syndrome and/or their families. Of the 290 participants, 82% reported having epilepsy. More than half the respondents reported difficulty falling asleep. Sensitivity to the environment and disoriented awakening were also frequent factors affecting sleep. Individuals with multiple seizure types reported greater sleep disturbances. While the authors of that particular study found a correlation between the severity of epilepsy and sleep disturbances, they caution "it is still unclear as to whether more severe epilepsies are causing the sleep disturbances or if poor sleep hygiene is exacerbating the epilepsies" (Conant et al., 2009).

Areas of Development

In the field of early childhood, a child's development is intertwined. Without the ability to communicate appropriately with others, a child's social skills may be negatively impacted. The ability to move about one's surroundings and manipulate objects offers greater opportunities for cognitive development. While understanding that development is interrelated, for discussion purposes, development is often categorize as: communication, social, adaptive, cognitive, and motor.

Communication Development

Communication is a system of symbols either spoken, written, or gestural that enables people to share thoughts and ideas with one another. Radstaake et al. (2013) performed a study

with three students, Amy, Bob, and Cody. Each were diagnosed with Angelman Syndrome, used gestural communication, and exhibited low cognitive abilities. The goal of the study was to conduct a functional analysis of these students' challenging behaviors to determine their communicative intent and then implement functional communication training sessions to offer acceptable replacement behaviors. The students lived at home and attended a specialized daycare facility. The teachers were instructed how to perform the functional communication training using discrete trial instruction. Precursors, or antecedents, for the challenging behavior included looking at or reaching for food, making physical contact with the teacher, and pushing away an object. For replacement behaviors Amy was trained in the use of a picture exchange system while Bob and Cody were trained in the use of a speech-generating device. The study concluded that functional communication training could be an effective early intervention strategy for people with Angelman Syndrome. In this study all three children learned to utilize the replacement behavior to different degrees. As training progressed challenging behavior declined. While this study was based on previous similar studies, the authors confess some limitations of this study. The small sample size hinders generalizations of the results. Peer presence was not kept at a constant and could have influenced the results. Further research could be conducted to see if other variables such as subtype (chromosome microdeletion, mutation, imprinting error) or epilepsy have an influence on the results. Regardless of the variables, the authors of this study strongly encourage the use of communication aids such as those used in this study to prevent challenging behavior from becoming part of a child's default communication system.

Table 1: Characteristics of Participants

	Amy	Bob	Cody
Gender	Female	Male	Male
Chronological Age	7 years	15 years	6 years
Developmental Age*	18 months	6-12 months	17-29 months
Genetic Subtype of 15q11-q13	Imprinting error	Chromosomal Deletion	Chromosomal Mutation
Epilepsy	No	Yes	Yes
Main Function of Challenging Behavior	Escape from task	Receiving tangibles	Escape from task
Precursor(s)	Inconsistent	Making physical contact with teacher	Inconsistent
Replacement Behavior	Picture Exchange System	Speech-generating device	Speech-generating device

*Developmental age was determined for Amy through the Bayley Scale of Infant Development, for Bob and Cody it was through the Vineland Adaptive Behavior Scales. (Radstaake et al., 2013, p. 51)

Augmentative and Alternative Communication

The use of a picture exchange system or a speech generating device as used in the previous study are examples of assistive technology. Whereas some assistive technology offers support in motor skills, augmentative and alternative communication systems (AAC) are a type of assistive technology used for purposes of communication. Calculator (2014) from the University of New Hampshire, explored parents' perceptions of augmentative and alternative communication (AAC) systems used by their children with Angelman Syndrome. After a pilot survey he forwarded the online survey to the Angelman Syndrome Foundation for dissemination to additional parents. Over 200 parents completed and returned the survey indicating that their child had used an electronic AAC device within the past year. The gender of the children was 51% boys, 49% girls. Most of the children (91%) lived in the United States across 42 different

states. Most of the children were White/Caucasian (83%). Participants included a wide range of ages with 27 preschoolers, 97 school aged, and 46 adults. The survey used a 7-point Likert scale to rate perceived importance. Calculator found that the primary modes of communication for these children were prelinguistic or nonsymbolic forms of communication such as natural gestures, nonspeech vocalizations, and physical manipulation. The category 'natural gestures' remained consistent across the lifespan, being rated very or extremely important (a 6 or 7) in over 80% of each age group with a mean rating of 6.30. The category 'nonspeech vocalizations' was deemed very or extremely important (a 6 or 7 on the scale) for 93% of the preschoolers, 74% of the school aged, and 43% of the adults, indicating the importance lessened with each progressive age group. The mean rating for 'nonspeech vocalizations' was 6.01. Similarly 'physical manipulation' lessened in importance as the children got older, with a mean rating of 5.89.

The use of electronic AAC devices received a mean rating of 5.22, where 5 is 'somewhat important.' Some of the parents cited names of the electronic devices yielding 222 citations of 48 different devices. The iPad was the most prevalent device being used by 48%. Of this sub-group, over half were able to cite specific ACC applications yielding a total of 19 different apps. Calculator (2014) noted an increased use of technology. In a similar study of his less than 3 years prior, mobile devices accounted for 8% of individual's devices, but in this current study he found 48% of individuals use iPads alone or in combination with other devices. Of the parents who reported their child using an electronic AAC device, the survey then proceeded to ask the parents to rate the usefulness of their single most advanced AAC device. The chart

below illustrates the outcomes using a 7-point Likert scale: 1 very useless, 4 neutral, 7 very useful. The average rating of every outcome was more towards useful than useless.

Table 2: Outcome of Single Most Advanced AAC Device

OUTCOME OF SINGLE MOST ADVANCED AAC DEVICE	AVERAGE RATING
Overall success having wants and needs met	4.87
Conveying a variety of different messages	4.73
Communicating more clearly	4.86
Communicating with more people	4.82
Communicating more quickly	4.32
Communicating more effortlessly	4.42
Communicating in more places	4.42
Value placed on device relative to other methods being used to communicate	4.65

Calculator (2014) concluded his study with a reminder that for many people with and without disabilities the mode of communication varies across five different types of communication partners (family, friends, acquaintances, paid workers, unfamiliar people). Further, Calculator stated that "the goal is to optimize use of a combination of nonsymbolic and symbolic methods that will enable individuals to communicate effectively with the broadest range of communication partners across the broadest range of possible settings" (p. 571).

Joint Attention in Communication

Joint attention is an important foundational skill in communicating as well as in social interactions. Summers and Impey (2011) conducted a study assessing joint attention. They described the differences children with Angelman Syndrome have in responding and initiating joint attention. Table 2 shows the characteristics of the participants.

Table 3: Characteristics of Participants

	Child 1	Child 2	Child 3	Child 4
Gender and age	Female 10 years 1 month	Male 5 years 4 months	Female 6 years 3 months	Female 10 years 3 months
Genetic subtype	maternal deletion of 15q11-q13	maternal deletion of 15q11-q13	maternal deletion of 15q11-q13	mutation of the UBE-3A gene
Presence of seizures	yes	Yes	yes	no
Mullen Scales of Early Learning (age equivalent)				
Expressive Language	5 months	4 months	6 months	7 months
Receptive Language	17 months	13 months	15 months	27 months
Visual Reception	20 months	11 months	16 months	36 months
Vineland Adaptive Behavior Scales (age equivalent)				
Communication	16 months	9 months	12 months	16 months
Socialization	16 months	10 months	13 months	19 months
Receptive-Expressive Emergent Language Scale - Second Edition (age equivalent)				
Expressive Language	5 months	3 months	5 months	6 months
Receptive Language	12 months	10 months	11 months	30 months
Joint Attention Result				
Responding	15/18 points	12/18 points	15/18 points	15/18 points
Initiating	9 gaze shifts	1 gaze shift	3 gaze shifts	13 gaze shifts

(Summers & Impey, 2011, p. 453)

Pictures and toys were utilized to assess the children's joint attention *responding*. The pictures were large and brightly colored. The examiner attempted to establish eye contact by calling the child's name. If the child did not look at the examiner after 3 seconds, the examiner used a sweeping motion with her fingers while saying "Look at me." Once the child made eye

contact the examiner would look at the picture. If the child responded by also looking at the picture within 5 seconds, the trial was over and the child was awarded 5 points. If the trial was unsuccessful it was attempted again adding the examiner's use of a point with the look toward the picture. If this was successful, the child would be awarded 3 points. If it was unsuccessful, the procedure would resume with the examiner adding the verbal cue "Look" while pointing and looking at the picture. If this was successful a score of 1 was awarded and the trial was over. If this was unsuccessful the child was awarded 0 points. This procedure was followed for every other picture, with the child being allowed to look at the in-between pictures with informal interaction with the examiner. This same procedure was followed with brightly colored toys.

Assessing the children's joint attention *initiation* utilized a bubble machine, remote control car, and a book. The children were observed for 15 seconds while the bubble machine was activated then for the first 5 seconds after it had been turned off. This was repeated for the remote control car. The book was laid open in front of the child while the child was observed for 20 seconds. For all subtests the examiner would respond to the child's interest in the item with a brief verbal comment. If the child looked at the toy or book and immediately looked at the examiner a 'gaze shift' was recorded. If the child looked from the toy or book to the examiner then back at the object two 'gaze shifts' were recorded. Gestures and vocalizations were also noted.

These assessments were videotaped to allow for interobserver agreement. With the joint attention responding a score of 18 was the maximum. Child 1 scored 15, Child 2 scored 12, Child 3 scored 15 and Child 4 scored 15. Child 1, 3, and 4 responded to some gaze shift only and to some gaze shift with point. Child 2 scored only with gaze shift and point. The joint

attention initiation subtests offered the following data; Child 1 had 9 gaze shifts, Child 2 had one gaze shift, Child 3 had three gaze shifts, and Child 4 had 13 gaze shifts. The authors of this study suggested that the children's ability to *respond* to joint attention bids was less impaired than their ability to *initiate* joint attention.

Social Development

Social development encompasses a child's feelings about himself and other relationships. Adams, Horsler, Mount, and Oliver (2015) conducted a longitudinal study exploring the key characteristics of Angelman Syndrome (excessive smiling and laughing) in 12 participants with Angelman Syndrome. At the time of the first data collection the mean age of the participants was 6 years, 6 months with a mean adaptive behavior composite score from the Vineland Adaptive Behavior Scales of 12.4 months. At the second data collection the mean age was 10 years, 9 months with a mean adaptive behavior composite score on the same tool of 32.9 months. The mean time elapsed between data collection points was 46.3 months. Each time each participant was observed and videotaped in three conditions with a familiar adult. One condition was 'proximity only' where the adult sat adjacent to the participant maintaining a neutral facial expression not looking, talking to, nor touching the participant. The second condition was a 'restricted social interaction' where the adult sat adjacent to the participant, talking as per a normal conversation but with a neutral facial expression without looking at the participant. The third condition was a 'social interaction' condition. In this scenario the adult sat adjacent to the participant while talking, giving physical contact, smiling, laughing, and maintaining eye contact as per normal social interaction. The variable data points were created by using the percentage of the time the child was smiling and laughing. To maintain

consistency, the same familiar adult was used each time at the child's home in a quiet room with minimal distractions. Interobserver agreement was utilized. The proximity only scenario resulted in the lowest percentage of smiling and laughing at both data collection points. The restricted social interaction showed a higher percentage. The full social interaction yielded the highest percentage of smiling and laughing. In all conditions the percentage of smiling and laughing decreased over time. The greatest decrease occurred in the full social interaction condition. Possible reasons for the decrease in smiling and laughing included additional health concerns, specifically epilepsy which can negatively impact a person's sociability. Additionally, puberty impacts a person's sociability. Because these variables were not controlled in this study they cannot be ruled out as possible causes for the decline in smiling and laughing. This does not explain the greater decline in smiling and laughing in the full social condition compared to the decline in the other conditions. The authors suggested that the decline in smiling and laughing in the full social interaction condition reflected a decreased potency in eye contact and social attention as a reinforcer as the children reach adolescence. With this proposal, the authors stated that early intervention is necessary in order to maximize the potential reinforcing properties of social interaction.

Adaptive Development

Adaptive development is sometimes called self-help skills. This typically encompasses the skills necessary to take care of one's self, such as feeding, grooming, toileting, and safety skills. A study by Brun Gaska et al. (2010) focused on adaptive development in relationship to age in 25 individuals with Angelman Syndrome. The population of the group included 17 males and 8 females; as young as 16 months old to 17 years and 9 months old. The mean age was 8

years and 3 months, with the median age of 9 years. The study was conducted in Barcelona, Spain, with volunteers from the Spanish Association for Angelman Syndrome. The Inventory for Client and Agency Planning (ICAP), a questionnaire-interview type instrument, was administered by a psychologist with the parents of these children. This instrument assesses a person's adaptive behavior in four areas: motor skills, language and communication, personal life skills, and community life skills. Based on previous clinical experience by the authors of this study, they hypothesized that the individuals assessed would not score higher than 36 months on the ICAP. The results of the study confirmed their hypothesis. Despite the range in chronological age of the participants, none of the individuals scored beyond a developmental age of 3 years. The highest scores were in the areas of 'personal life' and 'community life,' with the lower scores falling in the categories of 'motor skills' and 'social and communication.' Additionally, parents indicated that even though the children had difficulties with speech and communication, they were very functional in the home environment. Many parents reported their child could finding things they were interested in and manipulate some equipment such as a television remote. The authors of this study noted that their clinical experience supported the theory that individual interventions can help children with Angelman Syndrome achieve a better quality of life. They encouraged further research and support of intervention approaches.

Cognitive and Motor Development

Some motor development occurs naturally through reflexes or physical growth. Some motor development is learned. Cognitive and motor development are grouped together in this discussion as cognitive skills are applied to learn motor skills. Summers and Szatmari (2009) utilized discrete trial instruction to teach three children with Angelman Syndrome. Their study

suggested that discrete trial instruction is an effective strategy to use for building foundational skills in some children with Angelman Syndrome and other children with severe or profound intellectual disabilities. Their study focused on three children with genetically confirmed Angelman Syndrome who received discrete trial instruction sessions for over a year.

Amy was diagnosed at age 22 months and was 6 years, 9 months old at the time of the study. She received medication for absence seizures. She was able to walk unaided but her movements were jerky. Her vocalizations were mostly vowel sounds and she drooled frequently. Amy attended an integrated classroom with the support of a full-time aide. While there was use of visual symbols in her classroom, she had no experience with any formal picture exchange system.

Sara was diagnosed at age 13 months and was 3 years, 11 months old at the time of the study. She received medication for absence seizures. She was able to walk unaided yet her movements were unsteady. She drooled frequently. She laughed and flapped her hands. Her communication consisted of vocalizations similar to babbling and she could point to direct people to what she wanted. Sara attended an integrated classroom half-time with an aide. Sara was exposed to visual symbols in the classroom but had no experience with any formal picture exchange system.

John was diagnosed at 11 months and was 3 years, 1 month old at the time of the study. He received medication for grand mal seizures. He was able to sit, turn, and crawl but was not able to walk without the use of a walker. His movements were jerky. He had difficulty releasing objects from a grasp and he was resistant to touch. He made one vowel sound, had

frequent bouts of laughter, and flapped his hands. John was enrolled in a daycare with 'specialized supports.'

All three children were assessed with psychometric tools prior to the interventions. The results yielded developmental age range equivalents from 3 to 17 months. The discrete trial instruction sessions were held three times a week for Amy and Sara and twice a week for John. Each session lasted 1.5 to 2 hours. The first 10 to 15 minutes were allotted for preparing materials and the last 10 to 15 minutes were allotted for summarizing data. The sessions took place in the children's respective homes. During the period of the child acquiring the target skill tangible reinforcements and social praise were delivered on a fixed ratio schedule. Once the target skill was mastered, a variable reinforcement schedule was used. Mastered skills were used throughout the sessions to maintain attention and motivation. When needed, prompts were delivered with the intent to fade from physical to gestural to verbal. Once target skills were mastered, the focus shifted to generalization of responses to different locations. The trials were administered by four different therapists who each had undergraduate degrees in psychology and at least 5 years supervised experience working with this population. The target responses were in the areas of gross motor imitation, motor imitation using an object, fine motor imitation, use of Picture Exchange Communication System, sign, receptive instructions, attending, matching, and self-help. Due to John's aversion to touch and difficulty with releasing an object from his grasp, John had an additional target of 'touching, holding, and giving objects.' Mastery for any skill was considered when the child would perform the skill 90% of opportunities.

By the end of the year, Amy acquired target skills across all areas and mastery in most. She displayed a gradual learning of the responses. Sara acquired skills across most areas,

but did not achieve mastery in any area. Her most successful area was motor imitation using objects. John's experience was limited to touching and holding objects, attending to an adult, and requesting a preferred item by touching and looking at a photograph. All three children were able to generalize some target responses to their parents. At the end of the study the parents performed a Likert-type survey regarding the experience. Overall the parents were satisfied with the teaching methods and outcomes. All parents reported significant improvements in their child's attention, concentration, and ability to follow 1-step directions.

The largest improvements overall were seen in the area of motor imitation with objects. The results indicate that discrete trial instruction is an appropriate method to teach foundational skills in some children with Angelman Syndrome. The small sample of the study is a major limitation. Further research is needed to support the effectiveness of discrete trial instruction.

Chapter 3: Summary

The author of this paper had not heard of Angelman Syndrome prior to working with a toddler with that diagnosis. This paper's intent was to research the etiology and symptomology of Angelman Syndrome, the potential impact on a child's development, and how an early childhood special educator could best support this child.

Batshaw et al. (2013) defined Angelman Syndrome being characterized by happy affect, ataxic movements, hand clapping, and a characteristic facial appearance all of which is often a result of a deletion or mutation on chromosome 15. It is rare for a diagnosis to be suspected during the first year of life but usually happens before a child is 4 years old. Seizures are typically the first symptom to show.

Harry Angelman, and English pediatrician, first noticed similarities in his patients in 1965. He wrote a paper about these similarities, calling it "Happy Puppet Syndrome." The syndrome was later renamed after Dr. Angelman. In 1981 geneticists discovered that the syndrome was due to a damaged central nervous system. In 1987 it was determined that the cause was a chromosomal deletion or mutation of 15q11.2-q13. In 1995 professionals created a consensus statement of clinical features to aid in the diagnosis of Angelman Syndrome. This statement of clinical features which was updated in 2005.

Angelman Syndrome presents with a severe developmental delay, a balance disorder and/or ataxic movements, little to no use of words, seizures, and a behavioral 'uniqueness' often described as a happy affect. For the purpose of discussion within this paper, the areas of development were categorized as: communication, social, adaptive, and cognitive and motor (grouped together due to cognitive skills needed to learn motor skills and vice versa).

Three studies were cited regarding communication skills. Radstaake et al. (2013) performed a study with three students with Angelman Syndrome. The goal of the study was to determine the communicative intent of challenging behaviors and implement training for acceptable replacement behaviors. The challenging behaviors were either to escape a task (n=2) or to receive tangibles (n=1). The replacement behaviors were speech generating devices (n=2) and Picture Exchange System (n=1). Challenging behavior declined as the students began to use the replacement behaviors.

In the second study Calculator (2014) compared parent perceptions of Augmentative and Alternative Communication (AAC) systems. In his study he found that the primary modes of communication for children with Angelman Syndrome was prelinguistic or nonsymbolic forms of communication such as natural gestures, non-speech vocalizations, and physical manipulation. Calculator emphasized that the goal of an AAC device is to enable individuals to communicate effectively with the broadest range of communication partners across the broadest range of possible settings. The use of iPads was found to be accepted and successful with 48% of the parents who used AAC.

The third study focused on joint attention in the study by Summers and Impey (2011). This study involved four children with Angelman Syndrome, ranging in chronological age from 5-10 years old, with developmental ages ranging from 5-36 months old. They summarized that the children's ability to respond to joint attention bids was less impaired than their ability to initiate joint attention.

Social development was the focus behind the Adams et al. (2015) study. The study followed 12 participants with Angelman Syndrome over 4 years. The highest percentage of

social engagement occurred when the participants were included in social interaction with peers opposed to proximity only situations. Social engagement decreased over time, perhaps due to epilepsy, adolescence, and/or the lack of reinforcing of social attempts.

In a study of adaptive development by Brun Gaska (2010), none of the participants received a score beyond a developmental age of 3 years. Parents stated that despite the challenges, the child is functional in their home with items of interest to the child.

Cognitive and motor skills were studied by Summers and Szatmari (2009). Using discrete trial instruction, three children with Angelman Syndrome were taught certain skills to various degrees. The largest improvements were in the area of motor imitation with objects. Additionally parents noted significant improvements in their child's attention, concentration and ability to follow one-step directions.

Conclusions

Angelman Syndrome has an interesting history. The etiology may only be of interest to the educational professionals working with children with Angelman Syndrome as it relates to their ability to understand conversations with parents as they discuss medical issues. It is a result of either a mutation or deletion of part of the 15^{th} chromosome. The child with Angelman Syndrome will more than likely become noticed as 'different' by others as their peers become mobile and verbal communication begins. This child will have a severe global developmental delay where mobility is impaired, verbal communication is little to none, and seizures are common. As peers become more independent, this child will still depend on others for many self-care tasks.

Some of the studies cited in this paper included children as old as 17 years chronologically, yet none of them had a developmental age over 3 years. Nonverbal communication is most likely. Notice the possible attempts. This child's ability to respond to joint attention is greater than their ability to initiate joint attention. Reinforce the child's emerging use of joint attention and utilize AAC devices as appropriate. Accept smiles and laughter as the child's attempt for social interaction. While overall adaptive skills may be low, the child may be very functional with items of interest at home, such as a favorite toy or electronic device. Many of the studies found success with individual, repetitive instruction with positive reinforcement to teach basic skills.

Chapter 4: Position

Julia, the child mentioned at the beginning of this paper, the child who introduced me to Angelman Syndrome, will forever be in my mind. While many of the characteristics mentioned throughout the research relate to her as being a child with Angelman Syndrome, she was a unique individual with her own personality that cannot be limited by any set of criteria.

Learning more about Angelman Syndrome helps the professional working with someone with the diagnosis. It helped me notice some characteristics Julia had that are clearly a result of the syndrome, such as her bouts of laughter and smiling. Knowing about Angleman Syndrome led me to note when she appeared to stare off into space. This was possibly an absence seizure and should be reported to parents as having possibly happened. Knowing about the syndrome helped me have patience to work with her week after week with seemingly little progress. We spent many months at lunch time working on bringing a fork to her mouth with hand over hand assistance. At 3 years old she was not yet independent in that skill. Functionally, she had greater success feeding herself with finger foods. After 5 months of struggling with a straddle walker, knowing about the syndrome made me so very excited that day that she sped down the hallway with her walker unassisted by daycare staff. Overall I was able to adjust my expectations and prioritize her goals accordingly.

Knowing about Angelman Syndrome also helped me in communicating with parents. Knowing the prognosis I was able to show greater empathy to the mom who cried frequently over her loss of the 'typical' child she wanted. It also allowed me to share successes with parents on the scale they deserved. For example; Julia may not have seemed to have friends. She did not play with other children. Knowing to look for her nonverbal forms of

communication revealed that certain peers were greeted more positively than others. Those greeted positively were her friends.

Professionally, it is always good to know what research says. It is good to know that others have found success using AAC devices and discrete trial instruction. Those are strategies I can use. Ultimately, the diagnosis does not matter. As with any child, I must determine the child's present levels of performance, determine the next skill set the child needs to learn and do my job to best help the child succeed to the next step.

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The Role of an Early Childhood Special Education Teacher in Kindergarten

By

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A Starred Paper

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

Master of Science in

Early Childhood Special Education

April, 2017

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Chapter 1: **Introduction**

The special education category Developmental Delay provides services for children ages birth to 3 years old under the Individuals with Disabilities Education Act (IDEA) Part C and children ages 3 to 7 years old under IDEA Part B. Teacher preparation programs and school districts acknowledge and support the role of an early childhood special education teacher for infants, toddlers, and preschoolers. However, it is less clear who is to provide special education services for the children under the category of developmental delay once they leave preschool but before they turn 7 years old. In many cases once a child is in kindergarten an elementary special education teacher, opposed to an early childhood special education teacher, provides the necessary special education services to the student. Whereas an early childhood special education teacher is licensed for the special education category of developmental delay, most elementary special education teachers are licensed for other disability categories. These categories of licensure correlate with disability categories and extend into elementary and secondary school years. Examples are Learning Disability (LD), Emotional/Behavioral Disability (EBD), Autism Spectrum Disorder (ASD), Developmental and Cognitive Disabilities (DCD), or an Academic Behavioral Strategist (ABS) licenses. Each category has unique eligibility criteria that is different than the developmental delay criteria.

This paper examines the unique role of an early childhood special education teacher who provides special education services to students under the classification of developmental delay in children ages 5-7 years old. Transition practices from preschool to kindergarten are examined along with the perspectives of key stakeholders in the process; parents, preschool teachers, and kindergarten teachers. Additionally, the role of special education in kindergarten is examined as

well as researching outcomes of students who no longer meet the developmental delay eligibility criteria due to age and must meet new criteria for a different disability category.

Importance of this Study

Many neighboring states' special education criteria use the category of developmental delay only through 5 years of age; however, Minnesota's developmental delay category can remain until a child turns 7 years old. Most students have their seventh birthday in first grade. While it may be rare to find an early childhood special educator working with kindergarteners, and perhaps some first graders, those positions exist. The early childhood special educator holds a license to work with children receiving special education services under the category of developmental delay (opposed to other special educators with licenses for emotional/behavioral disability, learning disability, deaf/hard of hearing, etc.). In an area of seven school districts in central Minnesota, two districts employ an early childhood special educator to work specifically with students between the ages of 5-7 years under developmental delay eligibility. Much has been written for professionals working with children ages 5 and under with developmental delay and may be sufficient for the states whose developmental delay classification ends at that age. However, as stated, a child may be classified under developmental delay in Minnesota until their seventh birthday. There is little written for the professional working with children still classified as developmental delay as they move beyond preschool. This writer wishes to discover some of that information.

Research Questions

This paper explores current research regarding transitions from preschool to kindergarten from the receiving perspective, special education during kindergarten, as well as any research

regarding the transition from developmental delay to categorical disability. Specifically, it will address the following question in regard to the sub-topics:

What is the role of an early childhood special education (ECSE) teacher in kindergarten?

- transition from preschool to kindergarten
- special education during kindergarten
- transition into categorical disability

Research Review Procedure

My introduction to this topic first came through a textbook used for a course in St. Cloud State University's Early Childhood Special Education program, *Successful Kindergarten Transition* by Robert C. Pianta and Marcia Kraft-Sayre. When I began collecting information for this paper, I utilized the St. Cloud State University electronic library system, searching in Academic Search Premier, EBSCO and ERIC. The search began using the terms *developmental delay*, *categorical disability*, and *kindergarten*. Results were limited to peer-reviewed articles from the years 2000 to present. With low yields to those key terms, the search was expanded using the terms *special education and kindergarten*, and *kindergarten and transition*. Those search terms yielded an abundance of articles, therefore the dates for that collection of resources were limited to 2005 to present. Relevant and credible internet sources have also been used for supplemental information within this paper.

Definition of Terms

- Transition—the process of preparing preschoolers and their families for kindergarten and the subsequent school system. Five guiding principles form the core of transitions: fostering relationships as resources, promoting continuity from preschool

to kindergarten, focusing on family strengths, tailoring practices to individual needs, and forming collaborative relationships (Pianta & Kraft-Sayre, 2003).

- Family Experiences and Involvement in Transition (FEIT)—a 57-item survey designed first for a study in 2007 to investigate family perspectives regarding their child's kindergarten transition preparation, covering the following five domains: (1) child educational history; (2) family concerns regarding transition; (3) family identified needs during transition; (4) family involvement in transition related activities; and (5) family socio-demographic information (McIntyre, Eckert, Fiese, DiGennaro, & Wildenger, 2007). See appendix for further information.
- Redshirting—the parental practice of delaying a child's entry into kindergarten, most commonly due to the child being born in the latter half of the year, parents wanting to give their child an advantage of being one of the older ones in his/her class, or parents noticing that their child is lacking in certain areas of development hoping their child will catch up over the year (Barnard-Brak, 2009).
- Developmental Delay (DD)—a category of special education in which the child: **(a)** has a diagnosed physical or mental condition or disorder that has a high probability of resulting in developmental delay; or **(b)** has a delay in two or more of the areas of development; cognitive, physical, communication, social, or emotional, and adaptive. It must be verified by an evaluation using one or more technically adequate, norm-referenced instruments. The instruments must be individually administered by appropriately trained professionals and the scores must be at least 1.5 standard deviations below the mean in each area (Minnesota Revisor Statutes, 2015).

- Learning Disability (LD)—also called specific learning disability (SLD). A disorder in one or more of the basic psychological processes involved in understanding or using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to make mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia (Minnesota Revisor Statutes, 2015).
- Individualized Education Program (IEP)—a written statement of the educational program designed to meet a child's individual needs. Every child who receives special education services must have an IEP. It is both a legal document and a process. The IEP has two general purposes: to set reasonable learning goals for a child, and to state the services that the school district will provide for the child (Center for Parent Information and Resources, 2016).
- Phonological awareness—an awareness of the larger and smaller parts of spoken language (including syllables, rhymes, and individual phonemes or sounds). Children can demonstrate this by blending, segmenting, rhyming, and performing other sound manipulation (Rafdal, McMaster, McConnell, Fuchs & Fuchs, 2011).
- Inclusion—special education students participating in "a class with typically developing children all day with special needs a minority" (Guralnick, Neville, Hammond, & Connor, p. 238).
- Least restrictive environment—To the maximum extent appropriate, children with disabilities are educated with children who are not disabled. Special classes, separate schooling, or other removal of children with disabilities from the regular educational

environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (U.S. Department of Education, 2016).

Chapter 2: Literature Review

First the transition from preschool into kindergarten is examined. Three data-oriented studies are shared as well as three case studies. The three data studies are largely based on different parts of a tool called the Family Experiences and Involvement in Transition (FEIT). The first study compares family concerns between families of students in general education versus special education during the transition from preschool into kindergarten. The second study compares the transition practices and activities of families and preschool teachers between students categorized as Autism Spectrum Disorder (ASD) or developmental delay (DD). The third study reports data from parents, preschool teachers, and kindergarten teachers regarding their concerns and involvement in transition between students classified DD versus those who are in general education. In the case study section the stories of Abby, Brady, and Tristan offer a personalization to the challenges families have when their child transitions from special education in preschool to special education in kindergarten.

The second section of the literature review explores some theories and practices regarding special education in kindergarten. The paradox of 'hurry up and wait' is discussed. While trends seem to be pushing heavier academic expectations into kindergarten, the kindergartener needing special education support seems to be told that kindergarten is a year of waiting to see if they 'catch up' due to students' varied backgrounds represented in school. An interesting article about redshirting, a practice in which parents purposefully delay kindergarten entrance, is reviewed. Two articles focus on students' needs regardless of special education categorization and offer strategies to support struggling or at-risk learners.

The final section of the literature review offers two articles that have a longitudinal perspective on students' levels of inclusion within special education. The first article was a 3-year study concluding that full inclusion in preschool and kindergarten results in the majority of students in special education remaining involved with students who are typically developing. The second article was a 5-year study that noted the most dramatic shift from full inclusion to less inclusive educational settings occurred as students left first grade. While reasons are not given for the dramatic shift, this author notes that first grade is when most students turn 7 years old, corresponding with the end of developmental delay.

Transition from Preschool into Kindergarten

Data Based Studies

McIntyre, Eckert, Fiese, DiGennaro, and Wildenger (2010) studied family concerns during the preschool to kindergarten transition, sampling families with students in general education and special education. The 132 participants involved in this study were parent/caregivers of children previously enrolled in early childhood programs transitioning to kindergarten in an urban school district in the Northeastern United States. Of the 132 students, 22% received special education and related services as preschoolers. The families were given a survey designed to investigate family perspectives regarding their child's preparation for kindergarten transition, titled Family Experiences and Involvement in Transition (FEIT, see appendix). There are five domains of the FEIT: (1) child educational history; (2) family concerns regarding transition; (3) family identified needs during transition; (4) family involvement in transition related activities; and (5) family socio demographic information. The domains involved in this study were the: (1) educational history; (2) family concerns regarding

transition; and (5) family demographics. The family concerns portion uses a 4-point Likert scale. The study revealed that caregivers of children with special needs (or special education, SpEd) generally had significantly more concerns than caregivers of students in general education (or typically developing, TD). The most profound difference was seen regarding concerns with the child following directions at child; 13.9% of the TD group had some/many concerns versus 48.3% of the SpEd group. The question of 'How concerned are you about your child's ability to make his needs known to others?' yielded results of 13.9% of the TD group versus 44.8% of the SpEd group reporting some/many concerns. The areas of 'academics' and 'behavior problems' were slightly less, with academic concerns ranking 17.8% among the TD group and 41.4% among the SpEd group. Concerns regarding behavior problems ranked 16.0% among the TD group and 41.4% among the SpEd group. All families expressed similar levels of concern regarding getting along with peers, separation from family, and getting along with the kindergarten teacher. This study reported limitations due to sampling only one school district. Future research can be directed to longitudinal studies that examine the impact of quality kindergarten transition in the long term. The authors of this study encourage multidisciplinary planning and family support to help alleviate parental concerns associated with transitioning to kindergarten. In other words, a 'team-based approach that involves key stakeholders in early education, elementary education, and the student's family and community' (McIntyre et al., 2010, p. 263).

Whereas the previous study documented parental/caregiver concerns about transition, a study by Quintero and McIntyre (2011) examined transition practices and involvement. The results of this study indicate that teachers were significantly more likely to report higher

concerns for children in an Autism Spectrum Disorder group than children in a Developmental Delay group. Preschool teachers (n=43) and parents of 95 children with disabilities were questioned. Participants were selected from 48 different classrooms in and near a mid-size city in the northeastern United States. Data were compared between the students with Autism Spectrum Disorder (ASD, n=19) and students with Developmental Delay or other developmental disability (DD, n=76). All students had an active Individualized Education Program (IEP) and had lived with their primary caregiver for the year preceding the study. Data were collected during the spring of the child's final preschool year by parents and preschool teachers. Data collected during the fall of the child's kindergarten year were only by parent report. All of the children in the ASD group attended a special education preschool. Of the DD group, 55 attended a special education preschool and 21 attended a Head Start program. Data were collected using the FEIT on: (1) child educational history, (4) parent involvement, and (5) family demographics. The preschool teachers were given the Teachers' Perceptions on Transition (TPOT; Table 1), a measure developed for this study by the authors of the study, as well as open ended questions.

Table 1: Teachers' Perceptions on Transition (TPOT)

The TPOT consists of information regarding the length of time the teacher has known the student and questions concerning the use of commonly utilized transition activities. The teacher indicated which activities were utilized and when (fall, spring, summer, or throughout the year).
Monthly contact with family Meetings with student's school team Transition planning meeting with student's preschool team Transition planning meeting with student's kindergarten team Preschool students visit kindergarten classroom Preschool students visit assigned kindergarten classroom Member of transition planning team Receive phone call from kindergarten/preschool teacher Complete a home visit for student Provide family with written communication regarding transition Coordinate curriculum with kindergarten/preschool teacher Kindergarten/preschool teacher visit to preschool/kindergarten classroom Provide kindergarten orientation to students Provide kindergarten orientation to parents
The final item on the TPOT had the teacher rate the overall level of concern for the student going into kindergarten on a 5-point scale ranging from no concerns to very many concerns.

Preschool teachers indicated which practices had been used with the student or were planning to be used. There were no differences in preschool teachers' practices during transition, with the exception that more students in the ASD group were encouraged to visit their future kindergarten classroom. One-third of the preschool teachers reported the transition practice least utilized was meeting with the receiving kindergarten teacher. Potential transition activities desired included additional classroom visits and increased collaboration between preschool and kindergarten teams. The answers to the open ended questions were coded by two research assistants based on themes identified by the first author of this study. The open ended questions asked the 43 teachers to describe their biggest concerns regarding transition and any barriers that prevented them from additional transition practices. The most commonly reported barrier to engaging in transition practices was lack of time with almost two-thirds of preschool teachers

mentioning it. Almost one-fourth of the preschool teachers reported that a barrier was multiple school districts receiving the outgoing preschoolers. Based on the parent report on the FEIT in the areas of parent involvement in transition activities, there were no significant differences between the ASD group and the DD group. One difference on the parent report was that preschool teachers engaged in more transition practices than elementary school staff. The most common transition practices reported by parents in the spring of the child's preschool year were monthly contact, attending a transition meeting with preschool staff, and providing written communication regarding the transition to parents. According to the parent reports, the majority of transition practices kindergarten teachers engaged in occurred at the beginning of the school year for all new students. These findings should be considered preliminary and further research in this area is recommended. While the demographics between the two groups was homogeneous, the sampling came from a limited region. Further study should include greater geographic diversity.

Welchons and McIntyre (2015) examined the (2) concerns and (4) involvement domains of the FEIT to compare students with developmental delays (DD) to students who are typically developing (TD). Parents, preschool teachers, and kindergarten teachers provided input. This sample included 104 children in a mid-size city in the northeastern United States. The sample represented 52 students who did not have an IEP and 52 students who had an active IEP. All students were in their final year of preschool and had been with their primary caregiver for a minimum of 1 year prior to the beginning of the study. The students were drawn from nine inclusive early education programs. The kindergarten teachers represented 40 different elementary schools in the region. Three points of data collection were used; the parents and

preschool teachers in the spring of the preschool year, parents at kindergarten entry, and kindergarten teachers approximately 2 months into the kindergarten year. The results show that families in the DD group reported more concerns overall than families in the TD group at both data collection points for parents. There was an exception with the item "separation from family" in which concern was nearly equal for both groups. The most frequently used transition practices endorsed by all families was monthly contact with preschool staff, annual meetings with preschool staff, and attending kindergarten registration. Receiving a phone call and home visits from kindergarten teachers were the least common transition practices according to parent report. When it comes to the preschool teacher's reporting, there was a higher level of concern expressed within the DD group than the TD group. The preschool teachers' most frequently endorsed transition practices were monthly contact with the families, providing written communication regarding transition to families, and transition planning meetings with students' preschool teams. The least used transition practice by preschool teachers included receiving a phone call from their student's future kindergarten teacher or coordinating curriculum with kindergarten teachers. With the kindergarten teachers' reporting there were no statistically significant differences detected for either group. The kindergarten teachers' most frequently used transition practices were holding orientation sessions for parents, monthly contact with family, and holding orientation sessions for students. Their least used transition practices were completing a home visit and coordinating curriculum with preschool teachers. In sum, this study revealed that the highest involvement for kindergarten teachers were more generic, group-administered transition practices, where preschool teachers have a mix of group and individual transition practices. Additionally, parents and preschool teachers had greater concerns for the

DD group than the TD group, whereas kindergarten teachers had equal concern for both groups. The parental concerns across the board decreased from prior to kindergarten entry to post-kindergarten entry. The authors of this study declare limitations such as having a small sample size and that the sample size is from the same region. Future research should be larger and more geographically diverse, as well as longitudinal studies to better document a child's transition into elementary school. As a result of this study, the authors endorse greater collaboration between preschool and kindergarten teachers, encouraging school districts to build in opportunities for such experiences.

Case Studies

Three case studies on transition are documented by Villeneuve et al. (2013). Abby has Down Syndrome, Brady is classified Autism Spectrum Disorder and Deaf/Hard of Hearing, and Tristan has a global Developmental Delay diagnosis as well as Other Health Disabilities. Each family had a transition meeting with appropriate staff, each family created an "All About Me" book to inform the receiving school staff, and had opportunity to ask questions and share information. The families initially expressed satisfaction regarding these transition activities but as time progressed opinions declined. These case studies personalize the topic of kindergarten transition for children with special education needs. Each family valued inclusion, yet for a different reason. Each family also experienced a 'crisis' in the transition process.

Abby. Abby lived with five older brothers and two parents, both with post-graduate degrees. Her parents read a lot about Down Syndrome and attended relevant conferences. The family ensured she had the necessary supports for academic success. In preschool her special education teacher noted that she was performing higher than most of her peers except that she

still exhibited solitary play. Abby's parents wanted her to be in an inclusive kindergarten class to emphasize academics believing that her social skills would be developed through interaction with typically developing same-aged peers. Nearing the start of kindergarten Abby's parents received a phone call about her having special transportation despite the parents' request at the transition meeting that Abby ride the bus with her older brother. After some phone calls this issue was resolved but it lead Abby's parents to question other items. They called the school 1 month before it began requesting information about Abby's placement and were offered no information. Additionally, when they received Abby's IEP, there was parental objection to the expectation that when Abby would be called upon she would answer "three out of four times." Abby's mother declared "When called upon I expect her to answer 100% of the time."

Brady. Brady lived with his two brothers, his aunt and her two sons. He had medical concerns, hearing loss, and a diagnosis of autism. He wore hearing aids and used basic sign language to communicate. In his preschool class the staff included him in activities with his peers. The preschool also used a picture exchange communication (PEC) book and an FM system to facilitate communication. Brady's aunt wanted him in an inclusive kindergarten believing the socialization to be primary and that he would learn some academics by peer modeling. In late August of kindergarten entry, the aunt had not heard about his placement. When she inquired with the school she was informed that the school decided to delay his entry a few weeks due to concerns about his health. Also, they had misplaced the detailed information they had received at the transition meeting. In Brady's case there was a lot of staff turnover. None of the staff members from the transition meeting were still on staff in August. All of the detailed information about Brady, including the "All About Me" book that he

and his aunt made, was lost. During kindergarten, Brady had an educational assistant but increasingly spent less time with his peers. The FM system was not utilized, and the PEC book was rarely used. In short, the communication gains made in preschool did not carry through into kindergarten and he began spending more time in the special education room away from his peers.

Tristan. Tristan lived with his parents and his older brother in a rural farming community. In his first few years of life Tristan had significant medical issues which resulted in long hospitalizations, all contributing to a global developmental delay. In addition to the transition meeting, Tristan had therapy sessions at the receiving school's playground. The family was familiar with the school due to Tristan's older brother being a student there. In preschool Tristan participated and was included by his peers, but not without some academic difficulty and challenges in completing tasks independently. Nearing kindergarten entry, Tristan's mother learned that he would be removed from class for his medical procedures against her wishes and that he would receive special transportation. His parents wanted him to be as included as possible. After some phone calls, Tristan was allowed on the regular school bus with his older brother and the school tried to perform his health procedures in the classroom whenever feasible. However, early in the school year Tristan became ill and his procedures were no longer allowed in the classroom. Tristan missed class time due to being out of the room for his procedures. Upon his return to class he rushed through the work to get it done and learned less than he might. The gap between Tristan and his peers grew. Near the end of kindergarten, Tristan's mother changed her perspective from inclusion for peer interaction to pull-out for academic support.

Special Education during Kindergarten

Special education for students in kindergarten is a divided topic, divided by development versus academics. This is perhaps why special education law in Minnesota has the special education category of developmental delay for children under 7 years of age (instead of 5 years), after which a clear educational need must be identified to receive special education services.

Litty and Hatch (2006) wrote an article entitled *Hurry Up and Wait: Rethinking Special Education Identification in Kindergarten*. This article expands on the premise that "the system is saying to young children with disabilities that are as yet unidentified: Hurry up and fit into an academically driven school setting and wait a year for the services you need to be successful. To kindergarten teachers the message is: You are on your own" (p. 203). The authors state that the traditional role of kindergarten being a buffer to help smooth a child's transition into the primary years has given way to curriculum that is more rigorous, uses more direct teaching methods, and has higher expectations. Litty and Hatch cited three reasons for the dissolving of the 'buffer.' First, current experiences of a child are vastly different than a generation ago. Secondly, advancement in research about how children learn has raised the expectations. Finally, the standards-based accountability movement has reached into kindergarten. A common barrier to special education identification at this age is the idea that a child is maturing so rapidly that perhaps they will "grow out of it." Additionally, the authors state that the administration of standardized tools necessary to determine special education eligibility for elementary students are unreliable on this age group. Litty and Hatch asked, "How can you expect a child to perform on standardized accountability testing for kindergarten but yet not have the same expectations on psychometric testing?" In other words, some say kindergarteners are too young/immature to

evaluate for special education eligibility, but expect state/district standardized tests to accurately measure progress for accountability purposes. If kindergarteners are expected to test, then all tools should be age-appropriate. Conversely, if one believes that kindergarteners are too young to test, then they should not be expected to test for district accountability purposes.

Litty and Hatch (2006) continued by describing current practices that are inadequate such as ignoring, delaying, retaining, and redshirting. Ignoring only increases a child's risk. In response to delaying identification because a young child might be prematurely labeled, the authors encourage trusting the professionals to make accurate, well-informed decisions. Retaining students that may need special education services instead of identifying them causes them to go through the curriculum twice, without the support they need to be successful. Redshirting, or delaying entry to kindergarten for a child who may have a disability may only delay the inevitable. Better choices, aside from 'changing the system' are: balancing, monitoring, and adjusting. Effective kindergarten teachers are responsible for *balancing* the curriculum expectations, individual differences among children, and teaching strategies for all students. Effective kindergarten teachers *monitor* their students' progress before the school year begins and throughout the school year. *Adjusting* can be seen through adapting and modifying curriculum and instruction techniques throughout the school year so that all children are learning. Inadequate practices of ignoring, delaying, retaining, and redshirting should be replaced with balancing, monitoring, and adjusting.

Barnard-Brak (2009) wrote an article about redshirting, the parental practice of delaying a child's entry into kindergarten. She compared children's math and reading scores from kindergarten to 5th grade between two groups of children with learning disabilities. One group

had entered kindergarten at age 5 and the other group had delayed kindergarten entry. The gender, race, and total household income were similar in both groups. Test data from six points were compared: the fall and spring of kindergarten, fall and spring of 1st grade, spring of 3rd grade, and spring of 5th grade. In regard to the math achievement scores the group that did not have delayed entry was slightly higher in achievement at each data collection point, although it was not high enough to be statistically significant. In regard to the reading achievement scores, the delayed entry group had slightly higher scores in kindergarten and the fall of the 1st grade years. After first grade, the group that did not have delayed entry had slightly higher reading scores. Once again the differences were slight and not statistically significant. These data show that delayed kindergarten entrance was not associated with better academic achievement for children with learning disabilities. Barnard-Brak declared that the process of redshirting does not compensate for a child who has a learning disability. Additionally, the author refers to kindergarten being a "no-man's land for special education identification and intervention services…It is not surprising that of children with learning disabilities entering on time or delayed did not have significantly different academic achievement scores across time as neither group would have probably received special education intervention services regardless of age of kindergarten entry" (p. 52). Limitations for this study include not having the age in which a child was diagnosed with a learning disability. Also not part of the study was information about other services the child might have been receiving, nor information about the children's social and behavioral skills. Future research suggestions include examination of redshirting in regard to social interaction skills or classroom behavior as well as research into if redshirting has similar or different outcomes for children in other disability categories.

While identifying a potential learning disability in young children is difficult, Steele (2004) believes it is not only feasible, but beneficial. Steele believes early identification can prevent secondary problems from occurring such as frustration and anxiety. Reading problems in particular, if not identified early, could lead to motivational problems. One of the main problems with early identification of a learning disability is that it requires a discrepancy in an academic area. Academic underachievement is difficult to determine in preschool; however, more general labels such as developmental delay or at risk may be used to support children. Steele suggested that instead of using a discrepancy model for identifying learning disabilities for young children, one should use progress reporting, work samples, and observations. Pre-reading challenges with morphology, syntax, listening comprehension, awareness of speech sounds, word retrieval, verbal memory, and speech production often correlate with later problems in word recognition and phonics. These are precursors for students that are at risk for challenges associated with a learning disability. Difficulty with processing skills, also a requirement for a categorical eligibility of learning disability, can be practiced and strengthened through many preschool and kindergarten activities. Preschool and kindergarten offer ample opportunities to teach students skills to help with later academic success. If there is a disability, known or unknown, it is all the more important for the teacher to meet each child at his/her level before progressing. Steele summarized her research into two lists of importance, Indicators of Learning Disabilities (Table 2) and Suggestions for Teachers (Table 3).

Table 2: Indicators of Learning Disabilities (LD)

Difficulty with the following behaviors could indicate risk for LD if the behaviors are noticeably different from that of most peers:	
Talking with words in correct order	Sitting still for appropriate periods of time
Understanding words said aloud	Changing from one activity to another
Understanding sentences said aloud	Attending to tasks
Remembering specific words when talking	Remembering what they see
Remembering what they hear	Thinking before talking or acting
Participating in rhyming games and activities	Staying focused on a topic
Remembering the alphabet	Listening to stores and songs for extended periods of time
Following directions	Dressing
Pronouncing many words correctly when speaking spontaneously	Identifying colors
Understanding stories read aloud	Counting
Using words properly when speaking	Copying
Talking with organized sentences and thoughts	

Table 3: Suggestions for Teachers

The following types of activities would be helpful when teaching children who are at risk for LD:	
Use materials that are familiar to the children	Provide good language models
Have individual workspaces	Teach beginning phonics skills
Have individual workspaces	Label objects around the classroom
Allow some choice in activities	Clap out syllables
Organize and prepare tasks	Use rhyming activities
Plan for clear transitions between activities	Play alphabet and vocabulary games
Expand children's words into sentences	Use topics of particular interest to children
Have children dictate stories and ideas	Incorporate arts and crafts
Practice with sounds	Play memory games
Read aloud to children from books suited to their levels and interests	Have children count objects
Use finger plays	Develop behavior plan
Incorporate songs in lessons	Be consistent with routines and rules
Use puzzles, blocks, and pegboard activities	Incorporate group activities
	Break down task into small steps
	Repeat new learnings frequently

(Steele, 2004, p. 78)

A possible strategy to use in kindergarten with students is the K-PALS. Rafdal et al. (2011) studied the effectiveness of Kindergarten Peer-Assisted Learning Strategies (K-PALS) for students with disabilities. While many children develop phonological awareness through common preschool activities such as songs, games, and stories, some children require a more systematic approach. K-PALS is a supplemental, class-wide peer-tutoring program. Participants in this study had an active IEP at some time during their kindergarten year. This yielded 89 participants, all kindergarteners, from 47 classrooms across Minnesota. The control group

(n=21) was taught with their district's reading curriculum. The K-PALS group (n=68) was taught with their district's reading curriculum and had the supplement of the K-PALS program. There were no significant differences between groups in race, gender, number of English learners, socio-economic status, or IEP type. The group utilizing the K-PALS program were ranked and split in half. The highest of the high was paired with the highest of the low and so on until the lowest of the high was paired with the lowest of the low. Within each pairing the higher performer was first the coach and the lower the reader, and then they switched. Pairs were re-formed every few weeks. For 20 minutes three to four times a week, the pairs performed two activities: sound play and decoding PALS. Sound play addressed phonological awareness through rhyming, isolating initial and final sounds, blending, and segmenting. Decoding PALS included activities entitled "What sound?" "What word?" "Sound boxes" and "Reading sentences." The teachers utilizing the K-PALS program had received an intensive 1 day training. Assessment of students' skills was performed through pretests and posttests in rapid letter naming, rapid letter sound, blending, segmenting, word identification, and word attack. A posttest was also given in oral reading/fluency and spelling. The results showed that overall the scores of the students who had participated in K-PALS outperformed the control groups in the areas of word attack, oral reading/fluency, and spelling. This suggests that the program offered the students a good understanding of phonemic awareness. The authors disclose that while K-PALS was beneficial for many students with disabilities, it was not beneficial for all. This finding was an important reminder that no intervention will work for all students.

Transition from Developmental Delay to Categorical Disability

With the research parameters set forth, no research was found regarding the transition from the special education category developmental delay to a categorical disability such as specific learning disability, physical impairment, or emotional/behavioral disorder. Many preschool students in special education are classified developmental delay but need to be re-classified as they go through the early elementary years to remain in special education. While the following articles do not speak directly to the transition between developmental delay to a categorical disability, some inferences may be made when looking at special education in the early elementary years with a longitudinal perspective.

Guralnick, Neville, Hammond, and Connor (2008) hypothesized that placement in full inclusion programs during the early childhood years creates momentum to continue maximum participation in inclusive settings over time. They followed 90 preschool and kindergarten children with mild developmental delays within 11 school districts in a large metropolitan community in Washington for 3 years. All 90 students began in year one in a fully inclusive setting. During the second year of the study 78 students remained in a fully inclusive setting. Three students shifted to 'partial inclusion' which the authors define as some services outside the regular education classroom. Four students became 'partial specialized;' that is, mostly in the special education room with some interacting with the general education population, and five students became 'fully specialized,' with all their time spent in the special education room. The 78 students that were in a fully inclusive setting in Year 2 were followed into Year 3 of the study. By year three 25 students remained in a fully inclusive setting including two students who had two years of kindergarten. By Year 3, 33 students were in 'partial inclusion' and six in

'partial specialized.' None of the students who were in full inclusion during the first 2 years were moved into a 'fully specialized' setting during the third year. Of the 25 students who remained in a fully inclusive setting all 3 years, 20% of them no longer had an IEP by the end of the study. The authors proved their hypothesis by stating that experience in full inclusion preschool and/or kindergarten classes paved the path that kept the majority of the students in their study having extensive involvement with children who were developing typically. A major limitation of this study is that it had strict criteria for participants. The students' IQ scores, as determined by the Wechsler Preschool and Primary Scale of Intelligence- Revised (WPPSI-R) or by the Wechsler Intelligence Scale for Children-Third Edition (WISC-III), had to fall within 50-90 to be included in the study. This was also classified as 'mildly developmentally delayed.' The study also excluded students who had social or behavioral concerns. Future research in this area should include greater diversity amongst the disabilities.

A similar study was performed by Hanson et al. (2001). In this study 25 students with disabilities were selected across four different regions of the United States to maximize variation with regard to ethnicity, type of disability, and socio-economic status. The setting classifications for this study were labeled full inclusion, partial inclusion, integrated activities, and segregated. All students began the study while they were in preschool and were followed for 5 years. Some of the students had two years of preschool and finished the fifth year of the study in second grade. Others (n=13) began with 1 year of preschool and finished the study in 3rd grade. Many changes occurred in 1st grade. In 2nd grade 23 students remained in the same setting they had in 1st grade and two moved to less inclusive settings. Only nine students had remained in a fully inclusive setting and six were in a partial inclusion setting. Of the students they were able

to follow into 3rd grade there were no changes in their setting. The setting in which students left second grade (full inclusion, partial inclusion, integrated, or segregated) was likely where they would spend the rest of their elementary years. The most dramatic shift occurred as the students left 1st grade (age 7). In that time the number of children being placed in segregated, or specialized, programs doubled from 16-32%, and those in the full inclusion setting dropped 14%. As Hanson and his coauthors stated it may be an issue of 'viewing the cup as half empty or half full.' While full inclusion remains elusive for many children in special education programs, over half of the children in the study remained in inclusive placements.

Chapter 3: **Summary**

This paper set out to explore current research regarding transitions from preschool to kindergarten from the receiving perspective, special education during kindergarten, and the transition from developmental delay to a different categorical disability. Information about transitioning from preschool to kindergarten was abundant, but few studies focused on what happens after the transition. The Family Experiences and Involvement in Transition (FEIT) and the Teachers' Perceptions on Transition (TPOT) tools were utilized by McIntyre et al. (2010), Quintero and McIntyre (2011), and Welchons and McIntyre (2015) to gather data regarding transition concerns and practices. Data showed caregivers of students in special education had statistically more concerns regarding the transition than caregivers of students in general education preschool. Notable areas included following directions at school, making needs known to others, academic concerns, and behavior problems. Welchons and McIntyre (2015) studied transition practices which revealed over one-third of preschool teachers did not have the opportunity to collaborate with a kindergarten teacher. A common barrier was lack of time and multiple receiving school districts. The kindergarten teachers were faulted in that they used the same transition practices for all students which were limited to the beginning of the year such as an open house or meet the teacher night. Case studies cited in this paper identified three families that had transition meetings that included preschool teachers, parents, and a representative from the receiving school. The parents initially considered these meetings positive. However, all three families experienced a 'crisis' of sorts during the beginning of kindergarten. Special transportation, adaptive equipment, and medical procedures did not seem to be in place at the start of school as was discussed at the transition meetings. The receiving end in these transitions

failed the families. These three case studies personalized the disappointment families experienced in the transition process.

Special education during kindergarten was discussed through theories of 'hurry up and wait,' 'redshirting,' and focusing on students' needs regardless of categorization. Litty and Hatch (2006) wrote an article entitled *Hurry up and wait: Rethinking special education identification in kindergarten*. The article expands on a conflict within the trend to 'push-down' academics. Modern society is seeming to increase our academic expectations from young children (hurry up), yet many are unwilling to apply those same standards on the children to test for special education to see if they could use help (wait). As the authors say, you cannot have it both ways. If high academic standards are expected do not make the students wait for help. Conversely, if students are too young for special education testing then perhaps they are too young for such high academic expectations. Redshirting, the process of delayed entry into kindergarten, was examined in Barnard-Brak's (2009) article. That article examined math and reading scores of students categorized with a learning disability in two groups, kindergarten entry at age 5, and entry at age 6. The delayed entry had no statistical benefit in regard to math and reading ability. Steele (2004) focused on the indicators of learning disabilities and offered suggestions. Rafdal et al. (2011) discussed a peer-coaching program called K-PALS (Kindergarten Peer-Assisted Learning Strategies) in which phonetic awareness games and tasks were presented, practiced, and assessed within peer-coaching models. The students who participated in the K-PALS program scored higher in reading than the control group. K-PALS is one of many various strategies available to assist children, with and without special education needs, in learning the foundational skills taught in kindergarten.

The final component of this paper was to gather information regarding the transition from the special education category Developmental Delay to a different category. Once a child turns 7 years old, the child no longer meets criteria to receive special education services under the category of Developmental Delay. Sometimes the student no longer needs special education services to aid in their education; often times the student does. Some disability categories, such as Deaf/Hard of Hearing, Autism Spectrum Disorder, or Other Health Disabilities may have already been decided with help of a medical diagnosis before the child turns 7 years old. For others they must meet entrance criteria for a new category of special education such as Specific Learning Disabilities or Emotional/Behavioral Disability. This author was unable to find literature specifically addressing the transition from Developmental Delay to another category. Two longitudinal studies were examined from which inferences could be made. The first study was a 3-year study, starting with 90 mildly delayed students in a fully inclusive preschool/kindergarten program, supporting the idea that inclusion keeps special education students involved with their peers. Three years later, at 1st/2nd grade, the majority of the students spent most of their day in inclusive settings and five students no longer qualified for special education. The second longitudinal study tracked students' least restrictive environment over 5 years starting in either their 3-year-old preschool class or 4-year-old preschool class. The most changes in least restrictive environments occurred during kindergarten and first grade which coincides with a child turning 7 years old.

Conclusions

The three components of this paper were chosen for the Early Childhood Special Educator working with kindergarteners to know how they can best serve the students, family,

and staff preparing for and during kindergarten as well as during the transition that occurs when leaving the category of developmental delay. The results indicate there is a definite need for an ECSE teacher to remain involved during this time.

Preschool teachers and parents have a lot of concern about the transition between preschool and kindergarten. Much effort is placed on trying to make it as successful as possible by each party involved. Regrettably, as the research has shown the receiving end of the transition is weak. An ECSE teacher, familiar with the path the child is coming from could strengthen the transition if that teacher remains involved throughout the process.

Special education during kindergarten appears to be very 'grey.' Kindergarten is both early childhood and elementary, so should it be the early childhood special educator working with kindergarteners or the elementary special educator? This is not clear in literature, but what is clear is that if a child needs extra support or new strategies, they should receive it. It should not matter if it is received from the general education teacher, a peer, or a special education teacher. If a child needs help, help the child.

The longitudinal studies show the greatest changes in least restrictive environment occur around the time a child is 7 years old. This author cannot help but infer there is a correlation between the changes in least restrictive environment and a child's change in special education categorization. The research regarding the transition between special education categories has not been found by this writer, however it would be beneficial to those working with this population–the population of students 'aging out' of developmental delay.

The role of an ECSE teacher in kindergarten is a beneficial role. The ECSE teacher is prepared and certified to work with the category of developmental delay and with the early

childhood population and their families. The transition from preschool to kindergarten is an important transition for many. For students categorized as Developmental Delay, this author proposes that the true transition is not complete until the student is re-categorized for continued special education services if need. Only then will they become secure in the path of elementary special education. The ECSE teacher working with children beyond preschool can be a valuable component in this lengthy transition.

Chapter 4: **Position**

As a teacher who has taught kindergarten and is now teaching early childhood special education beyond preschool, I am disappointed with the results cited in this paper, although not surprised. I believe those on the receiving end are doing a disservice to the students by not strengthening the connection between preschool and kindergarten. For example, when I began my current teaching position working with students classified as Developmentally Delayed in kindergarten and 1st grade, it took me a few weeks, in some cases months to get to know the families and students' needs. That spring I was able to attend some transition meetings with the preschool teachers. At the beginning of my second year in this position I already knew most of the families and the students' needs. The ability to be a part of the transition meetings in the spring make for a more effective start of kindergarten.

Some kindergarteners arrive with preschool experience, some with daycare experience, and some with no previous peer interaction. Kindergarten teachers are tasked with teaching students of mixed abilities and preparing them for the future demands of elementary school. I have seen 'special education' students outperform their peers who had no previous school experience. I can understand the hesitancy in testing students for special education in kindergarten. The ECSE teacher should work closely with the general education kindergarten teachers for the benefit of those already identified with special education needs and those at risk. For those at risk it may not be a Learning Disability or Emotional/Behavioral Disorder issue but rather a developmental delay.

Regarding future research, I would be interested in the percentage of students no longer eligible for special education services, perhaps viewed as a 'success rate' for early intervention.

Considering some categories such as Deaf/Hard of Hearing, Other Health Disabilities, and Visual Impairment are determined prior to 7 years old, I would find it interesting which categories the students leaving the category of Developmental Delay become re-categorized under. Additionally I would find it interesting what psychometric tools are used to determine the entrance criteria for these students. Early childhood tools often are limited to a maximum age around 6 or 7 years, whereas other tools have a minimum age of 6 years. It is difficult to find appropriate tools to use for this age.

This research, in addition to my personal experience, proposes that the transition between early childhood special education and elementary school special education is more complex than a single 'transition' meeting in the spring of the preschool year. The role of an early childhood special education teacher in kindergarten is critical in bridging the gap between early childhood and elementary. As mentioned, I am currently employed in this role of being an early childhood special educator working with students beyond preschool. I am constantly learning more regarding this role. I hope to use this paper and my experience to help educate other professionals of the positive impact this role can have within schools.

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Appendix

The Family Experiences and Involvement in Transition (FEIT)

The FEIT is a 57 item survey designed first for a study in 2007 to investigate family perspectives regarding their child's kindergarten transition preparation. It covers the following five domains (1) child educational history (8 items; e.g., month/year transitioning to kindergarten, identified special education needs, type of early childhood program previously enrolled in), (2) family concerns regarding transition (11 items; e.g., academic, behavioral, social), (3) family identified needs during transition (14 items; e.g., more information about academic expectations, child's current skills), (4) family involvement in transition -related activities (11 items; e.g., regular contact with teachers, member of transition planning team), and (5) family socio demographic information (12 items; e.g. caregiver education, income). (McIntyre et al., 2007). It has been slightly adapted for other studies as cited within this paper.

Domain 2, family concerns regarding transition, is assessed with a 4 point Likert scale, 1=no concerns, 2=a few, 3=some, 4=many concerns, on the following topics:

Attending a new school
Following directions at school
Behavior problems
Academics
Getting along with peers
Making needs known to others
Kindergarten readiness
Separation from family
Getting along with teacher
Other concerns
Toilet training

Domain 4, types of family involvement, is assessed by selecting "have," "want," or "don't have, don't want"

Attend annual meetings at preschool
Monthly communication from preschool
Visit kindergarten classroom
Attend planning meeting with kindergarten
Attend transition information meeting
Attend planning meeting with preschool
Obtain info from books, magazines, websites
Receive written info regarding transition, speak with other parents about transition
Be a member of transition planning team.