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An Initial Examination of Relationships Between Early Intervention Services, Family Outcomes, and Andragogical Factors

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An Initial Examination of Relationships Between Early Intervention Services, Family Outcomes, and Andragogical Factors

by

Kelly Hantak

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Kelly Hantak

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at Lindenwood University by the School of Education

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Dr. Susan Isenberg, Committee Member	12/9/16 Date
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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

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Abstract

This study is an examination of early intervention services for infants/toddlers with visual impairments, as related to home-based services and andragogy learning theory. Early intervention refers to therapeutic services provided to eligible infants/toddlers while andragogy emphasizes how adults learning. Research discussed the implementation of andragogical factors with parents of infants/toddlers appeared limited. The null hypotheses statements addressed four variables related to infant/toddler with visual impairments assessment scores, the number of home visit units authorized by the child's Individualized Family Service Plan (IFSP) and implemented by the early intervention service provider, responses on the family outcome survey, and service provider responses regarding the use of andragogical factors during early intervention home visits.

The researcher examined secondary data related to assessment scores of infants/toddlers with visual impairments, the frequency of home visits implemented by a Teacher of the Visually Impaired (TVI) and/or Orientation and Mobility (O and M) specialist, comparison of early intervention units, and results of a Family Outcome Survey. The researcher co-authored the Modified Instructional Perspectives Inventory for Teachers working with Parents of Young Children (MIPI-TPC) to measure the frequency in which early intervention service providers implemented andragogical factors during home visits. Participants of this study included 30 infants/toddlers with visual impairments receiving early intervention services from a TVI and/or O and M specialist. Seventeen families completed the Family Outcome Survey and three early intervention service providers completed the MIPI-TPC. The utilization and analysis of

descriptive statistics, a *t*-test of dependent means, and the Pearson Product Moment Correlation Coefficient, Analysis of Variance, and *Chi-Square* test determined relationships among the variables.

The results demonstrated limited relationships with assessment scores, frequency of home visits, units provided and authorized in the infant/toddler's IFSP, and parent responses on the Family Outcome Survey. However, the MIPI-TPC results reported the service providers implementing andragogical factors within the category levels of above average and average. The prominent finding of the study supported the integration of andragogy learning theory during early intervention services. Future studies linking the two fields together may benefit the advocacy of early intervention service providers, empowerment of parents, and most importantly, infants/toddlers with developmental delays.

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Chapter One: Introduction

"The most important day I remember in all my life is the one in which my teacher, Anne Mansfield Sullivan, came to me." – Helen Keller

Anne Mansfield Sullivan (1866-1936) and Helen Keller (1880-1968) both suffered from visual impairments; however, Sullivan experienced solely a vision impairment while Keller was blind and deaf. Even though Keller lost her vision and hearing skills at the age of 19 months, she was an unruly six-year-old child when her parents sought educational assistance. In need of an education for their daughter, Keller's parents searched for a teacher, who would provide educational services to Keller within their home. A recommendation by the Perkins School for the Blind connected Sullivan with Keller and her parents. As such, Sullivan mandated that in order to provide home-based services to Keller, the implementation of therapy needed to occur in a separate house from her parents (American Foundation for the Blind, 2014).

As her private teacher, Sullivan quickly began teaching Keller the manual alphabet as a primary means of communication. While talking, Sullivan guided Keller's hand up to her face. By placing a finger by Sullivan's nose, a second finger by her mouth, and her thumb by her larynx, Keller could feel the breath flow and vibrations created during expressive vocalizations. Through appropriate teaching strategies and empathy, Sullivan established and maintained Keller's trust and successfully calmed the unruly child (American Foundation for the Blind, 2014).

By establishing a positive learning environment through individualized and meaningful lessons, Keller's negative behaviors decreased, while her vocabulary through the manual alphabet increased within a few weeks (American Foundation for the Blind,

2014). As Keller learned new skills within her natural environment, which was her home, the teacher and student developed a strong friendship. Their relationship lasted for the remainder of Sullivan's life and led to both women documenting their life-long learning experiences together through many lectures, published writings, and brief films (American Foundation for the Blind, 2014b; Vande Kemp, 2007; Selsdon, 2015).

If Sullivan and Keller's vision impairments occurred at the time of this writing, then proper medical attention could have prevented or lessened the symptoms (Vande Kemp, 2007). Similarly, prevention of several vision impairments by early detection and appropriate health care treatments reduced the prevalence of infants/toddlers diagnosed with a visual impairment or blindness (World Health Organization [WHO], 2012). In terms current to this writing, Keller received home-based services as Sullivan applied individualized teaching practices and displayed trust, empathy, and sensitivity towards Keller and her parents while she implemented effective teaching strategies (American Foundation for the Blind, 2014b). However, in following best practices within the field of early intervention in modern times, Sullivan would have implemented therapeutic services in the family's home with her parents present (McWilliam, 2000).

Approximately 25% of individuals worldwide suffered from a visual impairment (WHO, 2012; U.S. Census Bureau, 2014); 7.3% out of the 25% were blind while 1.2% included moderate to severe impairments (WHO, 2012; Lighthouse International, 2014b; U.S. Census Bureau, 2014). Out of the total worldwide population with visual impairments, an estimated 31% were adults over the age of 50 years (WHO, 2014), while less than 1% of this population were children under the age of 14 years (WHO, 2012). In the United States, the prevalence rate of infants/toddlers who were visually impaired was

also at less than 1% of the general population (Lighthouse International, 2014a). According to the 2013 Disability Statistics Report, an estimated 2,100 of children under the age of 4 years, diagnosed with a vision impairment, lived in Missouri, while approximately 4,200 of children of the same age and disability lived in Illinois (Cornell University, 2013). The same report only reflected children living outside of institutional programs; therefore, an accurate number of children under the age of 4 years who were vision impaired was unknown, with regard to this reporting (2013).

There was limited research data stating the prevalence of infants/toddlers with visual impairments in the United States (American Printing House for the Blind, Inc., 2014; Friend, 2014). The American Printing House for the Blind, Inc., was developing a more systematic approach to collecting and reporting prevalence rates through a national database reporting system, as well as the Babies Count project: The National Registry for Children with Visual Impairments Birth to 3 years project (2014). DAZ for Children with Visual Impairments (2014) (pseudonym), commonly referred to as DAZ, participated in this data collection project through reporting processes to the American Printing House for the Blind, Inc.

DAZ (2011a, 2011b, 2014) was a non-profit agency in the Greater St. Louis Metropolitan area. The agency provided a variety of programs for children with visual impairments within a 50-mile radius of their physical location. One of their programs provided home-based early intervention services to infants/toddlers with blindness/visual impairments. DAZ educators implemented these services through the First Steps program in Missouri and the Child and Family Connections program in Illinois (DAZ for Children with Visual Impairments [DAZ], 2014). Due to the low prevalence of

infants/toddlers with visual impairments and the then-lack of research regarding early intervention services to these infants/toddlers, DAZ (2014) requested and agreed to participate in a formal research study.

Background

Any infant/toddler identified as displaying a developmental delay was eligible to receive early intervention services (U.S. Department of Education [USDOE], 2014a, 2014 b, 2014c, 2016). Established by the Individuals with Disabilities Act, each state had the authority to define the qualifiers for identifying an infant/toddler as eligible for early intervention services (Ringwalt, 2012). According to Ringwalt's compilation, each state and U.S. territory established the minimum eligibility requirements that could range from a 25% delay in one developmental domain to a 50% delay in two developmental domains (2012). The delay could be recognized in one or more developmental domains, including adaptive, cognition, communication, physical, and social-emotional (USDOE, 2014c, 2016).

The Missouri First Steps (2016) program provided early intervention support services to infants/toddlers deemed eligible. The Missouri Department of Elementary and Secondary Education (MODESE, 2014a, 2014c, 2015a, 2015b, 2016) was directly responsible for monitoring all state contracts and services related to Missouri First Steps (2016), including assessments, eligibility determination, and the creation of an IFSP. An infant/toddler was eligible for early intervention services through the Missouri First Steps (2016) program by demonstrating at least a 50% delay in one or more developmental domains (MODESE, 2014b; Ringwalt, 2012), as measured by the *Developmental Assessment for Young Children – Second Edition (DAYC-2) (*MODESE, 2014b).

In Illinois, the Child and Family Connections program provided early intervention support services to infants/toddlers who qualified (Fowler, 2011). An infant/toddler was eligible for early intervention services through this program by displaying at least a 30% delay in one or more of the five developmental domains (Fowler, 2011; Ringwalt, 2012). Early intervention evaluators in Missouri and Illinois assessed the same five domains of child development, including (a) adaptive, (b) cognition, (c) communication, (d) motor, and (e) social-emotional skills (Illinois Department of Human Services [IDHS], 2009; Missouri Department of Elementary and Secondary Education [MODESE], 2014a). Although Illinois regulations allowed for a wider array of assessment tools to determine eligibility, both Illinois and Missouri accepted assessment scores measured by the Hawaii Early Learning Profile (HELP) and the Oregon Project for Preschool Children Who are Blind or Visually Impaired Skills Inventory (OR Project) (IDHS, 2009).

After the infant/toddler qualified for early intervention services, an IFSP document was written and ongoing services began. The frequency and length of home visits, as well as the types of ongoing, therapeutic services provided, were written into the IFSP document; the infant/toddler could continue receiving services until the day prior to his or her third birthday (USDOE, 2014b). Specially trained professionals, including but not limited to special instructors and occupational and physical therapists, as well as speech-language pathologists implement the ongoing early intervention services to the infant/toddler. These professionals, classified as service providers, had direct contact with young children who qualified for early intervention services and their families (Shelden & Rush, 2013).

DAZ (2014) requested a research study to examine a possible relationship among the early intervention home-based services provided by the Teachers of the Visually Impaired (TVI) and/or Orientation and Mobility (O and M) specialist, the Family Outcome Survey, and teacher perspectives toward working with parents. From this point forward, the researcher refers to the Executive Director, Early Intervention Program Coordinator and the non-profit agency DAZ. TVI and O and M specialists employed by DAZ (2014) provided home-based early intervention services to infants/toddlers with visual impairments through a referral system established by the Missouri First Steps (2016) and Child and Family Connections programs.

Once DAZ (2014) received a referral for services, an ophthalmologist administered a functional vision assessment to the infant/toddler. If the doctor observed a concern with the infant/toddler's vision through the functional vision assessment, then the agency implemented either the HELP, Birth – 3 years HELP, or the OR Project, 6th Edition. Even though neither assessment was a standardized tool (Anderson, Boigon, Davis, & deWaard, 2007) nor any standardized assessments existed appropriate for children who were visually impaired (L. Rohr, personal communication, December 8, 2014), the HELP and OR Project measured developmental skill levels for an infant/ toddler with visual impairments.

Most commonly known as home visits and required by Part C of the Individuals with Disabilities Education Act (IDEA), early intervention services must be implemented within the infants/toddlers natural environment (Cook, Klein, & Chen, 2015; Sandall, Hemmeter, Smith, & McClean, 2005; McWilliam, 2010; Shelden & Rush, 2013). Typically, infants/toddlers spent the majority of their time receiving care in their family's

home; however, it could be in other locations, such as grandparents' home, center-based child care facilities, or the home of the in-home child care provider. The purpose of the practice was to allow infants/toddlers with disabilities the opportunity to acquire skills and knowledge through normal activities within the same locations they would occupy if they did not require early intervention services (McWilliam, 2000; Walsh, Roush & Lutzer, 2000). The IFSP for each infant/toddler contained the frequency, length, and location of services (Sandall & Schwartz, 2008).

Often families believed the infant/toddler with a development delay required home-based early intervention services more frequently and for longer time spans in order to demonstrate progress toward meeting IFSP outcomes. A common phrase illustrating this belief was, 'more is better.' According to Jung (2003), this was a myth and a best practice was to allow the infant/toddler to repeat desired skills and outcomes outlined in the IFSP during normal routines and activities within the infant/toddler's natural environment.

The service provider shared appropriate strategies and activities that parents/ guardians could implement at home in between each visit with the service provider(s). As a result, the service provider coached the parents incorporating the IFSP outcomes within the home and community (McWilliam, 2000, 2010; Sandall et al., 2005; Shelden & Rush, 2013; Walsh et al., 2000). Consequently, this study examined the relationship between the frequency and length of home visits and progress demonstrated through assessment scores reported on the HELP or the OR Project assessment.

Even though an IFSP document contained outcomes written for the family in relation to the infant/toddler's skills within the natural environment, it did not measure

how well the family's needs were met (USDOE, 2014). Therefore, DAZ (2014) utilized a Family Outcome Survey developed and marketed by The Early Childhood Outcomes division of the Early Childhood Technical Assistance (ECTA), as it provided an opportunity for families to reflect upon and respond to questions regarding how well they felt their needs were met (The Early Childhood Outcomes Center [ECOC], 2010a, 2010b, 2010c). DAZ (2014) is interested in an examination of the Family Outcome Survey to determine the relationship between the family responses and infant/toddler gains demonstrated on the HELP or the OR Project assessment tools.

Since early intervention service providers, including TVI and O and M specialists, offered appropriate early intervention strategies and activity suggestions to parents/ guardians, chances were likely that adult learning would occur during these conversations. Parents/guardians had the opportunity to identify positive and negative interactions with their infant/toddler while the early intervention service provider afforded their expertise in child development and therapeutic strategies (McWilliam, 2010). Therefore, the fields of early intervention and andragogy interconnected through these adult interactions.

Andragogy is the "art and science of helping adults learn" (Knowles, 1977, p. 211; Knowles, 1984, p. 6). His work studied andragogical concepts within the fields of medicine, environmental sciences, business, and higher education (Knowles, 1984). Henschke (1989, 2011, 2012, 2013) studied under Knowles and carried on his research within the field of adult learning (Cooper, 2008). Through this work, Henschke (1989) developed the Instructional Perspectives Inventory (IPI), as a means of identifying andragogical factors within the scope of teachers working with adult learners. Resulting

from the factor analysis completed on each IPI item, the andragogical factor of 'teacher trust of learners' became prevalent (Henschke, 2012). The characteristic was further examined through this study, as the IPI was adapted, and the adapted version was named the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC) (Henschke & Hantak, 2014). DAZ (2014) was interested in knowing how the TVI and O and M specialist service providers applied andragogical factors through their early intervention home visits with parent/guardians as measured by the MIPI-TPC.

Purpose

The purpose of this study was to examine the relationship between child assessment scores, the frequency and length of home-based early intervention services, the needs of each family, and the teacher self-perceptions toward adult learning in working with parents of infants/toddlers with visual impairments, receiving home-based early intervention services through DAZ (2014). The researcher examined possible relationships between child assessment scores, frequency and length of home visits, family needs, and andragogical factors, as a means of reviewing their home-based early intervention and family support services. DAZ (2014) reviewed and compiled assessment scores measured by the HELP or the OR Project assessment, services recorded in each IFSP document, and results from the Family Outcome Survey. In order to determine the andragogical factors implemented by the TVI and O and M specialists, each professional completed the MIPI-TPC.

Exploring the similarities and differences between the fields of early intervention and andragogy through infant/toddler assessment scores, Family Outcome Survey results,

and andragogical factors (Dennison, 2014; Dunst & Dempsey, 2007; Fordham, Gibson & Bowe, 2012; Henschke & Hantak, 2014) was a major outcome of this study. Examination of the relationships between child assessment scores, family needs met, and teacher instructional perspectives, resulted in the agency's better understanding on how to implement best practices among the infants/toddlers and families served. By completing the MIPI-TPC, the TVI and/or O and M service providers contributed a quantitative measurement of the andragogical factors 'teacher empathy with learners' and 'teacher trust of learners,' implemented through their work with infants/toddlers who were visually impaired, and their families.

To assist in understanding the purpose of this study, the researcher of this study developed and illustrated a conceptual framework (Figure 1.1).The field of pedagogy reflected the direct relationship between a teacher and a student, or in this study, between a teacher and an infant/toddler with visual impairments.

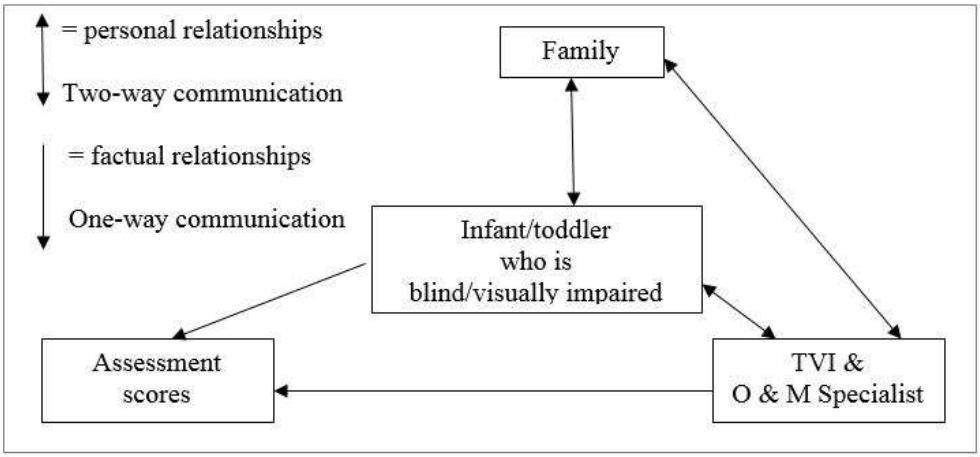

Figure 1.1. Conceptual framework.

The study examined this relationship through the assessment scores, as calculated by the TVI and/or O and M specialist. However, an additional concept of this study included the field of andragogy, particularly the relationship the TVI and/or O and M

specialist developed with the parent/guardian of the infant/toddler with visual impairments.

The two-directional arrows represent human relationships and describe the dynamics of interaction, feedback and, assessment (see Figure 1.1). The lines in Figure 1.1 represent conversations between the family, infant/toddler who is visually impaired, and the TVI and O and M specialist service provider. For instance, the family identified their needs regarding the infant/toddler, who was visually impaired, and the service provider supplied feedback, strategies, and activity suggestions for the family to implement with the child. The communication between the family and infant/toddler occurred daily, while communication including the service provider typically happened during the home visit.

On the other hand, the child's progress, as measured through assessments, contained numerical information, which limited the relationship between the child, family, and service provider. In this study, the service provider assessed the infant/toddler with visual impairments, as measured by the HELP or the OR Project. The service provider observed the infant/toddler complete tasks designated by the HELP or the OR Project and calculated the results. Even though two-way communication existed between the service provider, the infant/toddler, and the parent/guardians, only the service provider calculated the scores. Therefore, the assessment scores provided only facts, which resulted in one-way communication.

Rationale

Due to the low incidence rate and population of infants/toddlers educationally identified as visually impaired, limited studies, existed at the time of this writing.

Literature reviews published over the twenty years previous to this writing revealed limited significant research findings related to early intervention services for families of infants/toddlers identified as visually impaired (American Printing House for the Blind, 2014; Brambring, 1996; Friend, 2014). With the increase of the number of newborns surviving very low birth weights and/or considerable medical challenges related to prematurity, including visual impairments, limited longitudinal studies existed. Therefore, it was imperative for medical and educational researchers to update studies' findings (Brambring, 1996; Friend, 2014; Panagos, Hantak, & Lindsay, 2013) related to infants/toddlers with visual impairments and based on more recently available data.

In years recent to this writing, DAZ (2014) collected data from the families they served regarding child and family outcomes. In sharing this data with the researcher, the agency hoped the results of this study would provide information about the effectiveness of their home-based early intervention and family support services. The results allowed DAZ (2014) to improve the implementation of service delivery methods to parents/guardians, as well as inform families and professionals about best practices in the field of early intervention services, specifically related to blind/visual impairments. Ultimately, DAZ (2014) was interested in having a research study examining the effectiveness of their home-based early intervention and family support services completed.

In order to meet the requests established by DAZ (2011a, 2011b, 2014), the researcher recognized four variables that operated as common themes throughout the study. The variables included assessment scores, home visit units, results of the family outcome survey, and the service providers' responses to the MIPI-TPC. The graphic

displayed in Figure 1.2 illustrates the variables of this study, as represented in the hypotheses.

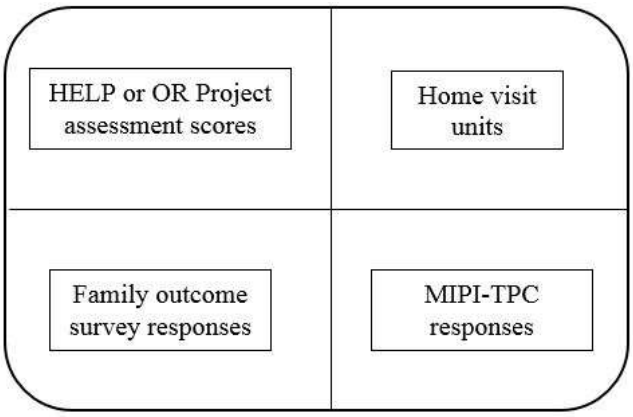

Figure 1.2. Variables.

Further development of the variables included analysis of the assessment scores reported by the early intervention services at DAZ, as measured by the HELP or OR Project. The home visits included a comparison of units implemented by the early intervention service providers, as compared to the total number of units authorized in the IFSP document for each infant/toddler. An analysis of responses provided by each family of an infant/toddler receiving home-based early intervention services, as compared to the number of home visits implemented to each participant was included as a variable. Another variable included the responses recorded by each TVI and/or O and M specialist employed by DAZ and implemented home-based early intervention services to infants/toddlers with visual impairments, as measured by the MIPI-TPC.

Research Question and Hypotheses

For the purpose of this study, the researcher developed an overarching research question regarding the entire study. This study addressed one research question and four hypothesis statements, with the research question listed first. The four hypothesis

statements addressed each variable, including the HELP or OR Project assessment scores, home visit units, responses to the Family Outcome Survey, and MIPI-TPC responses.

Research question. When examining each of the visually impaired infants/ toddlers, based on the visual scenario definitions provided in the ongoing Utah Study, what is the relationship between the child assessment scores and the frequency of home visits conducted, as recorded by DAZ's Record of Services Billed?

Hypothesis 1. There is a difference between the sum of services delivered and the quantity of services written into participants' IFSP document as reported by DAZ for infants/toddlers with visual impairments receiving early intervention services for at least 12 months

Hypothesis 2. There is a relationship between the increase in delay, as measured by the HELP or the OR Project assessment scores, and the frequency of home visits for infants/toddlers with visual impairments receiving services for at least 12 months.

Hypothesis 3. There is a relationship between the assessment scores, as measured by the increase in delay by the HELP or the OR Project, and the results of the Family Outcomes Survey distributed by DAZ to parents of infants/toddlers with visual impairments receiving services for at least 12 months.

Hypothesis 4a. There is a difference between self-perceptions of individual Service Providers with regard to the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

Hypothesis 4b. There is a difference between Service Provider self-perceptions of the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments and the maximum rating of that frequency, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

Limitations

The largest limitation of this study was the low prevalence rate regarding infants/toddlers with visual impairments (American Printing House for the Blind, Inc., 2014; Friend, 2014). An infant/toddler's visual impairment was a secondary condition related to another medical issue, such as prematurity, traumatic brain injury, or deformity within the physiological structure of the eye. Therefore, the diagnosis of visual impairment correlated to another medical condition, rather than identification as a solitary diagnosis (Friend, 2014).

Secondly, as the HELP and OR Project assessments, as well as the Family Outcome Survey lacked standardization, readers must utilize caution when interpreting the results. Additionally, when examining the HELP and OR Project assessments, the individual test items failed equivalencies to one another. Even though both assessments addressed skills for infants/toddlers with visual impairments in the developmental domains of cognition, language, gross motor, fine motor, self-help, and social, the OR Project assessment addressed the additional areas of compensatory and vision.

Finally, since the researcher adapted all items from the IPI to the MIIPI-TPC, there is another limitation. The researcher modified each item to reflect the andragogy

learning theory, particularly seven andragogical factors, to assist TVI and/or O and M specialists from DAZ, while working with parents of infants/toddlers with visual impairments. Since reliability and validity calculations of the adapted items were not included as part of this study, another limitation with the assessment tool existed.

Delimitations

One delimitation of this study included the possibility of human error in the data collection, calculation, or recording of scores for each child's HELP or the OR Project assessment scores, appropriate to sharing the results with the Early Intervention Program Coordinator. In turn, the possibility of human error in transferring data from each assessment protocol booklet to the Demographics sheet existed. Another delimitation included the fact that DAZ did not share data in regards to the individuals who completed the Family Outcome Survey. A parent may have completed the survey each year; however, a stepparent, grandparent, or legal guardian could have actually completed the survey.

Definition of Terms

The researcher defined and examined the following terminology within this study.

Ancillary provider. A service provider who typically holds at least a Bachelor's degree and certification in a particular area of specialty. For this research project, ancillary providers implemented home-based early intervention services to infants/toddlers with developmental delays related to blindness or visual impairments. Ancillary providers may or may not implement direct services with the primary service providers and they attend team meetings on a limited basis (MODESE, 2014b).

Best practices. A philosophical framework developed through the collaborative efforts between the Division of Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC) outlining the most appropriate strategies for including young children with developmental delays with their peers. The Joint Position Statement emphasized the importance of providing high-quality learning experiences through early childhood/early childhood special education programs (Division for Early Childhood [DEC] & National Association for the Education of Young Children [NAEYC], 2009; Sandall et al., 2005).

Blind. Severely limited visual acuity and typically '20/200 in the better seeing eye.' The medical condition can begin in utero and occur throughout an individual's lifespan, affected by trauma to at least one eye or a medical condition (National Eye Institute, 2014). For the purpose of this study, the vision classification totally blind replaced the term blind. The definition included the infant/toddler's ability to respond only to light perception or the lack of any vision skills (Dennison, 2014).

Child outcomes. Measurable goals written in the infants/toddlers IFSP. Child outcomes addressed developmentally appropriate concerns and needs of the infant/ toddler and included the reason for the outcome, types of services implemented to assist the child achieve the outcome, as well as the length and frequency of services. The child's progress towards meeting the criteria established in the outcomes, as well as any modifications needed to assist the child in completing the outcome, were reported (USDOE, 2014a, 2014b, 2014c). Child outcomes were usually written to address delays in the developmental areas of social/emotional, behaviors and 'knowledge and skills,' including cognition and communication (ECOC, 2010a, 2010b, 2010c).

DAZ. Pseudonym for a non-profit agency established in 1951. Located in the Midwest, the agency provided early intervention and family support services to infants/ toddlers with low vision, blindness, mild multiple involvement, or severe multiple involvement. The severity of the vision concerns varied from child to child. The agency provided home-based early intervention services to infants/toddlers identified as visually impaired within a 50-mile radius of the agency location, including the states of Missouri and Illinois. Family support programs, such as support groups for parents, siblings, and grandparents of infants/toddlers identified as visually impaired were available to families throughout Missouri and Illinois, as long as they attended sessions at a location designated by DAZ (2011a, 2011b). The non-profit agency distributed a family outcomes survey annually to families who participated in a service program, as a means of measuring family satisfaction toward service delivery of these programs. (DAZ, 2014). For the purposes of this research project, the researcher commonly referred to the agency as DAZ.

Deafblind. According to IDEA, deaf-blindness referred to the child's need for placement in specialized classrooms, which addressed hearing and visual impairments, rather than classroom settings for participants with hearing or visual impairments (USDOE, 2016). For the purpose of this study, the term deafblind, as established by Dennison (2014), maintained the IDEA definition. The infant/toddler with visual impairments exhibited developmental delays related to hearing and vision loss (Dennison, 2014).

Early intervention service delivery. As federal mandate established by Part C of IDEA (2004), special education and therapeutic services were implements to

infants/toddlers under the age of three years and identified with a developmental delay. Each state could elect to implement early intervention programs at no or minimal cost to families of infants/toddlers determined eligible in one of the follow areas of development: adaptive, cognitive, communication, motor, and social/emotional. The mandate required the implementation of services to occur in the infants/toddlers natural environment, which was typically in their home. Ancillary services, such as visual impairments and family supports, could assist and train families to address outcomes written in their child's IFSP (USDOE, 2014a, 2014b, 2014c).

Empathy. The ability for one individual to acknowledge the feelings of another individual through cognitive and social-emotional skills (Richter & Kumzmann, 2011). Empathetic skills developed in young children (Honig, 1994, Estes, 2004) and carried through the lifespan (Richter & Kumzmann, 2011). Adult learners demonstrated empathy toward one another, represented in the andragogical factor 'teacher empathy with learners' as measured by the IPI (Henschke, 2012) and the MIPI-TPC (Henschke & Hantak, 2014).

Family outcomes. Measurable goals written in the infant/toddler's IFSP. Family outcomes addressed concerns and needs of the family in order to provide support services. Family outcomes included the reason for the outcome and types of services required to assist the child achieve the outcome, as well as the length and frequency of services. The family's progress towards meeting the criteria established in the outcomes, as well as any modifications needed to assist them in meeting their needs and completing the outcome, were reported (USDOE, 2014b). Family outcomes were usually written to address five areas, including (a) understanding their rights, (b) understanding their child's

strengths and needs, (c) assisting their child in learning new skills, (d) having a strong support system and accessing quality programs, and (e) services to address the needs of their child and family (ECOC, 2010a, 2010b).

Family Outcome Survey. A published document by this name and distributed to families utilizing home-based early intervention and/or family support services through a non-profit agency providing home-based early intervention services to infants/toddlers with visual impairments. DAZ (2014) encouraged families of infants/toddlers participating in their early intervention services to complete the document originated from the National Early Childhood Technical Assistance Center (NECTAC) (Ringwalt, 2012) annually. DAZ (2014) reported the utilization of Section A, Helpfulness to Families, for the families to complete as the infant/toddler with blind/visual impairment entered and exited at least one early intervention program.

Family support services. Professional programs and/or services designed to address a family's needs, particularly in caring for a young child with a developmental delay or medical concern (Hanson & Lynch, 2004). Research studies demonstrated a strong correlation between positive collaborative partnerships and the feelings of empowerment by families as they advocated on behalf of their infant/toddler with a developmental delay (Belcher, Hairston-Fuller, & McFadden, 2011; DEC & NAEYC, 2009; Fordham et al., 2012).

Hawaii Early Learning Profile. An assessment tool administered by a TVI and/or O and M specialist from DAZ to determine eligibility for an infant/toddler to receive early intervention services. After the infant/toddler with visual impairments qualified for vision services, as written in the IFSP document, the early intervention

service provider administered the assessment to the infant/toddler annually until they exited from the program. The annual administration measured the amount of progress demonstrated by the infant/toddler with visual impairments through an increase, maintenance, or decrease of skills. DAZ allowed the TVI and/or O and M specialist to execute professional judgment to administer either the HELP or the OR Project assessment to the infant/toddler with visual impairments (Rohr, 2014).

Individualized Family Service Plan outcomes. – Measurable goals written in the legal document mandated by the Individuals with Disabilities Act of 2004 to address child and/or family outcomes. Reporting of the criteria measuring the child and/or family goals, as well as progress made toward achieving the outcomes, occurred in the IFSP document (USDOE, 2014b). Each infant/toddler with visual impairment and in participant of this study had an IFSP in place, which included outcomes and frequency of service delivery.

Infant. A baby's first year of life (Centers for Disease Control and Prevention, 2014a). For the purpose of this study, DAZ did not designate a difference between an infant and toddler. Instead, an infant with a determinant visual classification grouped with other infants/toddlers designated with similar visual classification, by DAZ.

Low vision. A visual impairment in which the individual had limited visual skills, even when utilizing corrective devices, such as glasses, contact lenses, or medical interventions, such as medication or corrective surgery. Low vision influenced and limited the individual's proficiency in completing daily tasks (Chen, 2014; National Eye Institute, 2014). For the purpose of this study, the term low vision remained with the

definition determined by an infant/toddler's visual acuity, ranging from 20/70 to 20/200 (Dennison, 2014).

Mildly multiply involved. An individual with more than one disability, such as visual and hearing impairments (Center for Parent Information and Resources, 2014). Children may have additional medical needs or equipment, such as glasses and hearing aids; however, they could actively participate in a regular education setting with minimal or no supports (Texas Department of Family and Protective Services, 2014). For the purpose of this study, the visual classification of mildly multiply involved, as established by Dennison (2014), included a second disability in conjunction with the infant/toddler's visual impairment (Dennison, 2014). The term mildly multiply involved replaced the term mild multi vision scenario developed by Dennison (2014).

Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC) – An assessment tool adapted from the Modified Instructional Perspectives Inventory (MIPI). The assessment measured the level of trust and empathy provided to parents of infants/toddlers receiving early intervention services (Henschke & Hantak, 2014). For the purpose of this study, the researcher adapted the MIPI to the MIPI-TPC and requested the TVI or the O and M specialist to complete the MIPI-TPC. The primary determinant of all versions of the original and subsequent version of the IPI is the principle 'teacher trust of learners' (Henschke, 2012).

Oregon Project for Preschool Children who are Blind or Visually Impaired. An assessment tool implemented by the TVI and/or O and M specialist from DAZ to an infant/toddler with visual impairments as a means to determine eligibility for services.

After the infant/toddler with visual impairments qualified for vision services, as written in the IFSP document, the early intervention service provider administered the OR Project assessment to the infant/toddler annually until they exited from the program. The annual administration measured the infant/toddler's increase, maintenance, or decrease of vision skills. DAZ allowed the TVI and/or O and M specialist to execute professional judgment for administration of either the HELP or the OR Project assessment to the infant/toddler with visual impairments (Rohr, 2014).

Primary provider. A team member who is the primary contact and liaison with the family and other team members. The primary provider implemented direct therapeutic services within their area of specialty, as designated by the infants/toddlers IFSP. There were times when the primary provider implemented services independently, as well as with a second service provider during joint visits. The primary provider usually understood and followed the family's priorities and routines, as well as brought forth issues or concerns regarding the family to team members during formal team meetings. (McWilliam, 2010; Shelden & Rush, 2013).

Service delivery models. The manner in which designated service providers worked directly with a family, as designated by the infants/toddlers IFSP. Examples of service delivery models included the transdisciplinary, interdisciplinary, multidisciplinary, and primary service provider models. The transdisciplinary model had team members accepting identical responsibilities in regards to completing evaluations, team meetings, and delivering services in a collaborative manner. The interdisciplinary model required each team member to complete evaluations and implement delivery of services independently, although team members attended meetings to review information

and collaboratively brainstorm ideas and activity suggestions. The multidisciplinary model entailed service providers to work independently in conducting evaluations and implementing delivery of services; however, service providers did not attend formal team meetings. For this study, the researcher elected to examine the primary service provider model. The model had one team member who was the primary contact and liaison between a family and other team members. Typically, the primary provider implemented delivery of therapeutic services independently, as well as with another team member, as designated by the infants/toddler's IFSP (Sandall et al., 2005; McWilliam, 2010; Shelden & Rush, 2013).

Service provider. A professional who typically held a Bachelor's degree in an area of special education and implemented early intervention therapeutic services to an individual with developmental delays. For the purpose of this research project, a service provider delivered early intervention services to infants/toddlers with developmental delays. The professionals included, but were not limited to occupational, physical and speech therapists, as well as special instructors and service coordinators (McWilliam, 2010; Shelden & Rush, 2013).

Severely multiply involved. An individual with one or more significant medical issues, which may or may be terminal, and could require a hefty amount of care. Frequent medical appointments, hospitalizations, and/or surgeries may be required. Medical equipment, such as a ventilator, feeding tube or wheelchair, may be required. Specialized educational placements or homebound services may be a necessity (Texas Department of Family and Protective Services, 2014). For the purpose of this study, the definition severely multiply involved included two or more disabilities in addition to the

infant/toddler's visual impairment (Dennison, 2014). The term severely multiply involved replaced the term severe multi vision scenario developed by Dennison (2014).

Toddlers. A child's life span between infancy and preschool. It typically covered from 12 to 36 months of age (Centers for Disease Control and Prevention, 2014b, 2014c). DAZ decided not to differentiate toddlers from infants as participants of this study. Instead, a toddler with a designated visual classification grouped with other infants/toddlers assigned with similar visual classification, by DAZ.

Trust. Within the field of early childhood education, trust began in infancy as babies developed an 'interrelated goodness' within intrinsic and extrinsic environment (Erikson, 1963, 1968), was part of an infant's affective development (Greenspan & Greenspan, 1985; Honig, 1994), and could last throughout a person's lifetime (Estes, 2004; Santrock, 2010). Trust was an essential part of establishing positive relationships between infants and caregivers, most commonly initiated with parents (Berger, 2009; Honig, 1994; Patterson, 2009). Trust was an integral piece of educational institutions in which positive relationships between educators and parents were positive and reciprocal (Chu, 2007; Karakus, & Savas, 2012). Trust continued to be exhibited in adults as they continued life-long learning and represented in the andragogical principle 'teacher trust of learners,' as measured by the original IPI (Henschke, 2012) and the MIPI-TPC (Henschke & Hantak, 2014).

Unit. The length of time during which a service provider implemented early intervention services or assessment to an infant/toddler qualified for the service (IDHS, 2016). Additionally, service providers kept track of the number of units authorized in each child's IFSP document for billing purposes (Shelden & Rush, 2013).

Vision classifications. The category of visual impairments, derived for the purpose of this study and based upon the vision scenario definitions shared by the Center for Persons with Disabilities through Dennison (2014). The vision classifications include low vision, mildly multiply involved, severely multiple involved, totally bind, and deafblind.

Summary

Because of limited research conducted within the field of early intervention, particularly regarding infants/toddlers with blindness/visual impairments, DAZ expressed an interest in participating in a research study. The non-profit agency expressed an interest in examining the possible relationships between assessment scores demonstrating child progress toward outcomes, meeting various family needs, as reported through the Family Outcomes Survey, and the andragogical factors applied by the TVI and O and M specialist service providers during home visits. The research study examined a possible relationship between the frequency and length of early intervention home visits by the TVI and O and M specialist service providers.

Chapter One provides an introduction to DAZ, as well as the framework developed for this study, particularly child progress, family outcomes, and teacher perspectives. Chapter Two contains a literature review of prior research conducted in the areas of early intervention, infants/toddlers who are visually impaired, family outcomes, teacher perspectives, and andragogy learning theory. Chapter Three discusses the research design method of this study, while Chapter Four presents the results derived from the data analysis. Finally, Chapter Five provides a discussion regarding the researcher's findings, limitations, implications for future research within the fields of

andragogy, and early intervention, including family empowerment, as aligned with the literature review, and conclusion of the study.

Chapter Two: Literature Review

Introduction

As part of IDEA (2004), the U.S. Congress authorized and allocated funds to each state through the Office of Special Education Programs (OSEP). It was the responsibility of each state to utilize these funds with fiduciary and fiscal responsibility, as a means of initiating, organizing, and maintaining early intervention services. Per federal guidelines, any infant/toddler identified as displaying a developmental delay and determined eligible for early intervention services was required to have an IFSP in place. The service provider and parents/guardians needed to trust one another in helping young children thrive in a positive learning environment.

Four major topics reviewed in the research literature for Chapter Two included (a) historical and theoretical background of early intervention, (b) assessments developed for infants/toddlers who were visually impaired, (c) family outcomes, and (d) andragogy learning theory, including the application of andragogy to teacher-parent relationships. The review of early intervention services centered on the historical and theoretical influences of the fields of early childhood and special education, as well as legislative regulations and federal laws. The review of assessments, particularly for infants/toddlers who were visually impaired demonstrated the lack of published standardized assessments and research studies. Literature regarding family outcomes validated the importance of positive relationships between educators and families, particularly when implementing home-based services. The final review examines andragogy learning theory and the manner in which teachers facilitated a trusting, learning environment for parents.

Historical and Theoretical Background of Early Childhood Education

The establishment of the field of special education, particularly the areas of early childhood special education and early intervention, arose from the field of early childhood education (Gargiulo & Kilgo, 2014). With general early childhood education rooted in religious beliefs and family values (Estes, 2004; Gargiulo & Kilgo, 2014, Morrison, 2015), early childhood special education and eventually early intervention, stemmed from legislative sessions, legal proceedings, and parent advocacy (Allen & Cowdery, 2015; Friend, 2014; Heward, 2013; Gargiulo & Kilgo, 2014). While the ancestry of early childhood education traces back to Plato and Aristotle, the federal legislation requiring early childhood special education and early intervention programs started in the 1990s (Allen & Cowdery, 2015; Estes, 2004; Heward, 2013; Gargiulo & Kilgo, 2014).

The European influence on the field of early childhood education continued through the works of additional theorists and leaders, including but not limited to Montessori (trans. 1966), Froebel (1826/1912), and Piaget (trans. 1954). Eventually their works entered into the United States, influencing numerous early childhood programs, educators and administrators, families, and young children, particularly the work completed by Blow (1908) and Honig (1994). A description of the results of their work, as well as the influences leading to the fields of early childhood special education, special education, and early intervention are included in Chapter Two.

John Amos Comenius (1592-1670). Comenius lived in the European country of Moravia, known as the Czech Republic at the time of this writing. His writings included an integrated theological and philosophical belief into his knowledge regarding the

education of young children up to the age of six years (Comenius, 1858/1893; Comenius Foundation, 2015; Jalongo, 2004; Osborn, 1991). The writings also emphasized the need for infants, toddlers, and young children to participate in a variety of play activities within their natural world, including the outdoors (Comenius, 1858/1893). According to Comenius (1858/1893), "A child is a more precious treasure than gold, but more fragile than glass" (p.32). He emphasized the need for a parent to follow God's word, provide nurturing parameters, and discipline, in order for a young child to learn. Savicevic (1991) and Henschke (2012) agreed that Comenius' (trans. 1728, trans. 1887, 1858/1893) work initiated the learning theory of andragogy as discussed later in Chapter Two.

Comenius' (trans. 1728) interest in child growth and development, as well as teaching young children led to the creation of the first children's picture book, *The Orbis Pictus* (Comenius, 1887; Comenius Foundation, 2015; The Project Guttenberg, 2009). The picture book contained numerous Biblical testimonials and references to playing games within a natural world of trees, flowers, and gardens. Labor skills, such as hunting, mining, sewing, and cooking were mentioned throughout the book (Comenius, 1887).

Maria Montessori (1870-1952). Montessori obtained a medical degree and developed a strong focus on how young children, particularly between birth and six years of age mature biologically, as well as academically (Estes, 2004; Osborn, 1991). In 1907, she launched her Children's House program in Rome (Osborn, 1991). Montessori believed young children naturally experienced 'sensitive periods'' in the development. These times were ones in which young children learned new concepts and skills through various educational experiences and manipulations of materials (Montessori, trans. 1966;

Osborn, 1991). She designed an educational curriculum, in which young children were encouraged to master a skill prior to moving on to learning a new skill (Montessori, trans. 1967; Pendleton, 2015).

In designing the curriculum, Montessori (trans. 1967) alleged that children with developmental disabilities would benefit more from an education approach over a medical model (Montessori, trans. 1967; Osborn, 1991). According to this philosophy, a child identified with a developmental delay had the ability to participate in a Montessori program and learn according to his or her knowledge and experiences (Osborn, 1991). Montessori (trans. 1967) wrote, "The difference between a normal child and one who is mentally inferior is that . . . his attention must be continuously aroused; he must be invited to observe and encouraged to act" (p. 178). Therefore, the teacher assumed a facilitative role with the child and provided assistance if needed. Otherwise, the young child utilized knowledge and senses as pathways to learning (Osborn, 1991; Pendleton, 2015). A variety of materials, including wooden blocks, abacus, and books provided the young child with many learning opportunities. Tactile manipulatives, musical instruments, textured books, nature materials, and shape sorters enhanced the child's senses (American Montessori Society, 2015c; Montessori, trans. 1967).

In 1912, Montessori conducted numerous lectures in the United States and initiated the American Montessori Association (Osborn 1991). At the time of this writing, there were approximately 1,200 Montessori accredited schools through the American Montessori Society (2015a) for young children. There were a limited number of college and universities in the United States, including Lindenwood University, in

which participants could transfer credits into a Montessori teacher education preparation program (American Montessori Society, 2015d).

Jean Piaget (1896-1980). Piaget's initial research interests focused on biological sciences, which eventually steered him into the direction of psychology, particularly young children's cognitive development (Osborn, 1991; Smith, 2002). He believed young children thought differently than adults (Smith, 2002) in both areas of cognition and moral development through various stages (Piaget & Inhelder, 1969/2000). His studies also validated Montessori's work (Osborn, 1991) in regards to how young children gained new knowledge through manipulation of objects.

Stages of cognitive development. Piaget identified four stages of cognitive development, which an individual experienced through his or her lifetime. The rate where a person transitions from one stage to the next depended upon biological and environmental factors (as cited in Estes, 2004). The biological factors developed through progressive maturation, while the environmental factors cultivated through experiences.

The sensorimotor stage occurred when an infant/toddler relied on his or her senses to learn new information, such as mouthing a toy or manipulating textured items. The preoperational stage ensued as the preschooler acquired new knowledge through experiences and manipulation of objects. They also began to demonstrate symbolic thinking through dramatic play activities (Estes, 2004). The concrete operational stage followed when an elementary student began to think more logically, particularly in the area of mathematics (Osborn, 1991). The final stage, formal operations, initiated during adolescence, in which Piaget and Inhelder (1969/2000) defined as "an individual who constructs systems and "theories" (p. 61). Throughout adulthood, an individual

continued to expand these systems and theories while remaining in the formal operational stage.

Assimilation and accommodation. Piaget (trans. 1954) determined young children developed their intelligence and increased their schemas through the thought processes of assimilation and accommodation, while in the sensorimotor stage (Piaget & Inhelder, 1969/2000). Piaget and Inhelder (1969/2000) reported that even though newborns displayed reflexive actions almost immediately after birth, these repetitive movements, as well as reinforcement to stimuli, led to schema development (Piaget, trans. 1954; Piaget & Inhelder, 1969/2000). Once the schema began to develop, the infant acquired new knowledge by assimilating or accommodating the new information. Assimilation occurred when the infant adapted to the stimuli within the then-current schema. If the infant unsuccessfully adapted to the situation, then he or she must accommodate the information into a new schema (Estes, 2004; Piaget, trans. 1954; Piaget & Inhelder, 1969/2000). Therefore, a learning cycle occurred when the infant/toddler explored an item, assimilated, or accommodated the information collected within the environment. Through multiple experiences and maturity, the infant accepted the item into the then-current schema or made changes to create a new schema (Estes, 2004; Morrison, 2015; Piaget & Inhelder, 1969/2000).

Friedrich Froebel (1782-1852). Froebel (1826/1912) designed the first kindergarten in Germany and focused on the relationships a mother held with her infant (Osborn, 1991). Froebel (1889/2005) wrote about the neglect he suffered from his parents, contracted with the love and care he received from his aunt and uncle by stating,

"There I encountered mistrust, here I was trusted" (p. 22; Osborne, 1991). He went on to study botany and nature, which integrated into the kindergarten curriculum.

Similar to Comenius (trans. 1728, trans. 1887, 1858/1893), Froebel (1826/1912) believed young children benefited from the attributes of nature and they grew and developed similarly to flowers and trees (as cited in Osborn, 1991). According to Osborn (1991), Froebel (1826/1912) identified young children as 'gifts from God;' therefore, he developed six gifts children should receive between the ages of birth to six years (p. 45). The six gifts included (a) six woolen balls, (b) wooden sphere, cube, and cylinder, (c) a two-inch wooden cube, (d) a two-inch wooden cube divided into various shapes, (e) a three-inch wooden cube, and (f) a three-inch wood cube containing 36 smaller pieces. He derived that an infant became aware of his or her surrounding at approximately four months, at which time the child received the first gift. After the infant manipulated and mastered the first gift, then the child was successful in achieving the second gift. Once the toddler became proficient with the second gift, then the child received the third gift. Typically, the process continued every year until the child turned six-years old and entered into a more formal school environment (Froebel, 1826/1912; Morrison, 2015; Osborn, 1991). A brief description of each gift is given in the next sections.

Gift #1 - Six woolen balls. The concept of selecting the six woolen balls was that they represented the unity of God and the primary colors of the rainbows (red, orange, yellow, green, blue, and purple) (Morrison, 2015; Osborn, 1991). Froebel (1826/1912) selected the circular object as the first gift, since it was easy for an infant to grasp; they noticed the bright colors, and it was versatile. The infant could increase the skill level of using the ball by first holding it, then reaching for it, and finally rolling and tossing it to

another person. Froebel (1826/1912) stated, “It is natural for him to love and trust that with which he is surrounded. It depends upon those who have the care of him, whether this love is fostered, or fear and distrust are allowed to come in and leave lasting and harmful impressions” (p.47).

Gift #2 – Wooden sphere, cube, and cylinder. These gifts represented contrast and versatility. The toddler could utilize the items in various forms, including blocks or beads (Froebel, 1826/1912; Morrison, 2015; Osborn, 1991). They might noticed textural contrasts between the first two gifts, such as the descriptors hard and soft, smooth and rough or small and big (Morrison, 2015).

Gift #3 – A two-inch wooden cube. Even though the wooden cube could comprised as a unified component, it gave the capability for the child to separate it into eight one-inch cubes (Morrison, 2015; Osborn, 1991). The gift provided preschool children the ability to take apart the item and independently restore those individual units into a larger component. The child’s use of the two-inch wooden cube provided an opportunity to explore how items in the state of being whole can separate into smaller parts. As such, the small parts were manipulated together to return the parts into a state of wholeness. It encouraged children to complete puzzles independently.

Gift #4 – A two-inch wooden cube divided into various shapes. Although similar to the third gift, the separate pieces of Gift # 4 represented larger ‘bricks’ (Morrison, 2015; Osborn, 1991). The individual parts looked alike; however, when put together, the entire item looked different (Osborn, 1991). Therefore, the preschool child experiments with sizes and shapes, as well as the concepts of part and whole, were a focus of Gift # 4.

Gift #5 – A three-inch wooden cube. More complex than the third and fourth gifts, the children could separate the whole wooden cube into several one-inch cubes and include a variety of shapes. Three of the smaller cubes divided into six triangles; therefore, the child completed the task by intricately connecting all parts together to create the cube, (Morrison, 2015; Osborn, 1991). The cube encouraged the child to increase cognitive skills, as well as spatial relationships.

Gift #6 – A three-inch wood cube containing 36 smaller pieces. The 36 smaller pieces included multiple copies of each shape and extended architectural forms into the unit. Froebel (1826/1912) thought young children could replicate famous architectural designs, such as an Egyptian pyramid or Roman columns, with the blocks (Froebel, 1826/1912; Morrison, 2015; Osborn, 1991). The use of these blocks encouraged young children to initiate the foundation of learning into careers, such as architecture or carpentry.

Although Froebel (1826/1912, 1889/2005) devised the first six gifts for children between the ages of four months and six years, he developed another four gifts for older participants. These gifts included tablets containing squares and triangles, wooden staffs varying in length, wooden circles varying in diameters, and the utilization of natural items, such as seeds, beans, and flowers. By including these items, a child developed algebraic, geometric, and scientific skills throughout their educational experiences (Morrison, 2015; Osborn, 1991).

Susan Blow (1843-1916). After spending time in Germany and observing one of Froebel's (1826/1912, 1889/2005) kindergarten classroom, Blow (1908) decided to implement a kindergarten classroom in the United States. She successfully convinced the

Superintendent of the St. Louis Public Schools to open the first public school kindergarten program in 1873 (Dunst, 1996; Osborn, 1991; The State Historical Society of Missouri, 2015). Prior to becoming the Director of the program, Blow traveled to New York and studied Froebel's (1826/1912, 1889/2005) methods. As a result, she returned to Saint Louis and trained her teachers to incorporate play into learning activities for the young children. The teachers also created classroom environments that invited young children to manipulate learning materials, such as blocks, balls, and sticks (Blow, 1908). The program provided young children between the ages of three and six years (Blow, 1908; Estes, 2004) an opportunity to participate in a school environment and avoid roaming the streets or staying at home with nannies (Missouri History Museum, 2011). By 1900, more than 5,000 kindergarten programs existed in the United States and initiated the first formal learning experiences for young children outside of their homes (Dunst, 1996).

Carl Dunst (1928 -). Dunst (1996) developed five 'spheres of influence,' including (a) early childhood education, (b) theories of child behavior and development, (c) experimental effects of environmental intervention, (d) governmental initiatives, and (d) grass roots initiatives (p. 12). These influences began with actions demonstrated by young children through their experiences and maturity. The actions led to adults developing appropriate programs and services for young children. As the programs and services develop, funding sources provided sustainability, which led to new programs and services for young children (Dunst, 1996, pp. 10-11). A more detailed description of each sphere is included in the following sections.

Early childhood education. Dunst's (1996) first sphere reviewed the historical perspective of early childhood education. Programs initiated in Europe to guide young children's skills as they developed, which led to the creation of kindergarten in Germany and the U.S. Kindergarten programs expanded into nursery schools within the United States, as the necessity of developing early childhood programs to benefit unemployed teachers and parents (pp. 12-13).

Theories of child behavior and development. The second sphere emphasized various educational theories, which discussed a young child's behavior as it related to overall development. Dunst (1996) believed the field of early intervention emerged from the field of early childhood education, as it related to the manner in which a young child's behavior and development emerged from various experiences. The work of several early childhood theorists, including Dewey, Piaget, and Bronfenbrenner influenced this sphere (Dunst, 1996, pp. 13-15).

Experimental effects of environmental interventions. The third sphere revolved around previous research study results of measuring the benefits of a young child attending educational programs. Initial studies involved children living in institutions with subsequent studies, pertaining to young children of incarcerated parents and low socio-economic families (Dunst, 1996, pp. 15-16). Dunst (1996) cited the Perry Preschool Project, Carolina Abecedarian Project, and Yale Child Welfare Project as more modern research projects revolving around curriculum (pp. 15-16).

Governmental initiatives. Dunst's (1996) fourth sphere discussed the federal laws outlining early intervention regulations. The first initiative program dated back to 1912, when the Children's Bureau originated. Additional funding programs, including

the initiation of the Title V of the Social Security Act of 1935 and the Economic Opportunity Act of 1964, influenced the creation of the Head Start program. These programs evolved into federal laws, including the Education of All Handicapped Children Act of 1975, Public Law 94-142 (P. L. 94-142) (Dunst, 1996, pp. 17-18).

Grass roots initiatives. The final sphere related to the initiatives focusing on the effects parents, families, and communities could have on influencing young children. These initiatives originated in the late 1800s, as settlement houses developed (Dunst, 1996, p. 19) where employees provided education programs to immigrants. During the same timeframe, the concept of friendly visiting developed, as a means of providing suggestions in raising young children of lower socio-economic families. With the establishment of organizations focusing on parent education, including the National Congress of Parents and Teachers and the National Council of Parent Education, parenting programs expanded to include middle-class families.

Robin McWilliam (1956-). McWilliam (2010) posited the importance of implementing family-centered practices with parents of children receiving early intervention services. Family-centered practices emphasized the importance of family members becoming active decision-makers in the planning and development of the child's IFSP, as well as participants of early-intervention services. In following with Bronfenbrenner's ecological theory, family-centered practices accentuated the relationship between every family member, including individuals in the nuclear and extended family and the child (as cited in Raver & Childress, 2015). Resources and social supports aligned the framework of the family's concerns regarding the infant/toddler's developmental delay with the family's influence and ability to nurture the

child's growth in the areas of cognition, and motor and social development (McWilliam, 2010; Raver & Childress, 2015; Shelden & Rush, 2013).

McWilliam (2010) documented the importance of involving families throughout the entire early intervention process, from the first meeting a professional conducted with the family to the final home visits conducted no later than the day before the child's third birthday. A service coordinator initiated contact with the family shortly after the early intervention agency received a referral. During this initial conversation, the service coordinator scheduled a meeting with the family and discussed their concerns. In order to determine the family's needs and concerns, the service coordinator implemented a Routine-Based Interview (RBI) by asking questions in relation to the family's concern regarding the infant/toddler's development, as well as assessing the family's needs and wants. The interview conducted by the service coordinator with the family consisted of scripted and open-ended questions, in which the family members described a typical routine followed within the home environment (McWilliam, 2010). Although the family member's responses to the RBI did not determine eligibility for early intervention services, they did establish the foundation in developing IFSP outcomes (McWilliam, 2010; Raver & Childress, 2015; Shelden & Rush, 2013). Based upon the family's priorities and concerns, the IFSP team members collaboratively cultivated developmentally appropriate IFSP outcomes (Crawford & Weber, 2014). The IFSP outcomes outlined the focus of developmental skills, based on the family's concerns derived from their responses during the RBI.

The purpose of encouraging family members to participate in the IFSP planning process and the delivery of early intervention services was to provide parents/guardians

with an opportunity to learn activities and strategies they could implement with the child's natural environment. During each home visit, the service provider modeled appropriate teaching and/or therapeutic strategies related to concerns expressed by the family and addressed in the child's IFSP outcomes. In addition to providing direct services to the child, the service provider should converse with the adults and share the benefits of implementing the teaching and/or therapeutic strategies throughout the family's daily routine.

McWilliam (2010) also recognized the fact that a service provider assumed the role of consultation at times, while implementing early intervention services (p. 172). In consulting with the adult family member, the service provider recognized they are implementing teaching strategies appropriate for adult learners. Based on Knowles (1977, 1984) andragogical factors, the service provider understood and recognized the adult as a lifelong learner interested in assisting the infant/toddler to increase developmental skills (as cited in McWilliam, 2010, p. 173). The service provider considered the adult family to be a collaborator in addressing the child's IFSP outcomes (Raver & Childress, 2015).

The manner in which activities and strategies implemented and shared by the service provider to the adult family member were adapted to the adults' learning style. Similar to the influence of understanding individual learning styles of young children, the service provider intentionally demonstrated appropriate therapeutic activities for the family member to implement within the infant/toddler's natural environment during daily routines (McWilliam, 2010). The family member practiced these activities under the

guidance of the service provider prior to implementing the strategies independently, particularly during the service provider's absence until the next scheduled home visit.

McWilliam (2010) emphasized that when the service provider established and maintained positive relationships with the adult family member, they were more likely to exhibit a willingness to observe and directly participate in the infant/toddler's therapy session. Through practice and ability to ask questions, the adult family member felt more confident and comfortable implementing the activities independently. These feelings led to the adult becoming motivated in providing appropriate opportunities for the infant/toddler to complete the activities during the daily routine. As a result, the adult trusted the service provider and viewed the suggestions as credible (p. 173). In relation to Dunst's (1996) spheres, a long-lasting desired outcome through this process was for adult family members to feel empowered and willing to advocate for their child, particularly during grass roots initiatives (Cook & Sparks, 2008; McWilliam, 2010; Raver & Childress, 2015).

Early Childhood Education within the United States

According to Copple (2001), approximately 500,000 children between the ages of four and five years, entered into kindergarten as a means of formal education (p. 35). The authors continued to report that reputable nursery schools were established more for research purposes in the areas of educational teaching than assisting working mothers or young children in need (p. 36). As a result, Patty Smith Hill advocated and spearheaded the call for creating a professional organization in 1920 (Copple, 2001). For the following four years, Hill gathered the National Committee on Nursery Schools, which later became the National Association for Nursery Education (NANE) in 1929 (Copple,

2001). Throughout the few decades following its establishment, NANE advocated on behalf of young children and their parents for various child care programs, as well as resources to help parents cover the tuition costs of having their child attend a quality program. In 1964, NANE completed a restructuring process and changed its name to the NAEYC. As such, NAEYC continued to call for financial assistance by the government, as a means of creating affordable child care programs for young children. NAEYC continued the work in early childhood education; however, they provided guidelines in the areas of child care center accreditation, as well as teacher-preparation accreditation systems at the level of Associate and Baccalaureate degrees for Higher Education institutions.

Child Care Needs in the United States

According to the U. S. Census Bureau, approximately 12.5 million children under the age of five years attended a child care program in the spring of 2011 (as cited in Laughlin, 2013). However, a more recent report released by Child Care Aware of America® (Fraga, 2014) stated approximately 11 million under the age of five years attended some type of child care setting. Many families felt the need to earn an income, and as a result, with one or more parents then-currently employed outside of their homes and searching for quality child care programs (Laughlin, 2013; NAEYC, 2013). As a result, families were in need of appropriate and affordable child care services. One way of assisting families to afford appropriate child care services, the federal government established the Office of Child Care through the Administration for Children and Families division of the U.S. Department of Health and Human Services, in 2010. During each month of 2011, approximately 969,100 families received child care

assistance funds (U.S. Department of Health and Human Services Administration for Children & Families, 2013).

Licensing Visits in Other Countries

At the time of this writing, Australia appeared at the forefront of establishing and implementing consistent licensing regulations, particularly when evaluating services provided in indigenous child care centers. According to research results discussed by Targowska, Saggers, and Frances (2010), tightening child care regulations could create barriers, especially in the amount of money needed to meet the requirements. Parents, providers, and stakeholders agreed to the need of higher regulations; however, the task required financial incentives and assistance to carry out the improvements. Targowska et al. (2010) also noted additional support and technical assistance service requirements; although, the licensing agency could only provide so many resources and services to the licensed providers, until the securement of additional funding sources.

A separate research team in Australia decided to examine the qualifications of early childhood workforce members, who were employed in family child care programs. According to Williamson, Davis, Priest, and Hamilton (2011), many of the early childhood workforce members failed to acquire knowledge pertaining specifically to the area of early childhood education, even though they were working directly with young children. They also noted these early childhood workforce members lacked attendance in professional development opportunities related to working with young children from a variety of cultural, linguistic families, as well as those diagnosed with developmental delays. The primary research findings also recommended additional professional

development, technical assistance, and supports for child providers (Williamson, Davis, Priest, & Hamilton, 2011).

Home Visitation

The purpose of implementing home visits was for professionals to provide support to at-risk children, as well as their families. In 2014, more than 115,000 children in the United States, while more than 1,000 children and families in Missouri, participated in a home visit (U.S. Department of Health and Human Services Administration Maternal and Child Health [USDHHAMCH], 2016). The primary philosophy regarding home visits established a federal and state framework for addressing societal influences affecting families, while meeting the needs of the at-risk children through effective outcomes (Cook & Sparks, 2008; USDHHAMCH, 2016).

The type, focus, and reason for conducting a home visit with young children and their families were vast. Many times the home visit occurred in the individual's home; however, within the field of early intervention, the visit could occur in the child's natural environment. Since many parents select employment outside of the home, the child's natural environment may include community-based child care programs and centers, a grandparent's home, or a family child-care provider's home. The focus for home visiting programs could address the child's unique medical, educational, and/or family needs by nurses, educators and/or therapists and social workers. The reasons could range from medical and safety necessity to implementing educational or therapeutic services (Cook & Sparks, 2008; Zero to Three National Center for Infants, Toddlers, and Families [Zero to Three], 2014b).

The Maternal, Infant, and Early Childhood Home Visiting Program

Congress established federal funds for home visitation in all 50 States, District of Columbia, and tribal entities, in 2010 (Zero to Three, 2014b). The program provided an opportunity for children considered to be at-risk and ineligibility for preschool enrollment to participate in the home visitation program. The term at-risk in this program referred to any family who experienced problems with supporting their child, such as rural geographical location, lower socio-economic status, and unemployment. Federal funds distributed to states and tribal groups allowed these volunteer families to receive services utilizing evidence-based strategies (Stark, Gebhard, & DiLauro, 2014).

According to the website for Zero to Three National Center for Infants, Toddlers, and Families (Zero to Three, 2014a), a non-profit organization with a mission "to ensure that all babies and toddlers have a strong start in life" (para. 2), reported that by September 2013, the MIECHV program served at least 80,000 families in 774 at-risk communities (2014b, pt. 4). Professionals providing services to the families included social workers, nurses, and/or paraprofessionals. Zero to Three (2014b) also reported that for every dollar spent on the home visiting program, the return on investment maximized toward $9.50. Therefore, the program demonstrated positive financial gains for taxpayers and community stakeholders.

The MIECHV program mandated the creation of an Early Childhood Comprehensive System (ECCS) at both the federal and state levels (Stark et al., 2014). In Missouri, the Project LAUNCH Joint Council oversaw the work of the Regional Early Childhood Comprehensive System (RECC), with the concentration of work completed in the St. Louis City area. The ECCS comprised of the following five components: (a)

collaborative planning and systems building, (b) identification, screening, and referral, (c) professional development, (d) quality improvement, and (e) evaluation.

Collaborative planning and systems building. State ECCS leaders identified stakeholders and collaborative partners, who provided basic needs to families. The needs ranged from food and/or housing to medical and mental health services (Stark et al., 2014). For example, public and private companies joined efforts with a non-profit center through financial and/or volunteer support.

Identification, screening, and referral. Stakeholders developed an intake process in order to identify the needs of a family and referred them to the most appropriate programs, including home visiting services. In order to prevent duplication of services, the process included effective identification, screening, and referral practices so the family had their needs met (Stark et al., 2014). Communication occurred among and between the stakeholders, in order for the process to work at the highest level for a family.

Professional development. Collaborative agencies developed professional development opportunities for the professionals implementing services, including early interventionists and those conducting home visits. Colleges and Universities were encouraged to become partners. The Higher Education institutions developed and implemented cross-disciplinary coursework as part of their professional degree requirements (Stark et al., 2014).

Quality improvement. Many states developed systems in identifying quality programs through the Quality Rating and Improvement System (QRIS) for early childhood centers, as well as home visiting programs. The MIECHV program

incorporated QRIS initiatives into their system (Stark et al., 2014) and addressed infants and toddlers identified with developmental delays by supporting families, creating professional development opportunities, and implementing consultative services (Build Initiative, 2015, para. 4). To address functional quality improvement measures, MIECHV collaborated with the Education Development Center, Inc. to establish the Home Visiting Collaborative Improvement and Innovation Network (HV CoIIN) pilot program. HV CoIIN program participants met monthly to discuss evidence-based strategies implemented during home visits with families, as a means of improving services in an innovative manner (Mackrain & Cano, 2014; Stark et al., 2014). Researchers at Georgetown University were studying the effectiveness of HV CoIIN; however, the results were unavailable at the time of Mackrain and Cano's (2014) writings.

According to the QRIS Compendium by the Build Initiative (2015), the State of Illinois developed QRIS initiatives through the ExceleRate Illinois program in 2013; however, it did not include home visiting programs. Until 2016, legislators from Missouri required legislative approval prior to starting any QRIS initiatives; therefore, no quality improvement measures existed. In May 2016, Missouri received legislative approval to initiate a QRIS pilot program (QRIS National Learning Network, 2016).

Evaluation. The MIECHV program mandated an evaluative process to measure outcomes, benchmarks, and indicators of programs and services. The results determined the effectiveness of service delivery, as well as any possible changes needed to meet family needs (Stark et al., 2014). Although funding for the MIECHV program expired on March 30, 2015, Congress approved the reauthorization of funds. The reauthorization

provided $800 million until 2017 and then awaited the President's signature into law (Kelly, 2015).

In order for each state or territory to coordinate collaborative efforts among participating partners, MIECHV created a grantee program for each state, territory, or tribal community, called Project LAUNCH. Project LAUNCH contained the acronym representing, Linking Actions for Unmet Needs in Children's Health, and mandated an ECCS (American Institute of Research, 2015; Stark et al., 2014). The federal system included essential components in regards to early childhood assessments, effective home visits, and strengthening families (American Institute of Research, 2015; Stark et al., 2014).

Early Intervention Eligibility

With the Congressional passage of P. L. 94-142, the Education of All Handicapped Children Act, children could participate in special education programs as determined by meeting eligibility requirements (Center for Parent Information and Resources, 2016a). The creation of an Individualized Education Program (IEP) document outlined the goals and frequency of educational and therapeutic service for participants from three to 21 years of age. The utilization of benchmarks related to the goals provided and reported the child's progress toward meeting the goals stated in the IEP (Center for Parent Information and Resources, 2016b).

In 1986, Congress authorized the availability of special education services for children under three years of age through the implementation of Part H of P.L. 94-142. The reauthorization in 1991 led to the call from Congress to states in developing a comprehensive early intervention system of services to qualifying children under the age

of three years (Cook et al., 2015; Friend, 2014; Raver & Childress, 2015). Through this legislative mandate, instead of creating an IEP document, service coordinators created an IFSP. The IFSP recorded outcomes created by team members and implemented through developmentally appropriate activities and strategies within the infants/toddlers daily routine in their natural environment (Friend, 2014; McWilliam, 2010; Panagos et al., 2013; Raver & Childress, 2015). Dunst (1996) defined early intervention as "a wide array of experiences and supports provided to children, parents, and families during the pregnancy, infancy, and/or early childhood periods of development" (p. 11).

Illinois Child and Family Connections

In Illinois, early intervention services were coordinated through each of the 25 Child and Family Connections programs located throughout the state (IDHS, 2015b). The program directly coordinated early intervention services to young children under the age of three years and served as the Lead Education Agency (LEA) to OSEP (IDHS, 2014a, 2014b). The program accounted for service delivery to infants/toddlers who qualified by educational and therapeutic professionals, including early childhood special educators and occupational and physical therapists, as well as speech-language therapists. The services provided occurred in the child's natural environment, most commonly their home; however, they could occur in a child care center or another individual's home.

Missouri First Steps

In Missouri, MODESE was the state agency directly responsible for monitoring early intervention services, and served as the LEA to OSEP (MODESE, 2015). According to MODESE (2015b), 4,988 children under three years of age qualified and received early intervention services through the Missouri First Steps (2016) program, in

2013. Due to difficulties with one agency providing early intervention services to almost 5,000 infants and toddlers with developmental delays, MODESE decided to contract with 10 regional offices throughout Missouri. MODESE awarded contracts to each regional office, known as the Specific Point of Entry (SPOE), to provide intake, referral and ongoing early intervention services through a contract bidding process (Office of Special Education Programs [OSEP], 2014).

Each SPOE office was responsible for creating Early Intervention Teams (EIT), comprising of service coordinators, special instructors, occupational therapists, physical therapists and speech-language pathologists, as part of the contract requirements (MODESE, 2015a, 2015b). These professionals were constant members of the EIT and met on a monthly or bi-monthly basis. Ancillary providers, including a social worker, nutritionist, and vision or hearing specialist could also be members of an EIT; however, it was in a limited capacity pertaining to specific children qualifying for the services. The diagram in Figure 2.1 illustrates the then-current structure implemented in the Missouri First Steps (2016) program.

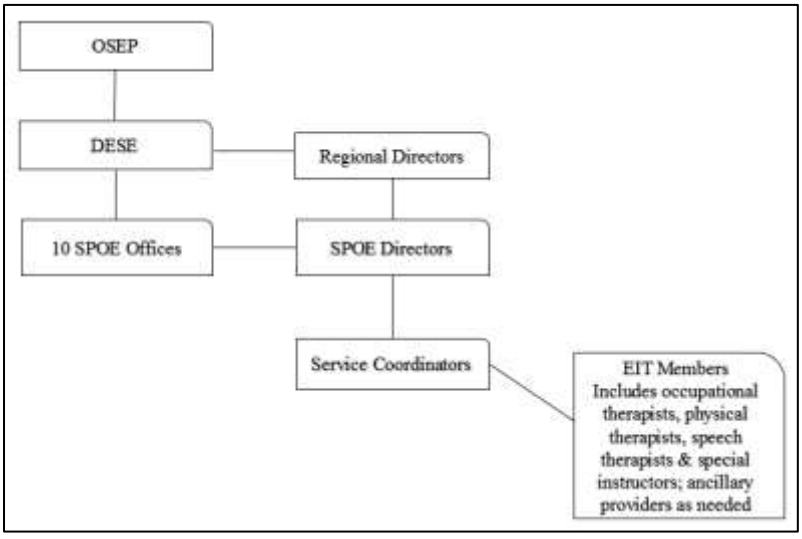

Figure 2.1. Missouri First Steps hierarchical model

Within the Missouri First Steps (2016) program, there were 28 service providers, who implemented home-based early intervention services. Nine of the service providers met the requirements for Special Instructor-Vision Impairment, while five held the appropriate licensure and certification for Orientation and Mobility Specialist. Fourteen service providers met the requisites for both Special Instructor-Vision Impairment and Orientation and Mobility Specialist (MODESE, 2016).

Background of Early Intervention Teams

Even though the service providers implemented ongoing direct services to infants/toddlers who qualified for early intervention programs and their families, the EIT teams were specifically comprised of only service providers and service coordinators (Raver & Childress, 2015; Shelden & Rush, 2013) in following the transdisciplinary model (MODESE, 2012, 2014c, 2015a, 2016). Utilization of the transdisciplinary model declared team members in accepting identical responsibilities in regards to completing evaluations, actively attending, and participating in EIT meetings in a collaborative manner, while the service coordinators facilitated and set the tone of each meeting. (McWilliam, 2010; MODESE, 2012; Raver & Childress, 2015; Sandall et al., 2005; Shelden & Rush, 2013).

The transdisciplinary model encouraged service coordinators and providers to develop a collaborative relationship, including consultation with one another (McWilliam, 2010; Shelden & Rush, 2013). According to McWilliam (2010), "Collaborative consultation follows the principles of adult learning or andragogy" (p. 173). Therefore, early intervention service providers could apply andragogical

characteristics as a means of establishing, maintaining, and strengthening trust among EIT members.

There were situations where the service providers were perplexed by a child's developmental skill level or a family requested additional or specific resources outside of the assigned providers' realm. For example, a special instructor may need assistance in developing appropriate strategies for a toddler to walk up or down steps independently. Since the physical therapist's expertise pertained to gross motor activities, the special instructor collaborated with a physical therapist to learn strategies and activities to assist the toddler to master the skill. During the EIT meeting, the special instructor asked for assistance from all of the professionals in attendance. Although the skill specifically pertained to the area of gross motor and a physical therapist extensively studied motor skills, all early intervention specialists in attendance of the meeting provided strategies and activities for the special instructor to implement during home visits. With appropriate professional development and team building exercises, the EIT meeting could be a positive learning experience for all team members, as well as establish strong, trusting relationships among one another (Shelden & Rush, 2013).

DAZ for Children with Visual Impairments

Realizing the specific needs of families with young children with visual impairments, an alumni group from a private University in Missouri established DAZ, in 1951. Their mission was to provide educational services to young children with blindness/visual impairments. At the time of this writing, DAZ's mission statement continued to emphasize meeting the needs of infants/toddlers with blindness/visual impairments. According to their website, "The mission of the DAZ for Children with

Visual Impairments is to help children who are blind or visually impaired reach their full potential through family-centered and specialized services and support" (DAZ, 2011a, para. 4). The agency followed seven core principles based upon their belief that visually impaired young children could learn and actively participate in a variety of activities and their families were entitled to support and services through their programs, particularly within early intervention settings. The remaining principles addressed the necessity for education and support to their clients by qualified personnel, which benefitted not only the children, but their families and communities as well (DAZ, 2011a).

DAZ (2011b) implemented early intervention activities and support through the Missouri First Steps (2016) program and the Child and Family Connections program in Illinois. Funding sources and contracts between the federal government and each state, more specifically contracts authorized through Part C of IDEA afforded the programs in both states. Since DAZ (2011a) provided services to qualified infants/toddlers who were visually impaired and they lived within a 50-mile radius of the agency, the agency accepted children who lived in Illinois or Missouri. As such, the TVI and O and M specialists met all certification and licensure requirements in both states (DAZ, 2011a, 2014).

Research Studies of Infants and Toddlers with Vision Impairments

The U.S. Census Department estimated the world population was, at the time of this writing, 7.2 billion individuals, with approximately 319 million people living in the United States (U.S. Census Bureau, 2014). Census data from 2013 reflected that nearly 6.3% of the general population in the United States and 6.2% of residents in Missouri represented a child under the age of five years (U.S. Census Bureau, 2014). Information

regarding the total number of infants/toddlers who were visually impaired was inconsistent. Factors for this shortcoming were due to the child's young age and limited amount of expressive communication skills. It was difficult to know exactly what the child could see, as vocabulary skills were minimal (Friend, 2014).

Then-currently, the Center for Persons with Disabilities at Utah State University (2014) was researching and possibly developing new definitions for identifying infants/toddlers who were visually impaired. The lead researcher Elizabeth (Bess) Dennison was teaching young children with visual impairments for approximately 40 years (Centers for Persons with Disabilities at Utah State University, 2014) and found it difficult to accurately report functional vision assessment results to families and medical personnel according to the then-current federal guidelines. Therefore, she was in the process of developing five visual scenarios, which included (a) blind, (b) low vision, (c) mild multi, (d) severe multi, and (e) deafblind. It was her hope the research would lead to definition changes from the then-current federal guidelines to more appropriate and understandable guidelines. (E. Dennison, personal communication, June 2, 2014).

Five visual scenarios.

Blind. According to Greeley and Lewis (2013), the term blind included any individual, in which a certified and licensed doctor reported they see minimal or no light (WHO, 2014, p. 777). For the purpose of this study, and defined by Dennison (2014), the term blind was identified as the "overall developmental is 71-100% of normal" (E. Dennison, personal communication, June 2, 2014). The infant/toddler may see some light or hand movements.

Low vision. The term of low vision, as defined by Greeley and Lewis (2013), included individuals classified with moderate or severe visual impairment, in which no corrective measures eliminates the visual impairment (WHO, 2014, p. 777). For the purpose of this study, and defined by Dennison (2014), "visual acuity is between 20/70-20/200" (E. Dennison, personal communication, June 2, 2014). Common eye conditions that may be associated with low vision included cataracts, albinism, and aniridia (Lighthouse International, 2014a). Several individuals with low vision acquired normal vision with the utilization of glasses, contact lenses, or minor surgery (WHO, 2006).

Mild Multi. The term moderate visual impairment, as identified by the World Health Organization (WHO, 2014) included individuals with visual impairments, in which corrective measures failed to allow normal visual skills. According to Dennison (2014), the term moderate visual impairment needed to change to represent an infant/toddler accurately (E. Dennison, personal communication, June 2, 2014). Therefore, for the purpose of original research, as well as this study, Dennison (2014) classified the term mild multi to include an infant/toddler who was "blind or low vision with an additional disability" (E. Dennison, personal communication, June 2, 2014). A premature infant may exhibit developmental delays, as well as the eye condition Retinopathy of Prematurity. The eye condition was only part of the child's disability (American Federation for the Blind, 2014a).

Severe multi. The term severe visual impairment, as identified by WHO (2014) included individuals with visual impairments combined with additional developmental delays. Therefore, for the purpose of original research and this study, Dennison (2014) altered the term from severe visual impairment to severe multi (E. Dennison, personal

communication, June 2, 2014). The definition by Dennison (2014) classified the infant/toddler as "blind of low vision with two more added disabilities" (E. Dennison, personal communication, June 2, 2014). For example, an infant diagnosed with cerebral palsy demonstrated weak muscle control and feeding difficulties, as well as vision issues (National Institute of Neurological Disorders and Stroke, 2014).

Deafblind. The term deafblind defined by IDEA 2004 (2016) included a combination of hearing and visual impairments (USDOE, 2016). The definition continued to explain the student identified as deafblind received a combination of educational services instead of attending a classroom exclusively for a child with a hearing impairment or a classroom exclusively for a child with a visual impairment (USDOE, 2016). The definition by Dennison (2014) classified the infant/toddler demonstrated "vision and hearing losses" (E. Dennison, personal communication, June 2, 2014).

Infant-Toddler Assessments

There were numerous standardized assessments utilized within the fields of early childhood, early childhood special education, and early intervention (Bagnato, Neisworth, & Pretti-Frontczak, 2010; IDHS, 2015; Meisels & Atkins-Burnett, 2005; Ringwalt, 2012) available for use by educational and therapeutic professionals. The number of tests and assessments normed and standardized for infants/toddlers who were blind/visually were limited (Benoff & Lang, 2005a, 2005b). According to Benoff and Lang's (2005a, 2005b) research, nine tests were normed and standardized for use with individuals who were blind or had multiple disabilities. Out of the nine tests, only the Bielefed Development Test for Blind Infants and Preschoolers (BEB-KV) measured skill

levels for infants, toddlers, and preschoolers (p. 1); however, the test had not published at the time of Benoff and Lang's (2005a, 2005b) publication.

The Bielefed Project originated in Germany and 10 infants, including five males and five females, participated in the study. At the time of the project, five of the participants were born full-term, with the other five born prematurely. With adjusted ages for the premature infants, the participants were between 8 and 16.5 months. The vision impairments ranged from neurological issues between the brain and eyes, size and location of the eyeballs, and problems with the blood vessels within the retina. The results yielded positively up to age 30 months with a difference ceasing between groups at 36 months. The researchers noted the possibilities of lack of difference with the implementation of early intervention services provided in this study compared to other intervention strategies, as well as the slow progression of development within pre-term infants who were visually impaired (Brambring, 1996). Even though Brambring (1996) noted future publications of this study, additional publications outside of Benoff and Lang's (2005a, 2005b) mention ceased to exist.

If an infant/toddler failed to demonstrate an automatically qualifying medical need for early intervention services through the Missouri First Steps (2016) system, then a service provider administered the Developmental Assessment for Young Children, Second Edition (DAYC-2) (MODESE, 2014a, 2014b). In Illinois, the Child and Families Connections program mandated a service provider to utilize an approved test for eligibility determination (IDHS, 2014a, 2014c). Even though the required use of the DAYC-2 existed in Missouri, its omission from the approved list in Illinois existed at the time of this writing (IDHS, 2015a, 2015b).

When a TVI or O and M specialist from DAZ (2014) received an evaluation referral from a service coordinator, they administered the DAYC-2 for initial evaluation purposes. In conjunction to the DAYC-2, the TVI and/or O and M specialist administered the HELP Strands or the OR Project for assessment purposes. If the TVI or O and M specialist did not receive an evaluation referral and just a request to complete the assessment, they elected to administer the HELP or the OR Project to the infant/ toddler.

Hawaii Early Learning Profile Strands

Through a joint effort by the School of Public Health at the University of Hawaii and funding by the Education of Handicapped Infants, the Enrichment Project for Handicapped Infants originated the HELP (as cited in Vort Corporation, 2015). A multidisciplinary team of professionals, including a pediatrician and occupational and physical therapist, as well as a special educator, designed 685 assessment items. These items addressed six domains of development, as regulated by IDEA, and included cognition, fine motor, gross motor, language, self-help, and social. The assessment could be administered to young children of all abilities, including those identified with developmental delays, between the ages of birth to 3 years (Bagnato et al., 2010; Vort Corporation, 2015).

If the home-based early intervention service providers at DAZ (2014) selected to administer the HELP Strands, which were one portion of the HELP 0-3 assessment, then they administered the assessment at least one time a year to the infant/toddler who was visually impaired, as part of their initial and annual evaluation processes. Since the HELP 0-3 identified as a curriculum-based assessment over a standardized assessment,

neither the HELP 0-3 nor the HELP Strands were tested for reliability and validity (Vort Corporation, 2015). As a result, the Buros Center for Testing (2015a, 2015b) failed to contain reviews of the HELP 0-3 or HELP Strands.

Bagnato, Neisworth, and Pretti-Frontczak (2010) designed a five-point scale with the lowest category of "unacceptable" and the highest being "exemplary" (p. 70). They afforded an overall rating of the HELP at the fourth category of "notable" (p. 172), as they rated the validity as "low" but the feature of family engagement as "high" (p. 172). Bagnato et al. (2010) credited the authors of the HELP for designing a curriculum, which contained appropriate strategies for professionals and parents to implement within the infant/toddler's natural environment; however, they recommended additional research and validation of the assessment (p. 176).

As reviewed in the *Mental Measurements Yearbook and Tests in Print* (Buros Center for Testing, 2015a, 2015b; Furuno et al., 1988), the HELP was a criterion-referenced assessment, primarily in the form of a checklist. The instrument could be used with infants/toddlers with no or mild developmental delays. The HELP assessed the developmental areas of cognition, gross motor, fine motor, language, and self-help skills through direct observations and notes recorded by the evaluator. The HELP also included supplemental materials for teachers to share with parents/guardians, such as handouts, an activity guide, and progress charts (Furuno, et al., 1988).

Despite the lack of validity and reliability measures, the HELP Strands contained several resources for families related to IFSP outcomes. Typically, the assessor administered the HELP Strands within the child's natural environment and parents were allowed to participate in determining if the infant/toddler mastered each skill within the

HELP Strands. Based upon the observations and scoring of the HELP 0-3 conducted by the assessor, as well as the parents' concerns, outcomes for the infant/toddler were developed (Vort Corporation, 2015).

Oregon Project for Preschool Children who are Blind or Visually Impaired

The OR Project, 6th Edition, contained several task items reflecting the same six developmental domains of young children as the HELP Strands; however, the areas of compensatory and vision were added to the OR Project (Bagnato et al., 2010; Southern Oregon Education Service District [SOESD], 2015). A criterion-referenced assessment eligible for administration to children aged from birth to six years who received a diagnosis of blind or visually impaired. The assessment measured the developmental areas of (a) cognition, (b) language, (c) social vision, (d) compensatory skills, (e) self-help, (f) gross, and (g) fine motor (Bagnato et al., 2010).

Unlike the HELP 0-3, published by a formal company, the Southern Oregon Education Service District (SOESD, 2015) both developed and published the OR Project. SOESD comprised of 13 school districts within the southern area of the State of Oregon. Within three counties, SOESD provided primary, inclusive services to participants. They also implemented supplementary services to participants in two additional counties as a regional collaborator (SOESD, 2013).

According to SOESD (2015), the OR Project, 6th Edition, was "a comprehensive assessment and curriculum designed for use with children birth to six who are blind or visually impaired" (Southern Oregon Education Service District [SOESD], 2015, para. 5). Professionals, including early interventionists and parents could administer the OR Project to the young child within their natural environment (Bagnato et al., 2010;

SOESD, 2013). Similar to the utilization of the HELP Strands, the TVI and O and M specialists from DAZ (2014) administered the OR Project, 6th Edition, as part of their initial and annual evaluation processes.

Since the authors of the OR Project, 6th Edition, created a curriculum with the assessment; the assessment did not go through the process to test for validity and reliability. Just like the HELP Strands, Bagnato et al. (2010) rated the OR Project "low" for validity and "high" in the area of family engagement (p. 197). Overall, they provided an overall rating of "notable" (p. 197). Although the assessment and curriculum were valuable for working with young children who were visually impaired, Bagnato et al. recommended the authors of the OR Project correspond items to the indicators established by the OSEP standards (p. 201). A search through Buros Center for Testing (2015a, 2015b) failed to yield reviews for the OR Project, 6th Edition.

There were two scenarios in which an infant/toddler would be administered the HELP or the OR Project. One scenario included the situation where an infant//toddler completed the DAYC-2 and the IFSP team felt vision services were needed. Therefore, the service coordinator contacted the Early Intervention Program Coordinator and requested the TVI and/or O and M specialist to administer the HELP or the OR Project assessment tools.

The second scenario may be one in which the infant/toddler received a medical diagnosis of blind/visual impairment; therefore, the parents contacted DAZ for a formal vision assessment. If the Early Intervention Program Coordinator felt the infant/toddler would qualify for early intervention services, then the family received the phone number to either the Illinois Family and Child Connections or Missouri First Steps (2016)

program. The phone number provided to the family depended upon the geographical location of their residence. Once a service coordinator started the early intervention determination process with the family, they would contact the Early Intervention Program Coordinator at DAZ to request a vision assessment. Once again, the TVI and/or O and M specialist determined whether they would administer the HELP Strands or the OR Project to the infant/toddler.

Family Involvement

Family involvement was an integral component in assisting young children develop their abilities with the adaptive, cognitive, communication, motor, and social-emotional domains. The professional organizations, Council for Exceptional Children (Sandall et al., 2005) and the NAEYC (Copple & Bredekamp, 2010), each emphasized the inclusion of parents in developing appropriate outcomes for their child. In 2009, the organizations joined efforts and published a joint position statement on the topic of inclusion. The statement reinforced the importance of establishing and maintaining positive relationships between professionals and families throughout the educational process and as a means of facilitating a young child's development (DEC & NAEYC, 2009).

Andragogical Factors and Characteristics

As previously stated in this chapter, when developing the Routine-Based Interview, McWilliam (2010) related the interactions between an early intervention service provider and parents to andragogical factors originally developed by Knowles (as cited in McWilliam, 2010, p. 173). However, the historical perspective of encouraging parents to implement developmentally appropriate activities with young children traces

back to Comenius' (1858/1893) work. Both Comenius (trans. 1728, trans. 1887, 1858/1893) and McWIlliam (2000, 2010) encouraged parents to provide intentional learning opportunities for their children.

Chiva and Alegre (2009) developed strategies to promote learning within formal organizations, in which service providers could develop and facilitated when working with parents/guardians during early intervention home visits. These factors were positive in establishing trust and positive relationships between adults. Each factor with a brief description follows.

Experimentation. The learners have an opportunity to listen to one another and work together to solve problems in an innovative way. Learners have the opportunity to explore new ideas that can be experimented within practical applications. New strategies or activities may develop as individuals consider innovative ideas or possible changes to then-current practices (Chiva & Alegre, 2009).

Risk-taking. Even though there is a chance of failure, the adults must take risks and try new ideas, unless they prefer to remain stagnant or aim for short-term growth. When considering risks, the parents/guardians and service providers must work together in a positive, trusting, and collaborative manner in order to reduce negative consequences. They must allow the infant/toddler to take risks while attempting new skills, in order for an increase of growth to occur (Chiva & Alegre, 2009).

Interaction with the external environment. It is important for learners to be aware of the external environment and handle changes appropriately. The child may get sick, resulting in several home visits cancelled. Therefore, the service provider may need

to reschedule home visits for when the child's health has improved (Chiva & Alegre, 2009).

Dialogue. Effective communication between the parent/guardians is essential for the adults to create new ideas and products. Parent/guardians must feel comfortable stating concerns or asking questions in regards to the child's progression of development or method of delivering services. The adults must communicate updates related to the IFSP outcomes and revise as necessary (Chiva & Alegre, 2009).

Participative decision-making. Service providers need to encourage parent/ guardians to participate in making decisions related to the child's IFSP outcomes. In doing so, the parents/guardians are most likely to feel a greater sense of empowerment in making decisions. They also take ownership of implementing the activities and strategies suggested by the service provider (Chiva & Alegre, 2009).

Trust

Trust is an integral piece of educational institutions in which positive relationships between educators and parents are positive and reciprocal (Chu, 2007, Karakus, & Savas, 2012). According to Covey (2006), five components, or "waves" (p. 33) materialize into trusting relationships. These "waves" (p. 33) allow trust to develop and flow back and forth among at least two individuals or groups of people. The foundation of trust begins with "self-trust" (p. 34), in which an individual experienced confidence and positively communicates with others. The second wave or "relationship trust" (p. 34) takes place where an individual exhibited positive behaviors consistently that benefits others. The third wave of "organizational trust" (p. 34) is included the alignment of relationships among leaders and employees, as well as stakeholders of an

organization. The reputation of service providers and/or marketing leaders determined the level of trust within the fourth wave known as "market trust" (p. 35). The fifth wave, referred to as "societal trust" (p. 35), discussed the contributions an individual makes to society. It may include financial or volunteer support from the individual to an organization or group of choice.

Trust continued to be exhibited in adults as they increased life-long learning and represented in the andragogical factor 'teacher trust of learners,' as measured by the original IPI (Henschke, 2012). Several authors modified the IPI to measure andragogical factors exhibited within the fields of education, including special education, nursing, business, and human resources (Vatcharasirisook, 2011). The document has been revised to reflect appropriate language related to early intervention services and is referred to by the acronym, MIPI-TPC (Henschke & Hantak, 2014).

Five Building Blocks

Henschke (2011) developed concepts he referred to as the "five building blocks" (p. 5). Each "building block" represented best practices in how educators within the field of adult learning intentionally teach adults (p. 5). The utilization of the "living lecture" (p. 5) allows each learner to participate in a small group while listening to the speaker. Each group completes a specific tasks assigned to them prior to the start of the lecture. The tasks incorporate asking questions, seeking clarification, and debating concepts discussed in the lecture. The "building blocks" (p. 3) consisted of these concepts, discussed in the following sections.

Building block 1: Beliefs and notions about adult learners. Prior to teaching adults, the educator reflects on their expectations of each learner. They intentionally

consider the objectives and the learning environment. The educator also takes into account diverse learning styles and cultural differences among the learners, limiting natural biases (Henschke, 2011).

Building block 2: Perceptions concerning the qualities of effective teachers. As the educator prepares the learning experiences, they must examine concepts they consider essential of effective teachers. The educator may include flexibility, the ability to implement adjustments according to the learners' needs, or accommodating a variety of learning styles as qualities of an effective teacher. Feedback from students, such as course evaluations, can assist an educator in becoming a more effective teacher (Henschke, 2011).

Building block 3: Phases and sequences of the learning processes. The educator break apart a larger lecture into smaller segments. The learners should have an opportunity to listen to lecture as well as complete meaningful learning activities. These may include small group activities or reflections on open-ended questions (Henschke, 2011).

Building block 4: Teaching tips and learning techniques. The educator considers and reflects on strategies that help to improve their teaching. They must also develop and implement various teaching techniques as means of accommodating the needs of each learner. Alternating open-ended questions with lecture points and active learning opportunities tend to create meaningful learning experiences that captures the learner's attention. The learning environment encourages the learner to share their tips and strategies to others, including the educator (Henschke, 2011).

Building block 5: Implementing the prepared plan. In order to implement intentional lessons and follow best practices, the educator needed to implement a prepared lesson plan. Collection and preparation of materials required for each learning session is essential to meaningful learning environments. The educator takes time to prepare the plan; therefore, they should implement it as well. Flexibility to the plan in order to meet the learner's needs creates a stronger learning environment (Henschke, 2011).

Summary

The purpose of this literature review was to examine the relationships of home-based early intervention services delivered to infants/toddlers identified with a developmental delay and determined eligible for IFSP outcomes. As stated throughout the chapter, early intervention services revolve around infants/toddlers with developmental disabilities. In the United States, federal legislative measures provided regulations and guidance in delivering early intervention services. However, the relationship component between the service provider and parent/guardian was also important.

The manner in which service providers implemented early intervention services to young children with developmental disabilities dates back more than a century previous to this writing, as Comenius (trans. 1728, trans. 1887, 1858/1893) encouraged adults to facilitate appropriate activities with infants/toddlers. A common thread in the field of early childhood education and early intervention was to provide meaningful experiences for young children. The experiences, along with developmental maturation, created positive learning environments for them to learn. Even though the literature focused on

the pedagogical relationship between educators and children, andragogical factors facilitating adult learning experiences for parents/guardians were important.

Through the development and implementation of IFSP outcomes, the service provider and parent/guardians need to work collaboratively. The adults must feel comfortable communicating concerns, as well as strategy recommendations, as a means of assisting the infant/toddler achieve skill progression. The literature supported and encouraged the development of additional research in the areas of early intervention service delivery, the relationship between the service provider and parent/guardians, and the implementation of andragogical factors during early intervention visits.

Chapter Three: Methodology

As stated in Chapter Two, it appeared there is a low prevalence rate of infants/toddlers with visual impairments as well limited research discussing the implementation of andragogical factors by service providers during early intervention home visits. As a result, of these limitations, this chapter outlines a research study examining potential statistical correlations between secondary data regarding assessment scores and frequency of early intervention home visits to infants/toddlers with visual impairments. The study also describes the methodology for examining the perspectives of Teachers of Visually Impaired (TVI) and Orientation and Mobility (O and M) specialists, who work with parents of young children. The primary data examines the instructional perspectives of three TVI and/or O and M specialists working with parents of young children, particularly infants/toddlers with visual impairments, during early intervention home visits.

Research Question and Hypotheses

For the purpose of this study, the researcher developed one overarching research question regarding the entire study and four null hypothesis statements. The four hypothesis statements, which addressed the variables of the HELP or OR Project assessment scores, home visit units, responses to the Family Outcome Survey, and MIPI-TPC responses. Results to the research question and null hypotheses led to recommendations for DAZ, as well as future research studies.

Research question. When examining each of the visually impaired infants/toddlers, based on the visual scenario definitions provided in the ongoing Utah

Study, what is the relationship between the child assessment scores and the frequency of home visits conducted, as recorded by DAZ's Record of Services Billed?

Null hypothesis 1. There is no difference between the sum of services delivered and the quantity of services written into participants' IFSP document as reported by DAZ for infants/toddlers with visual impairments receiving early intervention services for at least 12 months

Null hypothesis 2. There is no relationship between the increase in delay, as measured by the HELP or the OR Project assessment scores, and the frequency of home visits for infants/toddlers with visual impairments receiving services for at least 12 months.

Null hypothesis 3. There is no relationship between the assessment scores, as measured by the increase in delay by the HELP or the OR Project, and the results of the Family Outcomes Survey distributed by DAZ to parents of infants/toddlers with visual impairments receiving services for at least 12 months.

Null Hypothesis 4a. There is no difference between self-perceptions of individual Service Providers with regard to the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

Null Hypothesis 4b. There is no difference between Service Provider self-perceptions of the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with

visual impairments and the maximum rating of that frequency, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

The Research Site

The research site for this study was DAZ (2011b, 2014), located in Missouri. The non-profit agency provided home-based early intervention services for visually impaired infants/toddlers (DAZ, 2011b, 2014). DAZ (2014) implemented home-based services through the Missouri First Steps (2016) program, as well as the Child and Family Connections program in Illinois. A social worker provided family support programs and services for preschool and elementary children, who were visually impaired and lived within a 50-mile radius of the agency. Families were invited and encouraged to participate in support programs, as well as complete a Family Outcome Survey on an annual basis. Additionally, the agency participated in the Babies Count: The National Registry for Children with Visual Impairments Birth to 3 years project, for data collection purposes (DAZ, 2014).

Developing the Intervention

The Executive Director of DAZ (2014) attended a professional development conference and learned information regarding the conduction of a longitudinal study at the Center for Persons with Disabilities at Utah State University (2014). Upon returning from the conference, the Executive Director contacted a professor at Lindenwood University regarding a collaborative effort to build and inform research within the field of early intervention for families with infants/toddlers who are visually impaired. Due to the low incidence rate of the infant/toddler population identified as visually impaired,

literature investigated over the twenty years previous to this writing revealed limited significant research findings related to early intervention services for families of infants/toddlers who were visually impaired (Friend, 2014).

With the increase of newborns surviving with very low birth weights and/or considerable medical challenges related to prematurity and other medical conditions, it was imperative for additional academic research studies in this area to be completed. Logically, the foundation for this study was to organize, analyze, and interpret secondary data selected and de-identified by DAZ. According to Henschke (2013), the established goal was to examine possible relationships between child assessment scores related to the frequency and length of home visits, family needs met, and the andragogical factors "teacher empathy with learners" (p. 485) and "teacher trust of learners" (p. 485) as a means of reviewing their home-based early intervention and family support services.

In measuring student assessment scores, responses to the Family Outcome Survey, and service provider responses to the MIPI-TPC, DAZ hoped to use the results of this study to improve the implementation of service delivery methods to their families. They planned to utilize the survey analysis to develop more appropriate programming to meet family needs. The researcher elected to examine the early intervention service providers' beliefs, feelings, and behaviors toward the participants of this study. Ultimately, DAZ and the researcher anticipated the results of this study to guide families and professionals regarding the implementation of Best Practices within the field of e-based early intervention. In having families and professionals collaboratively working together to implement home-based early intervention services, the results brought

attention to the early intervention services providers regarding a stronger feeling towards empowerment and willingness to advocate for positive policy-making decisions.

Vision Assessments

Prior to collecting the vision assessment data, the researcher met with the Executive Director of DAZ and Dennison from the Center for Persons with Disabilities at Utah State University (2014) via webinar. The purpose of the meeting was for the Executive Director and researcher to understand the definition and parameters of each vision scenario for the then-current study at the Center for Persons with Disabilities. Dennison explicated the possibility of revising the vision scenarios definitions as their study progressed (E. Dennison, personal communication, June 2, 2014). At the conclusion of the meeting, the Executive Director determined preference in utilizing the then-current definitions as the study proceeded. Because of this decision, the researcher conducted follow-up communication with Dennison requesting a formal letter of support (Appendix A).

Family Outcome Surveys

In years recent to this writing, DAZ (2011a, 2011b, 2014) began collecting data from the families they served, regarding child and family outcomes. Dunst and Dempsey (2007) discussed anthropomorphism, the importance of positive relationships between the family and professional in supporting the child successfully completing outcomes. In order to measure the relationship between the families and the service providers, DAZ surveyed parents who utilized their home-based early intervention services for the visually impaired infant/toddler. Instead of creating an original document, DAZ elected

to employ The Family Outcomes Survey developed by OSEP within the USDOE (L. Rohr, personal communication, December 8, 2014).

Modified Instructional Perspectives Inventory - Teachers Working with Parents and Young Children

The researcher conducted a face-to-face meeting with Henschke (1989, 2011, 2012, 2013) at Lindenwood University with the objective of revising the MIPI to meet the goals of this study. Through follow-up phone and e-mail conversations, Henschke and the researcher modified each item to reflect the manner in which early intervention services provided strategies and supports to parents of young children during home visits (J. Henschke, personal communication, October 15, 2014). After the meeting, the researcher provided a copy to the Executive Director and Early Intervention Program Coordinator for distribution to the early intervention service providers participating in this study.

During the validation of the MIPI, Henschke learned the item 'teacher trust of learners' was the strongest factor (J. Henschke, personal communication, October 15, 2014). Therefore, the researcher elected to examine the first MIPI-TPC item, 'teacher trust of learners,' for this study. When examining the Five Building Blocks, the researcher recognized the first two items, 'beliefs and notions about the learner' and 'perceptions concerning the qualities of effective teaching,' related to the MIPI item, 'empathy toward learners.' As a result, the researcher decided to examine the MIPI-TPC items 'teacher trust of learners' and 'empathy toward learners' as a measurement of how the TVI and O and M specialists empathized with the families of visually impaired

infants/toddlers. Each early intervention service provider voluntarily agreed to complete the MIPI-TPC for this research study.

Once Dennison, from the Centers for Persons with Disabilities Research and Evaluation Division at Utah State University, provided a letter of support allowing the use of the then-current vision scenarios and Henschke approved the revised MIPI-TPC (Henschke & Hantak, 2014), the researcher included the documents with the required Institutional Review Board (IRB) package. It is imperative to note Dennison and Henschke each held appropriate copyrights to their respective documents and included approval to utilize their work in this study (Appendices A and B). After the IRB package was uploaded to the IRBNet website and approval was secured by the IRB at Lindenwood University, the researcher formally began obtaining and collecting the de-identified data for the purposes of this study.

Data Collection and Analysis Procedures

The Executive Director and Early Intervention Program Coordinator for the DAZ determined the individual participant files that were eligible to provide data for this study. They reviewed all files in which visually impaired infants/toddlers received early intervention home-based services between July 1, 2011 and August 31, 2014. In each file, they checked to see if at least two completed administrations of the HELP or the OR Project occurred during this timeframe. If not, they returned the infant/toddler's file to agency's general file cabinet and discounted it from this study. If so, they pulled the infant/toddler's file and de-identified data information for the researcher.

During the de-identification process, the Executive Director and Early Intervention Program Coordinator assigned a vision scenario categorization to each

participant. They assigned each participant's vision scenario by utilizing the five vision scenarios then-currently studied at the Utah Schools for the Blind and included the following: blind, low vision, mildly multiply involved, severely multiply involved, and deafblind. They also identified 30 participants as appropriate for this research study.

An agency volunteer de-identified data for the researcher and recorded the information on a demographics sheet created by the agency's Early Intervention Program Coordinator. A separate demographics sheet contained de-identified data results for each participant (Appendix C). First, the volunteer obtained a blank demographics sheet and placed a numeral between 1 and 30. The sequential numeral assigned to the child's file represented and matched each participant's de-identified data and provided the researcher with an organized data collection system. Next, the volunteer reviewed information in the child's file and recorded general demographics information, including date of birth, gender, and state of residence.

Since the Executive Director and Early Intervention Program Coordinator for DAZ were professionals providing services to visually impaired infants/toddlers, they were the individuals to classify each child's visual scenario. They elected to implement guidelines provided by Dennison (Appendix D). Next, they identified and assigned each child with the most appropriate visual scenario and recorded the information accordingly on the demographics sheet.

The Early Intervention Program Coordinator reviewed a computerized database containing the Family Outcome Survey results accumulated between July 1, 2011 and August 31, 2014. If the child's parent/guardian(s) completed Section A: Family Outcomes of the Family Outcome Survey (Appendix E), then the Early Intervention

Program Coordinator printed out the survey results and circled the word ‘Yes’ on the demographics sheet. The program coordinator also printed the appropriate numeral in the upper right corner of the results printout and attached it to demographics sheet with a paper clip. If the child’s parent/guardian(s) did not submit a Family Outcome Survey for the year, then the word ‘No’ was circled on the demographics sheet.

The Early Intervention Program Coordinator for DAZ evaluated each child’s general file to determine if the TVI and/or O and M specialist administered the HELP or the OR Project at least two times between July 1, 2011 and August 31, 2014. If so, the file was pulled for this study and the appropriate assessment was recorded on the demographics sheet by circling either ‘HELP’ or ‘OR.’ Once again, if the child did not have at least two administrations of the HELP or the OR Project assessments during the time span mentioned above, they resumed placement in the agency’s general file system and avoided utilization for this study. If the child completed the HELP or the OR Project assessments, then the Early Intervention Program Coordinator de-identified the information, including names, from the scoring protocol sheets. These sheets reflected the administration dates and were clipped to the demographic sheet.

The Early Intervention Program Coordinator for DAZ examined each participant’s general file, more specifically the child’s IFSP documents written between July 1, 2011 and August 31, 2014. Since the service coordinator and IFSP team members recorded the type, frequency, and length of early intervention services to be provided, it was the most convenient and reliable method of obtaining the data. The IFSP document included the TVI and/or O and M specialist providing home-based early intervention services. The Early Intervention Program Coordinator randomly assigned the numeral

‘1,’ ‘2,’ or ‘3’ to each service provider and correspondingly recorded on the demographic sheet.

During the IFSP meeting, each participant’s service coordinator, parent/ guardian(s), and service providers designated and agreed upon the frequency and length of home visits. An authorization of the total number of home visits, as well as the length of each home visit over a 12-month time span became part of each participants IFSP document. The Early Intervention Program Coordinator located this information in each IFSP document and recorded it on the demographics sheets. If for some reason, the actual number of home visits provided was fewer than the authorized number of home visits; then the Early Intervention Program Coordinator made notations on the notes sheet. They also recorded any changes to the authorization, which was recorded on the demographics sheet with more details provided on the notes sheet (Appendix F).

The researcher drove to DAZ with a personal laptop computer loaded with *Excel 2013* to record the data. As a protective measure toward research confidentiality, the computer was password protected, in which only the researcher had access to the appropriate password. The researcher obtained a file folder containing data for this study and returned the folder to the Early Intervention Program Coordinator. DAZ exclusively housed each participant’s file, which did not leave the building at any time.

Prior to recording the data, the researcher electronically saved the demographics sheet and typed a replication of the HELP and OR Project assessment scoring protocol sheets, as well as the Family Outcome Survey. The researcher first recorded information from the demographics sheet. Next, the researcher recorded the assessment scores reported on the protocol sheets for the HELP and OR Project assessments, followed by

the responses from the Family Outcome Survey. Finally, the researcher collected data from the notes sheet. After the researcher recorded all information, a transference of data from the *Word 2013* documents into an *Excel 2013* workbook occurred.

The researcher created a workbook tab for each participant, which contained data from the demographics sheet, HELP or the OR Project assessment scores, and Family Outcome Survey results, if applicable. Additional tabs cross-referenced data from the demographic sheets, assessment scores, survey results, and MIPI-TPC responses. For calculation purposes, the researcher constructed tabs categorizing each vision scenario, length of time each participant received home-based early intervention services, units authorized in the participant's IFSP document, and the total number of units implemented by the TVI and/or O and M specialist. Finally, one data summary tab contained all information related to the IFSP units, while another data summary tab housed all data collected from the Family Outcome Surveys.

In this quantitative study, the researcher answered the research question approved by the IRB committee through four null hypothesis statements. For each null hypothesis statement, the researcher completed statistical calculations and analysis of the data. Initial descriptive statistics comprised of frequency distributions for HELP and OR Project assessments, the frequency and length of home visits, the number of missed home visits, as well as undelivered units. In order to answer null hypothesis statements one, two, and three, the researcher calculated the Pearson Product Moment Correlation Coefficient (PPMCC) and *p*-values for each combination of variables. For Null Hypothesis 4a and 4b, the researcher analyzed the responses of each 45 questions on the MIPI-TPC by

conducting an Analysis of Variance (ANOVA) and *Chi-Square* test. These results determined if the researcher rejected or failed to reject the null hypothesis.

To assist in answering every question appropriately, Henschke scheduled a meeting with the Executive Director, Early Intervention Program Coordinator, and TVI and O and M specialists. The researcher attended the meeting; however, exclusively as an observer. After the meeting, the TVI and O and M specialist service providers held onto their completed MIPI-TPC documents in order to review the responses provided. They stated the meeting caused them to re-think how they responded to some of the items and appreciated the opportunity to change responses, where applicable. The researcher obliged the request and asked the Early Intervention Program Coordinator to collect the revised MIPI-TPC documents for retrieval during the researcher's next visit to the agency.

While the MIPI-TPC has percentages and category levels already established in the documents, the researcher elected to report those numbers in this study. Since there were less than five early intervention service providers completing the MIPI-TPC, the researcher conducted no additional statistical calculations. The researcher discusses the results of these assessments in Chapter Four.

Participants

As noted previously, the Executive Director and Early Intervention Program Coordinator identified all of the participants in this study. In regards to assessment scores, they identified all families of visually impaired infants/toddlers who received home-based early intervention services through DAZ. Next, they identified participants who received home-based early intervention services from a TVI and/or O and M

specialist service provider between July 1, 2011 and August 31, 2014. They reduced the participant pool of this study to research any infant/toddler who completed the HELP or the OR Project at least one time within a 12-month time span between July 1, 2011 and August 31, 2014.

In regards to the Family Outcome Survey results, the Executive Director and Early Intervention Program Coordinator reviewed their database to determine how many infants/toddlers receiving home-based early intervention services between July 2, 2011 and August 31, 2014 also submitted a Family Outcome Survey. They also researched the number of times the infant/toddler completed the HELP or the OR Project assessment. Only those with at least one assessment administration participated in this study. Once the appropriate records pertaining to the assessment dates were identified, corresponding Family Outcome Surveys and information pertaining to home visits and units were extracted from DAZ's database and billing records.

For purposes of exploring the andragogical factors demonstrated by the TVI and/or O and M specialist service providers at DAZ, three home-based early intervention service providers also participated in this study. Each service provider held appropriate credentials and certifications as TVI and O and M specialist in the states of Missouri and Illinois. They voluntarily and independently completed the MIPI-TPC with two of the three participants joining the Executive Director and Early Intervention Program Coordinator in a meeting with Henschke and the researcher.

Service Provider 1 (SP1) held dual certification as a TVI and O and M specialist for 24 years. SP1 implemented home-based early intervention services through DAZ for 19.5 years, which was also the length of his/her career. Service Provider 2 (SP2) held

certification as a TVI for 30 years and as an O and M specialist for 15 years. SP2implemented home-based early intervention services through DAZ for 11 years, which was also the length of his/her career. Service Provider 3 (SP3) held certification as a TVI for 29 years. SP3 implemented home-based early intervention services through DAZ for 29 years, which was also the length of his/her career.

Summary

DAZ identified 30 infants/toddlers who were visually impaired and received home-based early intervention services by a TVI and/or O and M specialist employed by DAZ between July 1, 2011 and August 31, 2014, as participants of this study. Each participant resided within a 50-mile radius of the agency, located in a suburb of Saint Louis, Missouri. Each service provider administered the HELP or the OR Project assessments at least two times to each of the 30 infants/toddlers, which was one of the criteria for the infant/toddler data to be included in this study. The Early Intervention Program Coordinator reviewed all general files of children who received home-based early intervention services during the time span mentioned and determined if they were to be included or exempt from this study. Even though a low prevalence of infants/toddlers with visual impairments subsisted, this study accessed records of 30 children receiving home-based early intervention services by a TVI and/or O and M specialist from DAZ.

Once the Executive Director and Early Intervention Program Coordinator identified each participant for this study, they designated the child's vision scenario, recorded basic demographic information, and photocopied scoring sheets of each assessment administration. They also reviewed IFSP documents, the Family Outcome Survey database, and billing records to collect information pertaining to frequency and

length of home visits, as well as the number of authorized units and units actually provided. The Early Intervention Program Coordinator noted changes in services, as documented through IFSP documents.

Chapter Four outlines the statistical analysis, calculating PPMCC, and *p*-values to determine relationships between the independent and dependent variables and an ANOVA and *F*-values to determine potential differences. The calculations revolved around child assessment scores, parent/guardian response to a Family Outcome Survey, frequency of home visits, and service provider feelings, beliefs, and attitudes in working with parents of young children. In regards to the MIPI-TPC, the utilization of reliability and validity scores built into the assessment occurred. Detailed statistical results of the study follow in Chapter Four.

Chapter Four: Results

An analysis of secondary data provided by DAZ regarding child assessment scores, as measured by either the HELP or the OR Project and responses shared by families as they completed a Family Outcome Survey, occurred as part of this study. A maximum of 30 participants' data shared by DAZ resulted in the data analysis described in this chapter. Seventeen families responded to the Family Outcome Survey, from which a discussion regarding the results occurs later in this chapter. A discussion of three Service Provider perspectives, including beliefs, feelings, and behaviors during home-based early intervention services to infants/toddlers with visual impairments, as measured by the MIPI-TPC, concludes this chapter.

Chapter Four also contains the demographic profile regarding the infants/toddlers who were visually impaired, including the vision scenarios assigned to them by the Early Intervention Coordinator at DAZ. An analysis of assessment scores pertaining to the children who participated in at least two administrations of the HELP or the OR Project assessments within a 12-month time span are included and followed by an analysis of responses by parents who completed the Family Outcome Survey. A *t*-test for the difference between two dependent means determined whether a statistical difference existed between number of units provided and the number of units authorized. The PPMCC calculated the strength of a potential relationship between assessment scores and the frequency of home visits, as well as the responses provided by a participant's family member completing the Family Outcome Survey. The data provided involved 30 infants/toddlers with visual impairments and responses from 17 families, who completed the Family Outcome Survey. Finally, an examination of teacher perspectives related to

andragogical factors is included. Since fewer than five professionals completed the MIPI-TPC, the reliability and validity calculations built into the IPI document identified the category level. The tool also recognized the frequency percentage, stating how often the TVI and/or O and M specialist implemented andragogical principle during the home visits.

Research Question and Hypotheses

For the purpose of this study, the researcher developed one overarching research question regarding the entire study and four null hypothesis statements. The four hypothesis statements, which addressed the variables of the HELP or OR Project assessment scores, home visit units, responses to the Family Outcome Survey, and MIPI-TPC responses.

Research question. When examining each of the visually impaired infants/toddlers, based on the visual scenario definitions provided in the ongoing Utah Study, what is the relationship between the child assessment scores and the frequency of home visits conducted, as recorded by DAZ's Record of Services Billed?

Null hypothesis 1. There is no difference between the sum of services delivered and the quantity of services written into participants' IFSP document as reported by DAZ for infants/toddlers with visual impairments receiving early intervention services for at least 12 months

Null hypothesis 2. There is no relationship between the increase in delay, as measured by the HELP or the OR Project assessment scores, and the frequency of home visits for infants/toddlers with visual impairments receiving services for at least 12 months.

Null hypothesis 3. There is no relationship between the assessment scores, as measured by the increase in delay by the HELP or the OR Project, and the results of the Family Outcomes Survey distributed by DAZ to parents of infants/toddlers with visual impairments receiving services for at least 12 months.

Null Hypothesis 4a. There is no difference between self-perceptions of individual Service Providers with regard to the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

Null Hypothesis 4b. There is no difference between Service Provider self-perceptions of the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments and the maximum rating of that frequency, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

General Quantitative Results

DAZ shared secondary data regarding the demographic information for each infant/toddler with visual impairments, who participated in this study. The demographic data compiled by the Early Intervention Program Coordinator included each participant's age, gender, and state of residence. The Early Intervention Program also assigned the vision classification for each participant, based upon the vision scenarios created and shared by Dennison from the Center for Persons with Disabilities. Additional data

included assessment scores, frequency of home visits by a TVI and/or O and M specialist employed by DAZ, and results from submitted Family Outcome Surveys concluded secondary material analyzed in this study. Primary data included responses derived by the TVI and/or O and M specialist who completed the MIPI-TPC. Statistical tests, including the *t*-test, PPMCC, and ANOVA determined any correlations between the data analyzed and provided information in support of or rejection of each null hypothesis statement. Since three Service Providers from DAZ were a TVI and/or O and M specialist and provided home-based early intervention services to infants/toddlers with visual impairments, only generalizations from each item and overall percentages were drawn.

Demographic Data

The sample population of this study included 30 infants/toddlers with visual impairments, who received home-based early intervention services by a TVI and/or O and M specialist through DAZ. The Early Intervention Program Coordinator categorized the infants/toddlers with visual impairments by assignment according to the visual scenarios shared by Dennison. The TVI and/or O and M specialist administered the HELP or the OR Project a minimum of two times to each infant/toddler with visual impairments. As such, twelve (n = 12, 40%) infants/toddlers with visual impairments were female, while 18 (n = 18, 60%) were male. Table 1 represents the number of female and male participants of this study.

The TVI and/or O and M specialist assessed each infant/toddler with visual impairments a minimum of two times between July 1, 2011 and August 31, 2014.

Therefore, 30 (n = 30, 100%) children completed two assessment sessions while 11 (n = 11, 36.67%) completed a third assessment, prior to the age of three years.

Table 1

Gender of Infants/Toddlers with Visual Impairments

Gender	n	Percent (%)
Female	12	40
Male	18	60
Total	30	100

Due to the early intervention system in Missouri and Illinois allowing young children to enter into the program at any age prior to three years, an analysis of the chronological age of every participant, as recorded at the time of each assessment session by the TVI and/or O and M specialist who conducted the assessment, ensued. In following best practices, the service provider must conduct assessments in a systematic and ongoing manner. As such, the results determined progress, updates, and/or changes in service, as reported to the child's parent or guardian (The Division for Early Childhood of the Council for Exceptional Children, 2014).

A distribution frequency with six-month intervals from birth to 36 months of age was calculated. Since the number of infants/toddlers with visual impairments with a chronological age of 25 to 36 months was minimal, this age group clustered together. On the initial assessment date, 11 (n = 11, 36.67%) infants/toddlers were birth to six months, nine (n = 9, 30%) were seven to 12 months, 7 (n = 7, 23.33%) were 13 to 18 months, 3 (n = 3, 10%) were 19 to 24 months and zero (n = 0, 0%) infants/toddlers were 25 to 36 months. The median age at the initial assessment was 7.5 months. On the second assessment administration, zero (n = 0, 0%) infants/toddlers were birth to six months, one (n = 1, 3.33%) was seven to 12 months, 15 (n = 15, 50%) were 13 to 18 months, 6 (n = 6,

20%) were 19 to 24 months, and eight (n = 8, 26.67%) were 25 to 36 months. The median age at the second assessment was 17 months. The TVI and/or O and M specialist conducted a third assessment with 11 (n = 11, 36.67%) infants/toddlers with visual impairments, while they did not administer a third assessment to 19 (n = 19, 63.33%) children as they most likely exited the program prior to the time a third assessment needed to be completed. If the infant/toddler completed a third assessment, then the median age was 27 months. Table 2 illustrates the median and chronological ages of each infant/toddler with visual impairments at the time of the initial and second assessment dates, as well as the third assessment, if applicable.

Table 2

Chronological Age at Time of Assessments

	Assessment 1		Assessment 2		Assessment 3	
Chronological Age	n	Percent (%)	n	Percent (%)	n	Percent (%)
Median Age	7.5 months	-	17 months	-	27 months	-
0-6 months	11	36.67	0	0	0	0
7-12 months	9	30	1	3.33	0	0
13-18 months	7	23.33	15	50	1	3.33
19-24 months	3	10	6	20	2	6.67
25-36 months	0	0	8	26.67	8	26.67
Total	30	100	30	100	11	36.67

DAZ (2014) served infants/toddlers with visual impairments, who lived within a 50-mile radius of their agency. The building was physically located in a suburb of Saint Louis, Missouri; therefore, the TVI and/or O and M specialist provided home-based early intervention services in Missouri and Illinois. Twenty-three (n = 23, 77%) of the children resided in Illinois, while seven (n = 7, 23%) lived in Missouri. Table 3 reflects each participant's state of residence.

Table 3

Participants' State of Residence

State of Residence	n	Percent (%)
Missouri	7	23
Illinois	23	77
Total	30	100

The Early Intervention Program Coordinator reviewed the vision scenarios shared by Dennison and categorized each infant/toddler with visual impairments to the scenario that best described each child's vision impairment. Since the initial study conducted by Dennison was ongoing, the Early Intervention Program Coordinator utilized best professional judgment when categorizing each child. Table 4 outlines the vision classification, as assigned by the Early Intervention Program Coordinator at DAZ.

Table 4

Participants' Vision Classification

Vision classification	n	Percent (%)
Low Vision	14	46.67
Severely Multiply Involved	10	33.33
Mildly Multiply Involved	5	16.67
DeafBlind	1	3.33
Totally Blind	0	0
Total	30	100

Therefore, 14 (n = 14, 46.6%) of the infants/toddlers with visual impairments were identified as low vision. Ten (n = 10, 33.33%) participants were assigned to the severely multiply involved vision classification, while five (n = 5, 16.67%) were identified as mild multiply involved. One (n = 1, 3.33%) participant was categorized as deafblind, and zero (n = 0, 0%) children were assigned as totally blind.

Assessment Data

The TVI and/or O and M specialist at DAZ utilized professional judgment to administer the HELP or the OR Project assessment to each infant/toddler with visual

impairments. According to the de-identified Demographics sheet supplied by the Early Intervention Program Coordinator, once the TVI and/or O and M specialist selected an assessment for the infant/toddler with visual impairments, then they conducted no changes in the selection. Eight (n = 8, 26.67%) children completed the HELP, while 22 (n = 22, 77.33%) were administered the OR Project. Table 5 contains the number of infants/toddlers completing either the HELP or the OR Project assessment by a TVI and/or O and M specialist from DAZ.

Table 5

Number of Participants Completing the HELP or the OR Project Assessment

Assessment	n	Percent (%)
HELP	8	26.67
OR Project	22	73.33
Total	30	100

Since no infant/toddler with visual impairment in this study fell into the totally blind category, no comparisons between this vision classification and assessments were drawn. Due to the limited number of participants, the data for the participants identified in the mildly multiply involved or low vision classifications were merged. The data collected for participants identified in the severely multiply involved or deafblind vision classifications were combined to create a second group. Therefore, Table 6 demonstrates the assessments administered to each infant/toddler with visual impairments, according to the two groups created by pairing the four vision classifications.

Table 6

Participant Assessment Grouped by Vision Classification

Vision classification	HELP		OR Project	
	n	Percent (%)	n	Percent (%)
Mildly Multiply Involved or Low Vision	6	20	13	43.33
Severely Multiply Involved or DeafBlind	2	6.67	9	30
Total	8	26.67	22	73.33

Six participants (n=6, 20%), who received a vision classification of mildly multiply involved or low vision categories completed the HELP, while 13 (n = 13, 43.33%) participants identified with the same vision classification partook in the OR Project. In turn, two (n = 2, 6.67%) participants, who received a vision classification of severely multiply involved or deafblind completed the HELP, while nine (n = 9, 30%) participated in the OR Project. Therefore, eight (n = 8, 26.67%) of infants/toddlers with visual impairments completed the HELP, while 22 (n = 22, 73.33%) procured the OR Project.

Family Outcome Survey Data

Every year, the administrators of DAZ (2014) requested each family, who participated in their home-based early intervention programs, as well as any Family Support programs, to complete a Family Outcome Survey. The survey utilized contained two sections. Section A addressed the family's basic needs and helped to identify if they needed additional support. Section B concentrated on how helpful the family felt the early intervention services were. DAZ distributed only Section A for families to complete. Out of the 30 participants of this study, 17 (56.67%) families submitted a completed survey at least one time between July 1, 2011 and August 31, 2014, while 13

(43.33%) families failed to submit a completed survey during the same period. Table 7 reflects the number of completed Family Outcome Surveys submitted to DAZ.

Table 7

Completed Family Outcome Surveys

Family Outcome Survey Submitted	n	Percent (%)
Yes	17	56.67
No	13	43.33
Total	30	100

The Family Outcome Survey data were organized according to the two vision classification groups, as assigned when examining the assessment data. Out of the 17 (56.67%) families who submitted, at least one completed Family Outcome Survey between July 1, 2011 and August 31, 2014, eight (47.06%) included an infant/toddler identified with a vision classification of mildly multiply involved or low vision categories. Additionally, nine (52.94%) families with an infant/toddler fitting into the vision classification of severely multiply involved or deafblind submitted a completed Family Outcome Survey during the same dateline. In turn, out of the 13 families, who failed to submit a completed Family Outcome Survey, three (23.08%) families included an infant/toddler categorized with a vision classification of mildly multiply involved and low vision. Therefore, the remaining 10 (76.92%) families contained an infant/toddler with a vision classification of severely multiply involved or deafblind and failed to submit a completed Family Outcome Survey between July 1, 2011 and August 31, 2014. Table 8 organizes the data according to the visual classification assigned to the infant/toddler with visual impairments and completion of the Family Outcome Survey by a parent/guardian.

Table 8

Visual Classification and Family Outcome Survey Submitted

Vision Classification	Survey Submitted		Survey Not Submitted	
	n	Percent (%)	n	Percent (%)
Mildly Multiply Involved and Low Vision	8	47.06	3	23.08
Severely Multiply Involved and DeafBlind	9	52.94	10	76.92
Total	17	100	13	100

The demographic results demonstrated one more participant falling into the severely multiply involved and deafblind group (n = 9, 52.94%) than the mildly multiply involved and low vision group (n = 8, 47.06%). Family members of the severely multiply involved/deafblind group (n = 10) submitted almost 3 times (76.92%) the number of Family Outcome Surveys, as compared to the mildly multiply involved and low vision group (n = 3, 23.08%). DAZ did not share demographic or income information regarding any families. Since the infants/toddlers received home-based early intervention services, they did not participate in the free and reduced lunch program. The families did not disclose identifiable information when completing the Family Outcome Survey.

TVI and O and M Specialist

Three (n =3) teachers from DAZ participated in this study, as a means of analyzing teacher perspectives regarding their work with parents and young children. DAZ shared limited demographic information pertaining to the teachers. Each teacher completed the educational and professional teacher certification requirements for Missouri Teacher Certification in the content areas of Teacher of the Visually Impaired

and/or Orientation and Mobility. DAZ did not release the highest level of education or any additional certifications obtained by each teacher for purposes of this study.

Teachers 1 and 2 held appropriate professional certifications in the content areas of TVI and O and M while Teacher 3 held certification in only the content area of TVI. Therefore, all 30 (100%) infants/toddlers with visual impairments had IFSP outcomes written to receive TVI services while 15 (50%) had IFSP outcomes written to address the additional service of O and M. Teacher 1 provided home-based early intervention services to 23 (n = 23, 76.67%) participants of this study, while Teacher 2 provided similar services to one (n = 1, 3.33%) participant, as compared to Teacher 3, who provided services to six (n = 6, 20%) of the participants. Zero (n = 0, 0%) participants had only O and M services written into their IFSP. Table 9 illustrates the appropriate certification in the content areas of TVI and O and M, as well as the number of participants' served by each teacher.

Table 9

Service Provider Information

	TVI Only		O and M Only		TVI and O and M	
	n	Percent (%)	n	Percent (%)	n	Percent (%)
Content Area Certification	1	33.33	0	0	2	66.67
Number of Participants Received Service	15	50	0	0	15	50

One (n = 1, 33.33%)) Service Provider in this study completed coursework and assessments necessary to hold a valid Missouri Teacher's Certificate in the area of Teacher of the Visually Impaired, while two (n = 2, 66.67%) Service Providers successfully obtained a valid Missouri Teacher's Certificate in the area of Teacher of the

Visually Impaired, as well as Orientation and Mobility. As such, 15 (n = 15, 50%) participants received only vision impaired services, while the remaining 15 (n = 15, 50%) participants received vision impaired services, as well as Orientation and Mobility services. All participants (n = 30, 100%) received these services by a certified service provider through the DAZ early intervention home-based program.

Research Question

When examining each of the visually impaired infants/ toddlers, based on the visual scenario definitions provided in the ongoing Utah Study, what is the relationship between the child assessment scores and the frequency of home visits conducted, as recorded by DAZ's Record of Services Billed?

Based on an ongoing study at Utah State University researching early intervention services for infants/toddlers with visual impairments, DAZ expressed an interest in knowing whether a positive, statistical relationship between child assessment scores for the infants/toddlers with visual impairments and the frequency of home-based early intervention services existed. Therefore, for the purpose of this study, an analysis regarding assessment scores, frequency of home visits, Family Outcome Survey results, and teacher perspectives provided responses to their questions. Additionally, statistical calculation, results, and analysis determined whether any correlation existed in regards to the overarching question and each null hypothesis statement. Despite a low prevalence of infants and toddlers who are visually impaired within the general population, DAZ succeeded in providing access to information of 30 participants.

Null Hypothesis 1

There is no difference between the sum of services delivered and the quantity of services written into participants' IFSP document as reported by DAZ for infants/toddlers with visual impairments receiving early intervention services for at least 12 months.

A data analysis for a sample of infants/toddlers with visual impairments who received early intervention services for at least twelve months determined established a difference, or no difference, between the number of units provided by the TVI and/or O and M specialist, as compared to the number of units authorized by the child's IFSP document. DAZ collected, recorded, and reported the information as secondary data for the purpose of this study. An analysis of the comparison calculated whether a difference between the variables existed. A 95% confidence level was applied to the decision to reject or fail to reject the null hypothesis, as the calculated *p*-value.

An analysis of the number of early intervention units authorized for the 30 participants revealed six (n = 6, 20%) received authorizations from 0 to 50 units, while 15 (n = 15, 50%) included authorizations ranging from 51 to 100 units. Additionally, seven (n = 7, 23.33%) participants received authorizations ranging from 101 to 150 units, and two (n = 2, 6.67%) participants received authorizations that ranged above 150 units. Therefore, a majority (n = 15, 50%) of the participants received authorizations ranging from 51 to 100 units during the length of time they received home-based early intervention services. The number of units authorized by the IFSP team ranged from 32 units to 172 units. The mean total number of units authorized was 88 units. Table 10 illustrates the frequency distribution of IFSP authorized early intervention units.

Table 10

Frequency Distribution of Authorized Early Intervention Units

Authorized Early Intervention Units	n	Percent (%)
0-50 units	6	20
51-100 units	15	50
101-150 units	7	23.3
151-200 units	2	6.67
Total	30	100

In analyzing the frequency distribution of the number of early intervention units provided to the participants during home-based early intervention services, seven (n = 7, 23.33%) received up to 50 units of services. Fifteen (n = 15, 50%) received between 51and 100 units, six (n = 6, 20%) received between 101 and 151 units, and two (n = 2, 6.67%) received up to 200 units. The minimum number of units provided was 20, while the maximum number of units provided was 176. The mean total number of units provided was 78 units. Table 11 demonstrates the frequency distribution of early intervention units provided to the participants.

Table 11

Frequency Distribution of Early Intervention Units Provided

Early Intervention Units Provided	n	Percent (%)
0-50 units	7	23.33
51-100 units	15	50
101-150 units	6	20
151-200 units	2	6.67
Total	30	100

In examining the difference of authorized units and the units provided, the statistical process began by subtracting the number of units provided to each participant from the total number of units authorized. In analyzing the number of units authorized and the number of units provided, zero (0%) participants received the total number of units authorized. Therefore, six (n = 6, 20%) participants received more units than

authorized, as represented by the negative numerals while 24 (n = 24, 80%) of the participants were provided fewer units than authorized, as represented by the positive numerals. The number of units missed ranged from 39 missed units to a surplus of 11 units, with a mean of 10 units missed. Table 12 provides the difference of early intervention units authorized and those actually provided.

Table 12

Difference of Early Intervention Units Authorized and Provided

Difference of Early Intervention Units	n	Percent (%)
-39 to -27 units	3	10
-26 to -14 units	4	13.33
-13 to -1 units	18	60
0 to 12 units	5	16.67
Total	30	100

The data analysis demonstrated three (n = 3, 10%) participants received a range of 27 to 39 units fewer than authorized in the IFSP. Four participants (n = 4, 13.33%) received a range of 14 to 26 units fewer than authorized in the IFSP. Eighteen (n = 18, 60%) participants received a range of 1 to 13 unit fewer than authorized in their IFSP. Five (n = 5, 16.66%) participants received a range of 1 to 12 units above the number authorized in the IFSP. Therefore, a majority (n = 25, 83.33%) of the infants/toddlers with visual impairments received fewer units during home-based early intervention services than authorized in the IFSP. Zero (n = 0, 0%) participants received the entire number of units, exactly as authorized in their IFSP.

A *t*-test for the difference between two dependent means determined whether the difference of units provided compared to the units authorized in each participant's IFSP for those who received home-based early intervention services for at least 12 months was significant. Seventeen (n = 17, 56.67%) infants/toddlers with visual impairments

participated in home-based early intervention services implemented by a TVI and/or O and M specialist from DAZ for at least 12 months. A 95% confidence level rejected or failed to reject the null hypothesis as the *p*-value determined if a difference existed between the units provided compared to the units authorized in each participant's IFSP. Table 13 demonstrates the statistical results.

Table 13

Early Intervention Services: Units Authorized and Units Provided

Units	*t*	*p*-value
Authorized to Provided	3.334	0.0042

Note: α = .05.

The analysis revealed that among all participants, a difference existed between the units authorized and the units provided, $t(16) = 3.334$, $p = .0042$, compared to $\alpha = .05$. The *t*-test for the difference between dependent means demonstrated that the Service Providers implemented a significant difference in units provided to the infant/toddler with visual impairments than the units authorized in the IFSPs. Therefore, the data supported the rejection of Null Hypothesis 1.

Null Hypothesis 2

There is no relationship between the increase in delay, as measured by the HELP or the OR Project assessment scores, and the frequency of home visits for infants/toddlers with visual impairments receiving services for at least 12 months.

Assessment scores. Each infant/toddler participant completed either the HELP or the OR Project a minimum of two times between July 1, 2011, and August 31, 2014. The home-based early intervention services provider from DAZ administered either the HELP or the OR Project to each infant/toddler with visual impairments assigned to his or her Missouri First Steps caseload. The Service Provider selected the appropriate assessment

for each participant prior to implementing the first home visit designated by his or her IFSP document. After the Service Provider determined which assessment to administer to each participant, the assessment selection remained the same during the participant's tenure of receiving home-based early intervention services. The infant/toddler with visual impairments continued participating in the home-based visits until discharged from the program. The reasons for discharge may include moving to a different location outside of the 50-mile radius of the agency, no longer needing home-based early intervention services by a TVI and/or O and M specialist, or the child turned three years of age.

A data analysis for a sample of infants/toddlers with visual impairments, who received home-based early intervention services for at least twelve months, determined whether a relationship existed between the increase of developmental delay, as measured by the HELP or the OR Project, and the frequency of home-based visits. DAZ collected, recorded, and reported the information as secondary data for the purpose of this study. Each infant/toddler with visual impairments included in this study completed either the HELP or the OR Project, as selected by the early intervention service provider. The child completed the designated assessment at least two times from July 1, 2011, to August 31, 2014. The assessment administration occurred within the infant/toddlers' natural environment, most likely in their homes. The parent/guardian(s) attended and participated in the assessment by observing the complete tasks, answering questions, or providing clarification to the TVI and/or O and M specialist.

Through the utilization of the PPMCC calculations, relationships between the independent and dependent variables were supported or refuted. The frequency of home

visits operated as the independent variable, while the increase in delay represented the dependent variable. A 95% confidence level provided the criterion for rejection or failure to reject the null hypothesis, as the *p*-value determined if a relationship existed by the two variables.

Table 14

Participants' Increase in Delay in Developmental Areas

		Increase in delay					
Child	Assessment	Cognitive	Language	Self-Help	Social	Fine Motor	Gross Motor
1	OR	18	36	0	34	-6	25
2	OR	7	17	-29	23	3	-31
3	OR	6	9	-1	5	11	1
4	OR	16	12	30	10	-12	19
5	OR	-47	-25	-42	0	-9	-75
6	OR	19	38	33	27	23	13
7	OR	1	15	1	22	-14	8
8	OR	-4	7	-20	17	-3	-3
9	HELP	1	7	-11	-24	4	-12
10	HELP	7	-17	-2	1	4	-2
11	HELP	-13	-26	1	-13	6	-2
12	HELP	6	-9	40	35	1	11
13	OR	82	5	0	4	0	0
14	OR	20	5	-54	0	-20	-70
15	HELP	10	-33	39	8	28	-42
16	HELP	-22	9	0	-24	-13	-18
17	OR	3	10	0	16	-4	-1
18	OR	-9	2	2	-2	-7	-13
19	HELP	-12	-8	-15	-35	-10	-39
20	OR	-12	-8	-2	11	-23	-2
21	OR	8	23	-42	0	-7	-8
22	OR	0	-19	0	0	-6	0
23	OR	-53	-4	*NR	*NR	*NR	*NR
24	OR	0	-33	-67	0	-28	-17
25	OR	-10	9	-7	-19	-2	-19
26	OR	-14	11	-27	0	-38	-10
27	OR	-12	-12	0	0	0	-12
28	HELP	-4	45	48	50	66	24
29	OR	0	0	0	0	0	-37
30	OR	0	-25	-62	0	-37	-37

*NR = Not Reported

Table 14 reflects the data for each participant's increase in delay in the developmental domains of cognitive, language, self-help, social, fine motor, and gross motor, as measured by the HELP or the OR Project assessment, and the number of units provided by the TVI and/or O and M specialist, implemented in accordance to the infant/toddler's IFSP.

Upon examination of the assessment scores, two (n = 2, 6.67%) of the infants/ toddlers with visual impairments demonstrated an increase in delay in all developmental areas while 22 (n = 22, 73.33%) of the children demonstrated an increase in delay in one or more developmental areas. Six (n = 6, 20%) of the participants failed to demonstrate an increase in any developmental areas; in other words, they demonstrated progress in all developmental areas.

Since Null Hypothesis 2 addressed only an increase in delay of assessment scores and frequency of home visits, no analysis of visual classification occurred; however, generalizations regarding increase in delay contributed by visual classifications could exist.

Frequency of home visits. As stated in the previous chapters of this report, the IFSP team members, including parents, determined the frequency of early intervention home visits. For the purpose of this study, DAZ reported the frequency of home visits for each participant as secondary data. DAZ also reported the length of time in months, in which each infant/toddler with visual impairments received early intervention services from a TVI and/or O and M specialist. Early intervention services to eligible infants could start shortly after birth until the day prior to their third birthday. Therefore, for the purpose of this study, the length of time a participant received early intervention services

ranged from the first day of service, as determined by the IFSP document, until the day prior to the their third birthday. Table 15 represents the number of units completed, as well as the length of months, in which the infant/toddler with visual impairments received early intervention services.

Table 15

Number of Units Completed and Length of Time (in months)

Child	Number Units Provided	Total Length of Time (in months)
1	176	23
2	44	15
3	32	7
4	104	19
5	124	23
6	116	20
7	120	17
8	88	15
9	80	12
10	58	11
11	164	22
12	109	22
13	60	8
14	80	11
15	68	12
16	52	11
17	52	9
18	35	6
19	80	11
20	44	13
21	84	14
22	20	10
23	63	17
24	113	17
25	40	7
26	79	12
27	46	6
28	65	11
29	78	9
30	66	12

Seventeen (56.67%) of the participants in this study received home-based early intervention services for at least 12 months. The number of units provided for these

infants/toddlers with visual impairments ranged from a minimum of 44 units to the maximum of 176 units. The length of services in months received for the purpose of this study ranged from 12 months to 23 months.

The frequency of services each early intervention service provider was authorized to provide for TVI and/or O and M services to each infant/toddler with visual impairments varied between one and two times a month, as determined by the IFSP team. However, the actual number of times per month the early intervention service provider actually implemented TVI and/or O and M services fluctuated. In some cases, the service provider adjusted the number of visits per month based on family and child availability. Therefore, the data reflecting the total number of months in which each infant/toddler received early intervention services was broken down into categories.

A data analysis examined how many infants/toddlers with visual impairments received home-based early intervention services for at least 12 months. As represented in Table 13, a frequency distribution reflected 17 (n = 17, 56.67%) out of the 30 participants received home-based early intervention services for at least 12 months. Eight (n = 8, 26.67%) of these participants received a vision classification of mildly multiply involved/low vision while eight (n = 8, 26.67%) participants obtained a vision classification of severely multiply involved/deafblind. The participants identified as mildly multiply involved or low vision received home-based early intervention services for a mean of 15.875 months, while the severely multiply involved/deafblind participants received home-based early intervention services for a mean of 17.375 months. Therefore, the participants classified as severely multiply involved or deafblind received home-based early intervention for an average of 1.50 months longer than infants/toddlers

received. Table 16 represents the number of months the participants of this study received home-based early intervention services for longer than 12 months.

The results of Table 16 demonstrates 17 (n = 17, 56.67%) out of 30 infants/ toddlers with visual impairments received early intervention services for at least 12 months. A majority (8) of the infants/toddlers with visual impairments received early intervention for nine to 11 months, while zero (n = 0, 0%) infants/toddlers received early intervention services for less than six months. In order to analyze data to draw a conclusion concerning the null hypothesis, additional separation of data occurred.

Table 16

Frequency Distribution Regarding Length of Early Intervention Services (in months)

Total Length of Time	n	Percent (%)
0-2 months	0	0
3-5 months	0	0
6-8 months	5	16.67
9-11 months	8	26.67
12-14 months	6	20
15-17 months	5	16.67
18-20 months	2	6.66
21-23 months	4	13.33
Total	30	100

Cognitive domain. Since the HELP and OR Project assessed the area of cognition, statistical calculations reflected all of the infants/toddlers who received early intervention services. The number of months the infant/toddler received home-based early intervention services by a DAZ Service Provider did not influence this portion of the study. Any increase in delay reported as zero resulted in omission and led to the degree of freedom of 24, for purposes of statistical analysis. The frequency of visits was the independent variable and the increase in delay was the dependent variable. Table 17

reflects the data with regard to whether a relationship between the variables existed; increase in delay in the area of cognitive, as separated by units provided.

Table 17

Increase in Delay for the Cognitive Domain by Frequency of Visits Provided

Frequency of Visits	Increase in delay		
	Cognitive d.f,	*r*	*p*-value
Months	24	.016	.9382
Units	24	.131	.5236
Months/Units	24	.139	.4983

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in months and the increase in delay in the cognitive domain, $r(24) = .016$, $p = .9832$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in units and the increase in delay in the cognitive domain, $r(24) = .131$, $p = .5236$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in concentration of units and the increase in delay in the cognitive domain, $r(24) = .139$, $p = .4983$, compared to $\alpha = .05$. Therefore, the analysis revealed that among all participants, no significant relationship existed between frequency of services provided, as measured in months, units, and concentration of units and the increase in delay of the cognitive domain, as measured by the HELP and/or the OR Project.

Language domain. Since the HELP and OR Project assessed the area of language, statistical calculations reflected all of the infants/toddlers who received early intervention services. The number of months the infant/toddler received home-based early intervention services by a DAZ Service Provider did not influence this portion of

the study. Any increase in delay reported as zero resulted in omission and led to the degree of freedom of 27. The frequency of visits was the independent variable and the increase in delay was the dependent variable. Table 18 represents the data with regard to whether a relationship between the variables existed; increase in delay in the area of language domain, as separated by units provided.

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in months and the increase in delay in the language domain, $r(27) = .022$, $p = .9133$, compared to $\alpha = .05$.

Table 18

Increase in Delay for the Language Domain by Frequency of Visits Provided

Frequency of Visits	Increase in delay		
	Language d.f	*r*	*p*-value
Months	27	.022	.9133
Units	27	.092	.6481
Months/Units	27	.130	.5181

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in units and the increase in delay in the language domain, $r(27) = .092$, $p = .6481$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in concentration of units and the increase in delay in the language domain, $r(27) = .130$, $p = .5181$, compared to $\alpha = .05$. Therefore, the analysis revealed that among all participants, no relationship existed between frequency of services provided, as measured in months, units, and concentration of units and the increase in the delay of the language domain, as measured by the HELP and/or the OR Project.

Self-help domain. Since the HELP and OR Project assessed the self-help domain, statistical calculations reflected all of the infants/toddlers who received early intervention services. The number of months the infant/toddler received home-based early intervention services by a DAZ Service Provider did not influence this portion of the study. Any increase in delay reported as zero resulted in omission and led to the degree of freedom of 20. The frequency of visits was the independent variable and the increase in delay was the dependent variable. Table 19 represents the data with regard to whether a relationship between the variables existed; increase in delay in the self-help domain, as separated by units provided.

Table 19

Increase in Delay for the Self-Help Domain by Frequency of Visits Provided

Frequency of Visits	Increase in delay		
	Self-Help		
	d.f	*r*	*p*-value
Months	20	.086	.7035
Units	20	.008	.9718
Months/Units	20	-.145	.5197

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in months and the increase in delay in the self-help domain, $r(20) = .086$, $p = .7035$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in units and the increase in delay in the self-help domain, $r(20) = .008$, $p = .9718$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in concentration of units and the increase in delay in the self-help domain, $r(20) = -.145$, $p = .5197$, compared to $\alpha = .05$. Therefore, the analysis revealed that among all participants,

no relationship existed between the frequency of services provided, as measured in months, units, and concentration of units and the increase in delay of the self-help domain, as measured by the HELP and/or the OR Project.

Social domain. Since the HELP and OR Project assessed the social domain, statistical calculations reflected all of the infants/toddlers who received early intervention services. The number of months the infant/toddler received home-based early intervention services by a DAZ Service Provider did not influence this portion of the study. Any increase in delay reported as zero resulted in omission and led to the degree of freedom of 18. The frequency of visits was the independent variable and the increase in delay was the dependent variable. Table 20 represents the data with regard to whether a relationship between the variables existed; increase in delay in the social domain, as separated by units provided.

Table 20

Increase in Delay for the Social Domain by Frequency of Visits Provided

Frequency of Visits	Increase in delay		
	Social		
	d.f	*r*	*p*-value
Months	18	.408	.0741
Units	18	.278	.2353
Months/Units	18	-.170	.4737

The analysis revealed that among all participants, there was no relationship between the length of services provided, as measured in months and the increase in delay in the social domain, $r(18) = .408$, $p = .0741$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship between the length of services provided, as measured in units and the increase in delay in the social domain, $r(18) = .278$, $p = .2353$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship

existed between the length of services provided, as measured in concentration of units and the increase in delay in the social domain, $r(18) = -.170$, $p = .4737$, compared to $\alpha = .05$. Therefore, the analysis revealed that among all participants, no relationship existed between the frequencies of service provided, as measured in months. However, no relationship existed between the frequency of services provided, as measured in units, and no relationship existed between the concentration of units and the increase in delay of the social domain, as measured by the HELP and/or the OR Project.

Fine motor domain. Since the HELP and OR Project assessed the area of fine motor, statistical calculations reflected all of the infants/toddlers who received early intervention services. The number of months the infant/toddler received home-based early intervention services by a DAZ Service Provider did not influence this portion of the study. Any increase in delay reported as zero resulted in omission and led to the degree of freedom of 24. The frequency of visits was the independent variable and the increase in delay was the dependent variable. Table 21 represents the data with regard to whether a relationship between the variables existed; increase in delay in the fine motor domain, as separated by units provided.

Table 21

Increase in Delay for the Fine Motor Domain by Frequency of Visits Provided

Frequency of Visits	Increase in delay		
	Fine Motor		
	d.f	*r*	*p*-value
Months	24	-.026	.8997
Units	24	-.040	.8462
Months/Units	24	-.053	.7971

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in months and the increase in delay in the

fine motor domain, $r(24) = -.026$, $p = .8997$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in units and the increase in delay in the social domain, $r(24) = -.040$, $p = .8462$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in concentration of units and the increase in delay in the social domain, $r(24) = -.053$, $p = .7971$, compared to $\alpha = .05$. Therefore, the analysis revealed that among all participants, no relationship existed between the services frequency provided, as measured in months, units, and concentration of units and the Increase in delay in the fine motor domain, as measured by the HELP and/or the OR Project.

Gross motor domain. Since the HELP and OR Project assessed the area of gross motor, statistical calculations reflected all of the infants/toddlers who received early intervention services. The number of months the infant/toddler received home-based early intervention services by a DAZ Service Provider did not influence this portion of the study. Any increase in delay reported as zero resulted in omission and led to the degree of freedom of 25. The frequency of visits was the independent variable and the increase in delay was the dependent variable. Table 22 represents the data with regard to whether a relationship between the variables existed; increase in delay in the area of gross motor, as separated by units provided.

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in months and the increase in delay in the fine motor domain, $r(25) = .088$, $p = .6625$, compared to $\alpha = .05$.

Table 22

Increase in Delay for the Gross Motor Domain by Frequency of Visits Provided

Frequency of Visits	Increase in delay		
	Gross Motor		
	d.f	*r*	*p*-value
Months	25	.088	.6625
Units	25	.188	.3447
Months/Units	25	-.066	.7436

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in units and the increase in delay in the social domain, $r(25) = .188$, $p = .3447$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in concentration of units and the increase in delay in the social domain, $r(25) = -.066$, $p = .7436$, compared to $\alpha = .05$. Therefore, the analysis revealed that among all participants, no relationship existed between the services frequency provided, as measured in months, units, and concentration of units and the increase in delay in the gross motor domain, as measured by the HELP and/or the OR Project.

Compensatory domain. In assessing the compensatory domain, the HELP failed to address this domain. Therefore, only the infants/toddlers with visual impairments who completed the compensatory domain portion of the OR Project participated in this portion of the study. The number of months the infant/toddler received home-based early intervention services by a DAZ Service Provider did not influence this portion of the study. Participants, who completed the HELP and any increase in delay reported as zero on the OR Project resulted in omission and led to the degree of freedom of 10. The frequency of visits was the independent variable and the increase in delay was the dependent variable. Table 23 represents the data with regard to whether a relationship

between the variables existed; increase in delay in the area of compensatory, as separated by units provided.

Table 23

Increase in Delay for the Compensatory Domain by Frequency of Visits Provided

Frequency of Visits	Increase in delay		
	Compensatory		
	d.f	*r*	*p*-value
Months	10	.263	.4089
Units	10	.609	.0356
Months/Units	10	.603	.0241

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in months and the increase in delay in the compensatory domain, $r(10) = .263$, $p = .4089$, compared to $\alpha = .05$. The analysis revealed that among all participants, a relationship existed between the length of services provided, as measured in units and the Increase in delay in the social domain, $r(10) = .609$, $p = .0356$, compared to $\alpha = .05$. The analysis revealed that among all participants, a relationship existed between the length of services provided, as measured in concentration of units and the increase in delay in the social domain, $r(10) = .603$, $p = .0241$, compared to $\alpha = .05$. Therefore, the analysis revealed that among all participants, no relationship existed between the length of services provided and the increase in delay in months, as measured by the OR Project. A relationship existed between the length of services provided, as measured in units, as well as the concentration of months and units and the increase in delay as measured by the OR Project, the area of compensatory domain.

Vision domain. In assessing the vision domain, the HELP failed to address this domain. Therefore, only the infants/toddlers with visual impairments who completed the

vision domain portion of the OR Project participated in this portion of the study. The number of months the infant/toddler received home-based early intervention services by a DAZ Service Provider did not influence this portion of the study. Participants, who demonstrated any increase in delay reported as zero on the OR Project resulted in omission and led to the degree of freedom of 17. The frequency of visits was the independent variable and the increase in delay was the dependent variable. Table 24 represents the data with regard to whether a relationship between the variables existed; increase in delay in the area of compensatory, as separated by units provided.

Table 24

Increase in Delay for the Vision Domain by Frequency of Visits Provided

Frequency of Visits	Increase in delay		
	Vision		
	d.f	*r*	*p*-value
Months	17	.011	.6539
Units	17	-.003	.9903
Months/Units	17	-.144	.5564

The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in months and the increase in delay in the compensatory domain, $r(17) = .011$, $p = .6539$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in units and the increase in delay in the social domain, $r(17) = -.003$, $p = .9903$, compared to $\alpha = .05$. The analysis revealed that among all participants, no relationship existed between the length of services provided, as measured in concentration of units and the increase in delay in the social domain, $r(17) = -.144$, $p = .5564$, compared to $\alpha = .05$. Therefore, the analysis revealed that among all participants, no relationship existed between the service frequency provided, as measured in months,

units, and concentration of units and the increase in delay in the vision domain, as measured by the OR Project.

Null Hypothesis 3

There is no relationship between the assessment scores, as measured by the increase in delay by the HELP or the OR Project, and the results of the Family Outcomes Survey distributed by DAZ to parents of infants/toddlers with visual impairments receiving services for at least 12 months.

A data analysis for a sample of infants/toddlers with visual impairments, determined whether a relationship existed between the increase in delay, as measured by the HELP or the OR Project, and the responses to the Family Outcome Survey. On an annual basis, DAZ (2014) sent a Family Outcome Survey to any family who had at least one infant/toddler or child receive early intervention services or participated in any early intervention program through the agency. For the purpose of this study, the agency provided two years of results from the Family Outcome Survey. The researcher viewed these results as a pre and post-test with only the post-test results utilized in answering Null Hypothesis 3.

Demographics

An analysis resulted in 17 (n = 17, 56.67%) of the total participants submitted a Family Outcome Survey for both years one and two. Of the 17 participants, 12 (n = 12, 70.60%) infants/toddlers with visual impairments received early intervention services from a DAZ Service Provider for at least 12 months. In reviewing visual classifications for the 12 participants, three (n =3, 25%) were low vision, two (n = 2, 16.77%) were mildly multiply involved, six (n = 6, 50%) were severely multiple involved, and one (n =

1, 8.33%) was deafblind. The participants' received early intervention services by a TVI and/or O and M specialist between 12 and 23 months with a median of 17.5 months.

Since Null Hypothesis 3 failed to display consideration to visual classification, the following calculations included all 12 participants, with disregard to visual classification. In examining assessments, only two participants completed the HELP; therefore, concern to assessments only applied to the average increase in delay. Table 25 demonstrates each participant's increase in delay and the length of time in which the infant/toddler with visual impairments received early intervention services.

Table 25

Participants' Increase in Delay and Length of Early Intervention Services (in Months)

Participant	Assessment	Average Increase in delay	Early Intervention Services Received (in months)
1	OR Project	20.75	23 months
2	OR Project	-2.25	15 months
4	OR Project	11.75	19 months
5	OR Project	-27.5	23 months
6	OR Project	23	20 months
7	OR Project	8.125	17 months
8	OR Project	-2.875	15 months
9	HELP	-4.375	12 months
12	HELP	10.5	22 months
20	OR Project	-4	13 months
26	OR Project	-12.875	12 months
30	OR Project	-29.5	12 months

The Family Outcome Survey administered by DAZ (2014) originated from the NECTAC (Ringwalt, 2012). Section A of the survey measured the basic needs and outcomes for the family, while Section B measured the family's perception of how helpful the early intervention services provided were to the family. Since DAZ only requested each family to complete Section A, no data regarding results for Section B existed. Therefore, the survey results relayed information on how each family reported

their basic needs, instead of information regarding early intervention services. As a result, statistical data included the post-test results from each participant family and calculated with the increase in delay, as measured by post-test responses reported on Section A of the Family Outcome Survey.

Outcome 1. An analysis of the comparison calculated whether a relationship between the variables existed. The increase in delay, as measured by the HELP or the OR Project scores, operated as the independent variable, while the Family Outcome Survey post-test results functioned as the dependent variable. A 95% confidence level determined the rejection or failure to reject the null hypothesis, as the *p*-value determined if a relationship existed between the independent and dependent variables through the implementation of the PPMCC. The calculations included the average of each domain, as compared to the responses for each outcome, as reported on Section A of the Family Outcome Survey. Four questions allowed the parents/guardians to respond with regard to how well they knew the appropriate skill trajectory for their child, as well as understanding their child's progression of skills.

Table 26 illustrates the correlation between the participants' increase in delay and the post-test responses, as measured by Outcome 1: Understanding your child's strengths, needs, and abilities, in Section A of the Family Outcome Survey.

An analysis of the results determined no correlation between the average increase in delay for each participant and the responses shared by their family member for Outcome 1 of Section A in the Family Outcome Survey.

Table 26

Relationship between the Increase in Delay and Post-Test Responses for Outcome 1

Outcome	Question	d.f.	*r*	*p*-value
1. Understanding your child's strengths, needs, and abilities				
	1. We know the next steps for our child's growth and learning.	10	-.378	.2257
	2. We understand our child's strengths and abilities.	10	-.224	.4840
	3. We understand our child's delays and/or needs.	10	-.213	.5063
	4. We are able to tell when our child is making progress.	10	-.338	.2826

At a 95% confidence level, the analysis results failed to reject Null Hypothesis 3; there was no significant correlation between the participants' increase in delay and their family members' responses to Outcome 1 of Section A in the Family Outcome Survey. The analysis for question 1, 'We know the next steps for our child's growth and learning,' showed $r(10) = -.378$, $p = .2257$, compared to $\alpha = .05$. For question 2, 'We understand our child's strengths and abilities,' the analysis presented $r(10) = -.224$, $p = .4840$, compared to $\alpha = .05$, while question 3, 'We understand our child's delays and/or needs,' displayed $r(10) = .213$, $p = .5063$, compared to $\alpha = .05$. Finally, the results for question 4, 'We are able to tell when our child is making progress,' indicated $r(10) = .338$, $p = .2826$, compared to $\alpha = .05$. Based upon these results, the participants' family members reported they understood their child's strengths, needs, and abilities.

Outcome 2. An analysis of the comparison calculated whether a relationship between the variables existed. The increase in delay, as measured by the HELP or the

OR Project scores, operated as the independent variable while the Family Outcome Survey post-test results functioned as the dependent variable. A 95% confidence level determined the rejection or failure to reject the null hypothesis as the *p*-value determined if a relationship existed between the independent and dependent variables through the implementation of the PPMCC. The calculations included the average of each domain, as compared to the responses for each outcome, as reported on Section A of the Family Outcome Survey.

Table 27

Relationship between the Increase in Delay and Post-Test Responses for Outcome 2

Outcome	Question	d.f.	*r*	p-value
2. Knowing your rights and advocating for your child				
	5. We are able to find and use the services and programs available to us.	10	-.117	.7173
	6. We know our rights related to our child's special needs.	10	.202	.5290
	7. We know who to contact and what to do when we have questions or concerns.	10	-.338	.2826
	8. We know what options are available when our child leaves the program.	10	.185	.5649
	9. We are comfortable asking for services & supports that our child and family need.	10	-.242	.4486

Five questions allowed the parents/guardians to respond with regard to how well they utilized programs and services, as well as advocating on behalf of their child. Table 27 illustrates the correlation between the participants' increase in delay and the post-test responses, as measured by Outcome 2: Knowing your rights and advocating for your child.

An analysis of the results determined no correlation between the average increase in delay for each participant and the responses shared by their family member for Outcome 2 of Section A in the Family Outcome Survey. At a 95% confidence level, the analysis results failed to reject Null Hypothesis 3, as there was no significant correlation between the participants' increase in delay and their family members' responses to Outcome 2 of Section A in the Family Outcome Survey. The analysis for question 5, 'We are able to find and use the services and programs available to us,' showed $r(10) = -.117$, $p = .7173$, compared to $\alpha = .05$. For question 6, 'We know our rights related to our child's special needs,' the results presented $r(10) = .202$, $p = .5290$, compared to $\alpha = .05$, while question 7, 'We know who to contact and what to do when we have questions or concerns,' displayed $r(10) = -.338$, $p = .2826$, compared to $\alpha = .05$. Lastly, the results for question 8, 'We know what options are available when our child leaves the program,' indicated $r(10) = .185$, $p = .5649$, compared to $\alpha = .05$, whereas question 9, 'We are comfortable asking for services & supports that our child and family need,' resulted with $r(10) = -.242$, $p = .4486$, compared to $\alpha = .05$. Based upon these results, the participants' family members responded that they know their rights and advocate for their child.

Outcome 3. An analysis of the comparison calculated whether a relationship between the variables existed. The increase in delay, as measured by the HELP or the

OR Project scores, operated as the independent variable, while the Family Outcome Survey post-test results functioned as the dependent variable. A 95% confidence level determined the rejection or failure to reject the null hypothesis as the *p*-value determined if a relationship existed between the independent and dependent variables through the implementation of the PPMCC. The calculations included the average of each domain, as compared to the responses for each outcome, as reported on Section A of the Family Outcome Survey. Four questions allowed the parents/guardians to reflect with regard to how they assisted their child with acquiring new skills on a daily basis. Table 28 illustrates the correlation between the participants' increase in delay and the post-test responses, as measured by Outcome 3: Helping your child develop and learn.

Table 28

Relationship between the Increase in Delay and Post-Test Responses for Outcome 3

Outcome	Question	d.f.	*r*	p-value
3. Helping your child develop and learn				
	10. We are able to help our child get along with others.	10	.490	.1059
	11. We are able to help our child learn new skills.	10	-.542	.0687
	12. We are able to help our child take care of his/her needs.	10	-.338	.2826
	13. We are able to work on our child's goals during everyday routines.	10	.077	.8120

An analysis of the results determined no correlations between the average increase in delay for each participant and the responses shared by their family member for Outcome 3 of Section A in the Family Outcome Survey. At a 95% confidence level,

the analysis results failed to reject Null Hypothesis 3, as there was no significant correlation between the participants' increase in delay and their family members' responses to Outcome 3 of Section A in the Family Outcome Survey. The analysis for question 10, 'We are able to help our child get along with others,' showed $r(10) = .490$, $p = .1059$, compared to $\alpha = .05$. For question 11, 'We are able to help our child learn new skills,' the results presented $r(10) = -.542$, $p = .0687$, compared to $\alpha = .05$, while question 12, 'We are able to help our child take care of his/her needs,' resulted in $r(10) = -.338$, $p = .2826$, compared to $\alpha = .05$. Finally, the results for question 13, 'We are able to work on our child's goals during every day routines,' indicated $r(10) = .077$, $p = .8120$, compared to $\alpha = .05$. Based upon these results, the participants' family members responded they helped their child to develop and learn.

Outcome 4. An analysis of the comparison calculated whether a relationship between the variables existed. The increase in delay, as measured by the HELP or the OR Project scores, operated as the independent variable, while the Family Outcome Survey post-test results functioned as the dependent variable. A 95% confidence level determined rejection or failure to reject Null Hypothesis 3 as the *p*-value determined if a relationship existed between the independent and dependent variables through the implementation of the PPMCC. The calculations included the average of each domain, as compared to the responses for each outcome, as reported on Section A of the Family Outcome Survey. Five questions related to how well the parents/guardians developed support systems within their family and community. Table 29 illustrates the correlation between the participants' increase in delay and the post-test responses, as measured by Outcome 4: Having support systems.

An analysis of the results determined no correlation between the average increase in delay for each participant and the responses shared by their family member for Outcome 4 of Section A in the Family Outcome Survey.

Table 29

Relationship between the Increase in Delay and Post-Test Responses for Outcome 4

Outcome	Question	d.f.	*r*	*p*-value
4. Having support systems				
	14. We are comfortable talking to family and friends about our child's needs.	10	.000	1.0000
	15. We have friends or family members who listen and care.	10	.012	.9705
	16. We are able to talk with other families who have a child with similar needs.	10	-.071	.8264
	17. We have friends or family members we can rely on when we need help.	10	-.098	.7619
	18. I am able to take care of my own needs and do things I enjoy.	10	.198	.5357

At a 95% confidence level, the results failed to reject Null Hypothesis 3, as there was no significant correlation between the participants' increase in delay and their family members' responses to Outcome 3 of Section A in the Family Outcome Survey. The analysis for question 14, 'We are comfortable talking to family and friends about our child's needs,' showed $r(10) = .000$, $p = 1.0000$, compared to $\alpha = .05$. For question 15, 'We have friends or family members who listen and care,' the results presented $r(10) =$

-.012, p = .9705.18, compared to α = .05, while question 16, 'We are able to talk with other families who have a child with similar needs,' displayed $r(10)$ = -.071, p = .8264, compared to α = .05. Lastly, the results for question 17, 'We have friends or family members we can rely on when we need help,' exhibited $r(10)$ = -.098, p = .7619, compared to α = .05, while question 18, 'I am able to take care of my own needs and do things I enjoy,' indicated $r(10)$ = .198, p = .5357, compared to α = .05. Based upon these results, the participants' family members responded they have support systems in place.

Outcome 5. An analysis of the comparison calculated whether a relationship between the variables existed. The increase in delay, as measured by the HELP or the OR Project scores, operated as the independent variable, while the Family Outcome Survey post-test results functioned as the dependent variable. A 95% confidence level determined the rejection or failure to reject the null hypothesis as the p-value determined if a relationship existed between the independent and dependent variables through the implementation of the PPMCC. The calculations included the average of each domain, as compared to the responses for each outcome, as reported on Section A of the Family Outcome Survey. Six questions assisted to identify if the parents/guardians had relationships with others outside of the family, as well as basic needs met, including food, clothing, shelter, and transportation. Table 30 illustrates the correlation between the participants' increase in delay and the post-test responses, as measured by Outcome 5: Accessing the community in Section A of the Family Outcome Survey.

An analysis of the results determined no correlation between the average increase in delay for each participant and the responses shared by their family member for Outcome 5 of Section A in the Family Outcome Survey. At a 95% confidence level, the

results failed to reject Null Hypothesis 3, as there was no significant correlation between the participants' increase in delay and their family members' response to Outcome 5 of Section A in the Family Outcome Survey.

Table 30

Relationship between the Increase in Delay and Post-Test Responses for Outcome 5

Outcome	Question	d.f.	*r*	*p*-value
5. Accessing the community				
	19. Our child participates in social, recreational, or religious activities that we want.	10	.280	.3781
	20. We are able to do things we enjoy together as a family.	10	.367	.2406
	21. Our medical and dental needs are met.	10	.104	.7477
	22. Our child care needs are met.	10	.485	.1100
	23. Our transportation needs are met.	10	-.191	.5521
	24. Our food, clothing, and housing needs are met.	10	.012	.9705

The analysis for question 19, 'Our child participates in social, recreational, or religious activities that we want,' showed $r(10) = .280$, $p = .3781$, compared to $\alpha = .05$. For question 20, 'We are able to do things we enjoy together as a family,' the results presented $r(10) = .367$, $p = .2406$, compared to $\alpha = .05$, while question 21, 'Our medical and dental needs are met,' displayed $r(10) = .104$, $p = .7477$, compared to $\alpha = .05$. For question 22, 'Our child care needs are met,' the results presented $r(10) = .485$, $p = .1100$, compared to $\alpha = .05$, while question 23, 'Our transportation needs are met,' presented $r(10) = -.191$, $p = .5521$, compared to $\alpha = .05$. Finally, the results for question 24, 'Our

food, clothing, and housing needs are met,' indicated $r(10) = .012$, $p = .9705$, compared to $\alpha = .05$. Based upon these results, the participants' family members responded they accessed the community.

Null hypothesis 4

Null Hypothesis 4a. There is no difference between self-perceptions of individual Service Providers with regard to the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

Null Hypothesis 4b. There is no difference between Service Provider self-perceptions of the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments and the maximum rating of that frequency, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

Demographics.

Each service provider from DAZ, who provided home-based early intervention services, totaled three participants. All of the participants completed the educational and certification requirements for employment at DAZ as a TVI. Additionally, two service providers met the requirements for degree and certification as an O and M specialist.

Modified Instructional Perspectives Inventory-Teachers Working with Parents and Young Children. As three Service Providers implemented home-based

early intervention services to infants/toddlers with visual impairments, they provided responses on the MIPI-TPC. As such, descriptive statistics were calculated. Since the MIPI-TPC contained the category levels, percentages, and IPI scores, an analysis followed, when scoring the MIPI-TPC, each item was scored for factors 1) 'Teacher empathy with learners,' 2) 'Teacher trust of learners,' 3) 'Planning and delivery of instruction,' 4) 'Accommodating learner perspectives,' 5) 'Teacher insensitivity toward learner,' 6) 'Experience-based learning techniques counted in a higher order,' and 7) 'Teacher centered learning process.' A term rating how frequently the service provider reflected on his or her beliefs, feelings, and behaviors was assigned a scale using the following points: 'Almost Never' equaled one point, 'Not Often' equaled two points, 'Sometimes' equaled three points, 'Usually' equaled four points, and 'Almost Always' equaled five points. Table 31 reflects the total number of points accumulated in regards to each service provider's scores toward the seven factors.

An analysis of the data reflected that all service providers acquired most points in factor 2, 'Teacher trust of learners.' The points ranged from 54 to 47 points for a difference of ± 7 points. Service Providers 1 and 3 received the least number of points in factor 7, 'Teacher-centered learning process,' while Service Provider 2 attained the lowest number of points in factor 6, 'Experience-based learning techniques (Learner-centered learning process).'

Table 31

Service Provider's Total Points for the Seven Factors on the MIPI-TPC

Factor	Service provider 1 Total Points	Service provider 2 Total Points	Service provider 3 Total Points
	n	n	n
Teacher empathy with learners	24	24	25
Teacher trust of learners	53	47	54
Planning and delivery of instruction	24	20	23
Accommodating learner uniqueness	33	29	33
Teacher insensitivity toward learner	31	22	34
Experience-based learning techniques (Learner-centered learning process)	20	12	17
Teacher-centered learning process	12	13	12

Factors 1 and 2 related to the manner in which the service providers displayed empathy and trust towards the parent and/or guardians of young child participating in early intervention services. Factors 3 and 4 addressed the manner in which the Service Provider planned and individualized the activities and strategies implemented during the early intervention home visit, and in turn discussed the activities and strategies with the parents and/or guardians of the infant/toddler. Factor 6 pertained to the manner in which the Service Provider encouraged the parents and/or guardians of the infant/toddler to learn through their own experiences and attempts of implementing the activities and strategies discussed by the Service Provider. Table 32 reflects the total average of points reported by the three participants of this study.

Table 32

Average Points for MIPI-TPC Factors One, Two, Three, Four, and Six

Factors	Question	Ave. Points
	How frequently do you	N
Factor One: Teacher empathy of learners	Feel fully prepared to teach during each home visit?	4.67
	Notice and acknowledge to each parent and child?	5
	Balance your efforts between engaging both parents and children in content acquisition and motivation?	4.67
	Express appreciation to parents and children who actively participate in learning?	5
	Promote positive self-esteem in parents and children?	5
Factor Two: Teacher trust of learners	Purposefully communicate to parents and children that each one is uniquely important as a learner?	5
	Express confidence to parents and children that each will develop the skills they need?	5
	Trust parents and children to know what their own goals, dreams and realities are like?	4.33
	Prize the parent's and children's ability to learn what is needed?	5
	Feel parents and children need to be aware of and communicate their thoughts and feelings?	4.67
	Enable parents and children to evaluate their own progress in learning?	4
	Hear what parents and children indicate what their learning needs are?	5
	Engage parents and children in clarifying their own aspirations?	4
	Develop supportive relationships with the parents and their children?	4.67
	Experience unconditional positive regard for the parents and their children?	4.67
	Respect the dignity and integrity of the parents and their children?	5

(Continued)

Table 32. Continued

Factors	Question	Ave. Points
	How frequently do you	N
Factor Three: Planning and delivery of instruction	Use a variety of teaching techniques?	5
	Search for or create new teaching techniques?	4
	Establish instructional objectives for each home visit?	4.33
	Use a variety of instructional media? (e.g. Internet, interactive teletherapy, video, etc.)	3.67
	Integrate teaching techniques with subject matter content?	5
Factor Four: Accommodating learner uniqueness	Expect and accept each parent's and child's frustrations as each one grapples with problems?	4.67
	Believe that parents and children vary in the way they acquire, process, and apply subject matter knowledge?	5
	Really listen to what parents and children have to say?	5
	Encourage parents and children to solicit assistance from other learners for support?	5
	Individualize the pace of learning for each parent and child?	4.67
	Help parents and children explore their own abilities?	4.33
	Ask the parents and children how they would approach a learning task?	3
Factor Six: Experience based learning techniques (Learner-centered learning process)	Use buzz groups (parents and children placed in groups to discuss?	3.67
	Teach through the simulation of real-life settings?	5
	Conduct group discussions?	2.67
	Use listening teams (learners grouped together to listen for a specific purpose) during lectures?	2.33
	Conduct role plays with parents and children?	2.67

Based on the average points, the Service Providers received an average of five points on 14 items of the MIPI-TPC. At least one item in each factor averaged five points. The items in which the service providers reported the lowest score was in factor 6, particularly regarding the utilization of listening teams, with an average of 2.33 points. Therefore, the average of total points for all items totaled 2.67 points.

Reverse scoring for factors 5, 'Teacher insensitivity toward learner,' and 7, 'Teacher-centered learning process,' counted in a lower order. 'Almost Never' equaled five points, 'Not Often' equaled four points, 'Sometimes' equaled three points, 'Usually' equaled two points, and 'Almost Always' equaled one point. As stated in Chapter Two, the purpose of reverse scoring prevented a learner from receiving an inflated score. Factor 5 consisted of seven questions, which allowed the Service Providers to reflect on the manner in which they exhibited sensitive behaviors when the parents and/or guardians of the infant/toddler with visual impairment expressed concerns or worry regarding the young child's developmental trajectory or skill level.

Factor 7 comprised of five questions, in which the Service Provider contemplated the amount of rigidity during therapeutic activities during early intervention home visits. Table 33 demonstrates the average number of points tallied for factors 5 and 7.
Due to the reverse scoring of items in factors 5 and 7, the lower numbers reflected stronger beliefs, feelings, and behaviors regarding each item. Based on the average points, the Service Providers scored the lowest average of one point in factor 7.

Table 33

Average Points for MIPI-TPC Factors Five and Seven

Factors	Question How frequently do you	Average Points N
Factor Five: Teacher insensitivity toward learners	Have difficulty understanding each parent's and child's point of view?	4
	Have difficulty in getting your point across to parents and children?	3.67
	Feel impatient with parents' and children's progress?	4
	Experience frustration with each parent's and child's apathy?	4
	Have difficulty with the amount of time parents and children need to grasp various concepts?	4.67
	Get bored with the many questions parents and children ask?	4.33
	Integrate teaching techniques with subject matter content?	4.33
Factor Seven: Teacher-centered learning process	Believe that your primary goal is to provide parents and children as much information as possible?	1
	Teach exactly what and how you have planned?	2.33
	Try to make your presentations to both parents and children clear enough to forestall all of their questions?	1.33
	Believe that your teaching skills are as refined as they can be?	3.67
	Require parents and children to follow the precise learning experiences you provide them?	4

The Service Providers responded that they disseminated information to parents and children when feasible and appropriate, as well as demonstrated strategies in a concise format. The highest average of points related to an item in factor 5, as the Service Providers reflected difficulty with the length of time the infant/toddler with visual

impairments and/or their parents took to learn new concepts, with a total of 4.67 points. Therefore, the average of total points for all items equaled -3.67 points.

Since this study did not test the reliability or validity of the MIPI-TPC, the percentage used in the tool, which related to how often each home-based early intervention service provider implemented one or more of the andragogical factors, remained the same as the percentage used in the original IPI tool. Also with three participants for this portion of the study, no statistical data analysis occurred. Instead, the calculations and ranges derivative of the IPI carried over to the MIPI-TPC. Table 34 reflects the Service Providers' reflections on the category level and percentage of use, where they implemented andragogical factors during home-based early intervention services for infants/toddlers with visual impairments.

Table 34

Service Providers' Use of Andragogical Factors

Service Provider	Category Level	IPI Points
1	Above Average	197
2	Average	167
3	Above Average	198

A descriptive data analysis resulted in a difference of ± 1 point for Service Providers 1 and 3, a difference of ± 20 points for Service Providers 1 and 2, and a difference of ± 31 points for Service Providers 2 and 3. Service Providers 1 and 3 landed in the category level of 'Above Average,' while Service Provider 2 aligned in the 'Average' category. Therefore, in answering the question, Service Providers 1 and 3 responded that they implemented andragogical factors between 82% and 88% of the time. Service Provider 2 responded that he or she implemented andragogical factors 66% to 81% of the time.

Since this study was quantitative, the researcher conducted an ANOVA test for additional statistical information among the three early intervention Service Providers, who implemented home-based services to infants/toddlers with visual impairments. A confidence level at 95% guided the researcher to reject or fail to reject Null Hypothesis 4a. Each Service Provider answered all 45 items, as displayed in the MIPI-TPC. Due to the low number of participants in this portion of this study, the statistical calculations were limited. The MIPI-TPC items operated as the independent variable, while the service providers' self-perceptions were the dependent variable. Table 35 demonstrated the statistical means and variance levels among the service providers.

Table 35

ANOVA Summary of Results for Service Providers

MIPI-TPC Results						
	Sum of squares	d.f.	Mean square	*F*	*p*-value	*F* critical
Between	2.238	2	1.119	.603	.549	3.065
Within	245.022	132	1.856			

An analysis of the results determined no difference in the self-perceptions represented by responses provided by the Service Providers, as measured by the MIPI-TPC. At a 95% confidence level, and with a *p*-value of .549, compared to $\alpha = .05$, the researcher failed to reject Null Hypothesis 4a. As such, there was no significant difference between the participants' responses on the 45 items regarding the implementation of andragogical factors during home-based early intervention services with infants/toddlers with visual impairments, as measured by the MIPI-TPC.

Due to the small sample size for this analysis, further data calculations were conducted as part of this study and included the *Chi-Square* test as a means of measuring the potential difference in responses provided by the Service Providers, as measured by

the MIPI-TPC. A confidence level at 95% guided the researcher to reject or fail to reject Null Hypothesis 4b. The results compared the actual response provided by each Service Provider to the highest expected response available on the MIPI-TPC, which was the response, 'Almost Always.' When assigned points by a Likert Scale, the response 'Almost Always.' was five points, which totaled the expected number of points on the *Chi-Square* test. Table 36 illustrates the *p*-value the total of observed responses yielded by each Service Provider implementing home-based services to infants/toddlers with visual impairments.

Table 36

Chi-Square Test Results

Service Provider	*p*-value
1	.9941
2	.9991
3	.9490

An analysis of the results determined no difference between the responses provided by the Service Providers, as measured by the MIPI-TPC. At a 95% confidence level, the *Chi-Square* test results failed to reject Null Hypothesis 4b and further supported the findings of the ANOVA applied to discover potential differences in the self-perceptions of Service Providers with regard to the frequency of use of andragogical factors during home-based services to families of visually impaired infants/toddlers. As such, there was no significant difference with each response shared by the three Service Providers on the 45 items, regarding the implementation of andragogical factors during home-based early intervention services with infants/toddlers with visual impairments, as measured by the MIPI-TPC. There was also difference between self-perception ratings

and the rating representing the highest frequency of use of andragogical factors during home-based services.

Summary

DAZ requested a research study to determine if a relationship between the assessment scores of infants/toddlers with visual impairments and the frequency of home-based early intervention services by a TVI and/or O and M specialist existed. Due to the low prevalence of infants/toddlers with visual impairments and the fact that visual impairments typically are secondary conditions, 30 infants/toddlers received home-based early intervention services through DAZ and participated in this study. Descriptive statistics demonstrated no difference between the participants' assessment scores and the receipt of home-based early intervention services.

Additionally, 17 families of infants/toddlers with visual impairments participated in home-based early intervention services with a Service Provider from DAZ and responded to the Family Outcome Survey. DAZ implemented the use of Section A of the Family Outcome Survey, originated from The Early Childhood Outcomes Center (ECOC, 2010c). The use of the PPCMCC resulted in no relationship with the increase in delay, as measured by two administrations of the HELP or the OR Project assessments and the family members' responses on the Family Outcome Survey.

Finally, three Service Providers from DAZ completed the MIPI-TPC to measure their beliefs, feelings, and behaviors while implementing home-based early intervention services to infants/toddlers with visual impairments. Since fewer than five participants contributed in this part of the study, descriptive statistics, as well as an ANOVA summary between groups demonstrated no significance between groups. Instead, a data

analysis related to scores established with the MIPI-TPC occurred. Chapter Five provides a more detailed account of the data analysis and study results.

Chapter Five: Discussion and Reflection

Due to the low prevalence rate of infants/toddlers diagnosed with visual impairments, minimal research studies existed. Often times, the infant/toddler's visual impairment resulted as a secondary condition, related to a primary medical diagnosis. With the advancement of medical technology, many infants/toddlers experienced higher survival rates. After the completion of the referral and intake processes at DAZ, a TVI and/or O and M specialist conducted an assessment with the infant/toddler with visual impairments. The service provider from DAZ (2014) demonstrated professional judgment and personal preference to select either the HELP or the OR Project assessment. The assessment scores determined if the infant/toddler could qualify for early intervention services. During the development of the IFSP, the formal report written by the TVI and/or O and M specialist assisted in deciding the type of early intervention service provider needed to implement the early intervention services. The IFSP team members collaboratively decided on the frequency of services offered to the infant/toddler with visual impairments. Therefore, early intervention service providers needed to familiarize themselves with appropriate educational and therapeutic strategies to facilitate the progression of skills for infants/toddlers with visual impairments. They also needed to know how to establish and maintain positive, collaborative, and trusting relationships with parent/guardians and colleagues.

When reflecting on early intervention best practices during this study, little research connected the early intervention with the andragogy learning theory. Early intervention pertained to therapeutic services for infants/toddlers with developmental delays, while andragogy learning theory referred to adult learning. Research studies

emphasized the importance of trust in developing relationships between adults and infants (Berger, 2009; Chu, 2007; Honig, 1994; Karakus & Savas, 2012; Patterson, 2009). Covey (2006) and Henschke (2012) discussed the significance of adults holding trusting relationships with other adults. However, additional research discussed the importance of positive relationships between service providers and the children they served, as well as their families (Cook et al., 2015; Estes, 2004; Santrock, 2010; Shelden & Rush, 2013) although the studies failed to connect the early intervention services and andragogy learning theory together.

Many times, early intervention service providers spent time during home visits answering questions from the parents or caregivers, as well as providing strategies and activity suggestions for implementation as part of the family's daily routine. Service providers and parent/guardians collaborated together to implement developmentally appropriate learning experiences to assist infants/toddlers with developmental delays (Shelden & Rush, 2013) McWilliam (2010) stressed the importance of early intervention service providers implementing andragogical factors while providing support to the parents or caregivers. He stated, "Collaborative consultation follows the principles of adult learning or andragogy" (McWilliams, 2010, p.173).

In response to McWilliam's (2000, 2010) suggestion, the purpose of this study was to examine home-based early intervention services delivered by TVI and/or O and M specialists employed by DAZ. Research conducted in this study quantitatively analyzed whether relationships existed between assessment scores, as measured by the HELP and/or the OR Project assessments, Family Outcome Survey responses submitted to DAZ, and the frequency of early intervention home visits conducted by TVI and/or O and

M specialists. Another purpose of this study included analysis of data responses to the MIPI-TPC. The assessment measured the TVI and/or O and M specialists' level of applying seven factors related to andragogical factors during home-based early intervention visits.

Research Question and Hypotheses

This study addressed one research question and four hypothesis statements, which addressed each variable, including the HELP or OR Project assessment scores, home visit units, responses to the Family Outcome Survey, and MIPI-TPC responses.

Research question. When examining each of the visually impaired infants/toddlers, based on the visual scenario definitions provided in the ongoing Utah Study, what is the relationship between the child assessment scores and the frequency of home visits conducted, as recorded by DAZ's Record of Services Billed?

Hypothesis 1. There is a difference between the sum of services delivered and the quantity of services written into participants' IFSP document as reported by DAZ for infants/toddlers with visual impairments receiving early intervention services for at least 12 months

Hypothesis 2. There is a relationship between the increase in delay, as measured by the HELP or the OR Project assessment scores, and the frequency of home visits for infants/toddlers with visual impairments receiving services for at least 12 months.

Hypothesis 3. There is a relationship between the assessment scores, as measured by the increase in delay by the HELP or the OR Project, and the results of the Family Outcomes Survey distributed by DAZ to parents of infants/toddlers with visual impairments receiving services for at least 12 months.

Hypothesis 4a. There is a difference between self-perceptions of individual Service Providers with regard to the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

Hypothesis 4b. There is a difference between Service Provider self-perceptions of the frequency of implementation of andragogical factors during home-based early intervention services with the parents/guardians of Infants/toddlers with visual impairments and the maximum rating of that frequency, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).

Triangulation of Results

For the purpose of this study, the results responded to a research question and four hypothesis statements. Through descriptive statistics, as well as statistical calculations and analysis, the researcher determined whether to support each hypothesis statement. Due to the low prevalence of infants/toddlers with visual impairments, as well as home-based early intervention service providers employed by DAZ, the numbers of participants were minimal. However, the results assisted the researcher in sharing recommendations to the Executive Director and Early Intervention Program Coordination at DAZ.

Research question. The examination of the overarching question asked, ‘When examining each of the following infants/toddlers who are visually impaired, based on the visual scenario definitions provided in the ongoing Utah Study, what is the relationship

between the child assessment scores and the frequency of home visits conducted as recorded by DAZ's Record of Services Billed?' The overarching question referred to the study conducted at the Center for Persons with Disabilities at Utah State University (2014). The Executive Director of DAZ learned of the study and requested a similar conduction of research. Therefore, this study utilized the same parameters to define the vision scenarios, although the names were altered slightly.

Despite the low prevalence of infants/toddlers with visual impairments in the general population, DAZ succeeded in providing information for 30 participants who received home-based early intervention services by a TVI and/or O and M specialist from DAZ. These specialists implemented home-based early intervention services to infants/toddlers with visual impairments, who also lived within a 50-mile radius of the agency's location. According to the early intervention matrices for the Illinois Family and Child Connections (IDHS, 2015a, 2015c) and Missouri First Steps (2016) programs, DAZ employed the majority of TVI and O and M specialists within the 50-mile radius. Data results through the utilization of descriptive statistics, *t*-tests for difference of dependent means, and the PPMCC indicated no relationship between the participants' assessment scores and the frequency of home visits by a TVI and/or O and M specialist from DAZ.

Hypothesis 1. The statement of hypothesis one of this study was, 'There is a difference between the sum of services delivered and the quantity of services written into participants' IFSP document as reported by DAZ for infants/toddlers with visual impairments receiving early intervention services for at least 12 months' Upon examination of records billed by DAZ, 17 (n = 17, 56.67%) infants/toddlers with visual

impairments participated in home-based early intervention services implemented by a TVI and/or O and M specialist from DAZ for at least 12 months. Descriptive statistics determined the early intervention service providers implemented exactly the number of units authorized to zero (n = 0, 0%) participants receiving early intervention home visits for at least 12 months as stated in their IFSP. Three (n = 3, 17.65%) participants received a surplus of units. Fourteen (n = 14, 82.35%) received fewer than the number of units authorized in the IFSP.

A *t*-test for the difference between two dependent means determined if a significant difference of units was provided, compared to the units authorized in each participant's IFSP existed. The participants received home-based early intervention services for at least 12 months. At a 95% confidence level, the *t*-test for difference between dependent means supported Hypothesis 1. Therefore, the *p*-value determined a significant difference existed between the units provided compared to the units authorized in each participant's IFSP. Situations leading to the cancellation of a home visit, such as illness or inclement weather may account for unused units. The coordination of the IFSP start date to the actual date of service may account for either a deficit or surplus in units implemented.

Hypothesis 2. The statement for hypothesis two of this study was, 'There is a relationship between the increase in delay, as measured by the HELP or the OR Project assessment scores, and the frequency of home visits for infants/toddlers with visual impairments receiving services for at least 12 months.' Each early intervention service provider at DAZ utilized professional judgment, based upon the infant/toddler's developmental level and preference to administer either the HELP or the OR Project

assessment to each infant/toddler with visual impairments receiving home-based early intervention services for at least 12 months. The frequency of home visits was the independent variable with the increase in delay as the dependent variable. Seventeen (n = 17, 56.67%) participants received home-based early intervention services by a TVI and/or O and M specialist for at least 12 months and completed at least two administrations of the HELP or the OR Project assessment from July 1, 2011 through August 31, 2014.

The HELP and the OR Project assessments covered developmental skills in the cognitive, language, self-help, social, fine motor, and gross motor domains. However, the OR Project contained additional items related to compensatory and vision skills. Even though the HELP and the OR Project assessments were not standardized assessments, the PPMCC calculated whether a relationship existed, as measured in months, units, and concentration of units to the increase in delay for each developmental domain. Table 37 reflects the overall results for Null Hypothesis 2.

Table 37

Relationship of Assessment Scores and Frequency of Home Visits

	Relationship		
Developmental Domain	Months	Units	Concentration of Units
Cognitive	N	N	N
Language	N	N	N
Self-Help	N	N	N
Social	N	N	N
Fine Motor	N	N	N
Gross Motor	N	N	N
Compensatory	N	Y	Y
Vision	N	N	N

The PPMCC determined whether a relationship existed between each participant's increase in delay of developmental skills in each domain, as measured by

the HELP or the OR Project assessment scores and the frequency of home visits. With respect to Hypothesis 2, rather than its Null Hypothesis, at a 95% confidence level, the PPMCC supported the hypothesis for all domains compared in months; hence, establishing a significant relationship between the variables in the domains of cognitive, language, self-help, social, fine motor, gross motor, compensatory, and vision. Additionally, the PPMCC supported the hypothesis for all domains, except for compensatory, compared in units and concentration of units; hence establishing a significant relationship within the domains of cognitive, language, self-help, social, fine motor, gross motor, and vision. However, the PPMCC did not support the hypothesis for the domain of compensatory as compared in units and concentration of units. Therefore, a relationship only existed between the increase in delay and frequency of home visits in the compensatory domain, as compared in units and concentration of units.

Since an infant/toddler with visual impairments required adaptations and modifications for completing tasks, such as manipulating books or playing with toys, compensatory skills were necessary. The TVI and/or O and M specialist implemented developmentally appropriate activities in order for the infant/toddler with visual impairments to learn and practice new skills. As a result, the acquirement of skills in the compensatory domain reflected on the assessment and accounted for the relationship between the increase in delay and frequency of home visits.

Hypothesis 3. The statement for hypothesis three of this study was, ‘There is a relationship between the assessment scores, as measured by the increase in delay by the HELP or the OR Project, and the results of the Family Outcomes Survey distributed by DAZ to parents of infants/toddlers with visual impairments receiving services for at least

12 months.' Similar to Hypothesis 2, the increase in delay, as measured by the HELP or the OR Project assessment, was the independent variable while the parent/guardians response to each question of the Family Outcome Survey was the dependent variable. Seventeen (n = 17, 56.67%) participants received home-based early intervention services for at least 12 months and their parent/guardians completed the Family Outcome Survey during years one and two. DAZ utilized Section A: Family Outcomes, which pertained to meeting the needs of the family, ranging from basic needs to community support. The PPMCC calculations revealed no relationship existed between the HELP or the OR Project assessment scores and the parent/guardians' responses on Section A of the Family Outcome Survey.

The lack of relationship could be due to each assessment measuring different components related to the infant/toddler with visual impairments. The HELP and the OR Project assessed their developmental skills, while Section A of the Family Outcome Survey measured the needs of the family. The results may vary if DAZ implemented Section B of the Family Outcome Survey, as it related to the how helpful early intervention services were to the family.

Hypotheses 4a and 4b. Hypothesis four of this study stated in two parts: (a) **'**There is a difference between self-perceptions of individual Service Providers with regard to the frequency of implementation of andragogical factors during home-based early intervention services to the parents/guardians of Infants/toddlers with visual impairments, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC),' and (b) 'There is a difference between Service Provider self-perceptions of the frequency of

implementation of andragogical factors during home-based early intervention services to the parents/guardians of Infants/toddlers with visual impairments and the maximum rating of that frequency, as measured by the Modified Instructional Perspectives Inventory - Adapted for Teachers working with Parents and Children (MIPI-TPC).'

Three service providers, who were the primary TVI and/or O and M specialists within a 50-mile radius of the agency, and who implemented home-based early intervention services to infants/toddlers with visual impairments, completed the MIPI-TPC. Each service provider had implemented home-based early intervention services through DAZ for the entirety of their careers. As such, the service providers spent many years collaborating with parents of young children, particularly infants/toddlers with visual impairments. Therefore, the early intervention service providers from DAZ could draw upon several experiences in which they implemented andragogical factors during early intervention home visits.

For the purpose of this study and with the assistance of the investigator, a revision to the IPI occurred, resulting in the revised version, referred to as MIPI-TPC. Each MIPI-TPC item reflected beliefs, feelings, and behaviors for teachers working with parents and young children. However, the reliability and validity aspects of the IPI remained constant in the MIPI-TPC. The results of the MIPI-TPC indicated the service providers' scored the higher number of points with factor two, 'Teacher trust of learners,' and the lowest number of points with factor seven, 'Teacher-centered learning process.' Two service providers reached the andragogical factors category level of above average, which reflected they implemented andragogical factors within a range of 82% and 88% of the time. One service provider's rating landed in the average category, which

suggested they implemented andragogical factors within a range of 66% to 81% of the time. Additionally, the ANOVA test and *Chi-Square* tests supported Hypothesis 4, with regard to the self-perception of frequency of the use of andragogical factors during home-based services.

Interpretation of the results could mean that two service providers believed they implemented the andragogical factors more frequently that one service provider during early intervention home visits. Two service providers may have felt they spend more time talking with parents about strategies and activities, while one service provider may have felt they spend more time implementing strategies and activities. Confusion regarding MIPI-TPC items, or the reversal scoring described in Chapter Four and Appendix E, could have attributed to the difference in category levels and percentages, with regard to the self-perceptions reported concerning frequency of the use of andragogical factors during home-based services.

Recommendations

Based on the execution and results of this study, the following recommendations for the field of early intervention, as well as for DAZ proceed. The recommendations pertain to the topic areas of assessments for infants/toddlers with visual impairments, frequency of home visits, the Family Outcome Survey, and teacher instructional perspectives. At the time of this writing, assessments for infants/toddlers with visual impairments were limited. Literature reviews revealed the HELP and the OR Project as the primary assessment tools; however, neither assessment tool was a standardized assessment.

Despite the low prevalence of infants/toddlers with visual impairments, a standardized assessment tool would assist DAZ and the field of early intervention. Even though it was important for each service provider to select the administration of the HELP or the OR Project, the choice of assessment tools limited this research. A recommendation for DAZ is to encourage the service providers to administer one assessment tool with infants/toddlers with visual impairments. Since the OR Project addressed the same developmental domains as the HELP, as well as the compensatory and vision domains, the researcher recommends this as the primary assessment tool for DAZ.

In keeping track with the number of units provided, as compared to the number of units authorized, for the infant/toddlers with visual impairments IFSP document, a recommendation is for DAZ to update their database system. Each service provider could enter the total number of units authorized in the child's IFSP and the specific units implemented during a home visit into an *Excel* attendance sheet, or a more specific spreadsheet. The individual directly billing the Missouri First Steps and Illinois Family and Connections programs for services incurred could keep track of the units provided, as a secondary measure.

DAZ originally requested research information regarding the effectiveness of home-based early intervention services to infants/toddlers with visual impairments by the TVI and/or O and M specialists employed by the agency. Section B: Helpfulness of Early Intervention (Appendix I), contained 17 questions asking parent/guardians to rate how beneficial the early intervention home visits were to themselves, as well as their family. As such, the researcher recommends that DAZ continue administering Section A

of the Family Outcome Survey to the parent/guardians of infants/toddlers receiving home-based early intervention services by a TVI and/or O and M specialist. Additionally, the researcher recommends DAZ to utilize Section B to measure the parent/guardians rating of the effectiveness of the early intervention services provided during home visits. As previously noted, an *Excel* spreadsheet could assist in keeping track of when the parent/guardians receive the Family Outcome Survey.

In regards to the MIPI-TPC, the researcher recommends that every professional implementing educational and/or therapeutic services to young children complete the assessment at least one time a year. The information from the MIPI-TPC assisted the service provider in understanding their beliefs, feelings, and behaviors while working with parents of young children. The purpose of the assessment remained as a self-evaluation tool and not as part of an annual performance evaluation system. However, the researcher encourages the service provider to complete the MIPI-TPC as their caseload changes with then-current children completing the home-based early intervention program and new children entering into the system. DAZ should encourage each service provider to complete the MIPI-TPC as part of his or her professional development.

Conclusion

Historically, the fields of early childhood education, early intervention, special education, and andragogy had integrated theoretical and philosophical concepts. Comenius (trans. 1728, trans. 1887, 1858/1893) recognized parents of a child under the age of five years as their first teacher. He encouraged parents to follow the *Bible*'s guidance in order to provide nurture and discipline to their child. Comenius (1858/1893)

created the first children's picture book, as he believed parents should facilitate opportunities for their child to partake in active learning. He suggested the use of natural materials, including the outdoors (Comenius, 1858/1893).

In times more recent to this writing, McWilliam (2000, 2010) recognized the connection between the fields of early intervention and andragogy. Early intervention services implemented collaborative consultation while serving on early intervention teams, as well as working with parents of young children receiving home-based early intervention services. As a result, additional research studies connecting the fields of early intervention and andragogy should continue.

Four main areas were researched in this study, including child assessment scores, frequency of home visits, Family Outcome Survey, and service provider perspectives while working with parents of infants/toddlers with visual impairments. A literature review revealed limited research regarding infants/toddlers with visual impairments. The Bielefed Project in Germany examined the effectiveness of early intervention services to premature infants born with a congenital vision impairment, compared to full-term infants born with a congenital vision impairment (Benoff & Lang, 2005a, 2005b). However, the study included 10 infants and abruptly ended with no explanation.

Comparatively, despite a low prevalence of infants/toddlers with visual impairments, DAZ provided secondary data for 30 participants, increasing the significance and importance of this study in contributing to the knowledge base of the field of early interventions for infants/toddlers with visual impairments. Subsequently, DAZ can utilize the results of this study to continue implementing best practices and increase intentionality of incorporating andragogical factors into home-based early

intervention services. Increased trust and empathy among educators and parents of infants/toddlers with visual impairments should lead to higher parent empowerment and stronger advocacy efforts. Therefore, additional longitudinal research examining intentionality of andragogical factors within early intervention services for infants/ toddlers with visual impairments would further strong generalizations within early intervention and the andragogy learning theory.

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Appendix A

Letter of Support from Ms. Dennison

June 12, 2014

To Whom It May Concern:

I, Elizabeth Dennison, grant permission for use of my Scenarios in Kelly Hantak's proposed research study titled *A Causal-Comparative Study Examining Family and Child Outcomes for a Non-Profit Agency Providing Home-Based Early Intervention Services for Visually impaired Infants and Toddlers.* I understand that the Primary Investigator, Kelly Hantak, is completing the study to fulfill requirements to earning a Doctorate degree in Instructional Leadership with an Emphasis in Adragogy at Lindenwood University. I understand this research study is being conducted through the DAZ for Young Children with Visual Impairments.

Currently, the federal definitions pertaining to vision disabilities are difficult to apply with Visually impaired infants and toddlers; therefore, I feel the Scenarios are more appropriate to use in the proposed study. I retain all rights to the Scenario definitions and understand full credit will be cited by the Primary Investigator throughout the entire proposed research study.

The Primary Investigator fully understands the Scenario definitions are currently being validated through an original research project by the Utah Schools for the Deaf and blind and may change upon the completion of the study.

The scenario definitions are on the attached page.

Please feel free to contact me at Elizabeth.dennison@usu.edu if additional information is warranted.

Sincerely,

Elizabeth Dennison

Elizabeth Dennison, MS

Appendix B

Vision Scenarios

Scenario 1

- **Blind:** LP-light perception, HM-hand motion, FC-finger count; vision subscale is 0-10% of development overall developmental is 71-100% of normal
- Vision subscale is not averaged in there; examples:

Ella (Vision is 0% of normal, anophthalmia)
with vision: 0, 84,43,29,64,68,68,47=403/8=50 severe multi
w/o vision: 84, 43, 29, 64, 68, 68, 47=403/7=57 mild multi

Ben (vision 10% of normal, ONH/SOD)
with vision: 10, 74, 66, 88, 73,79, 74, 66=530/8=66 mild multi
w/o vision: 74, 66, 88, 73, 79, 74, 66=520/7=74 blind

Scenario 2

- **Low Vision only**: VA of 20/70-20/200; normally developing such as albinism, cataracts, aniridia, strabismus only, etc.
- Overall development is 71-100% of normal
- Vision is averaged in

Scenario 3

- **Mild Multi:** blind or LV with an additional disability or so

Overall development 51-70%
Vision is averaged in unless it is really low, like 0-10%

Scenario 4

- **Severe Multi:** blind or LV with2 or more added disabilities

Overall development of 50% or lower
Vision averaged in unless it is really low, like 0-10%

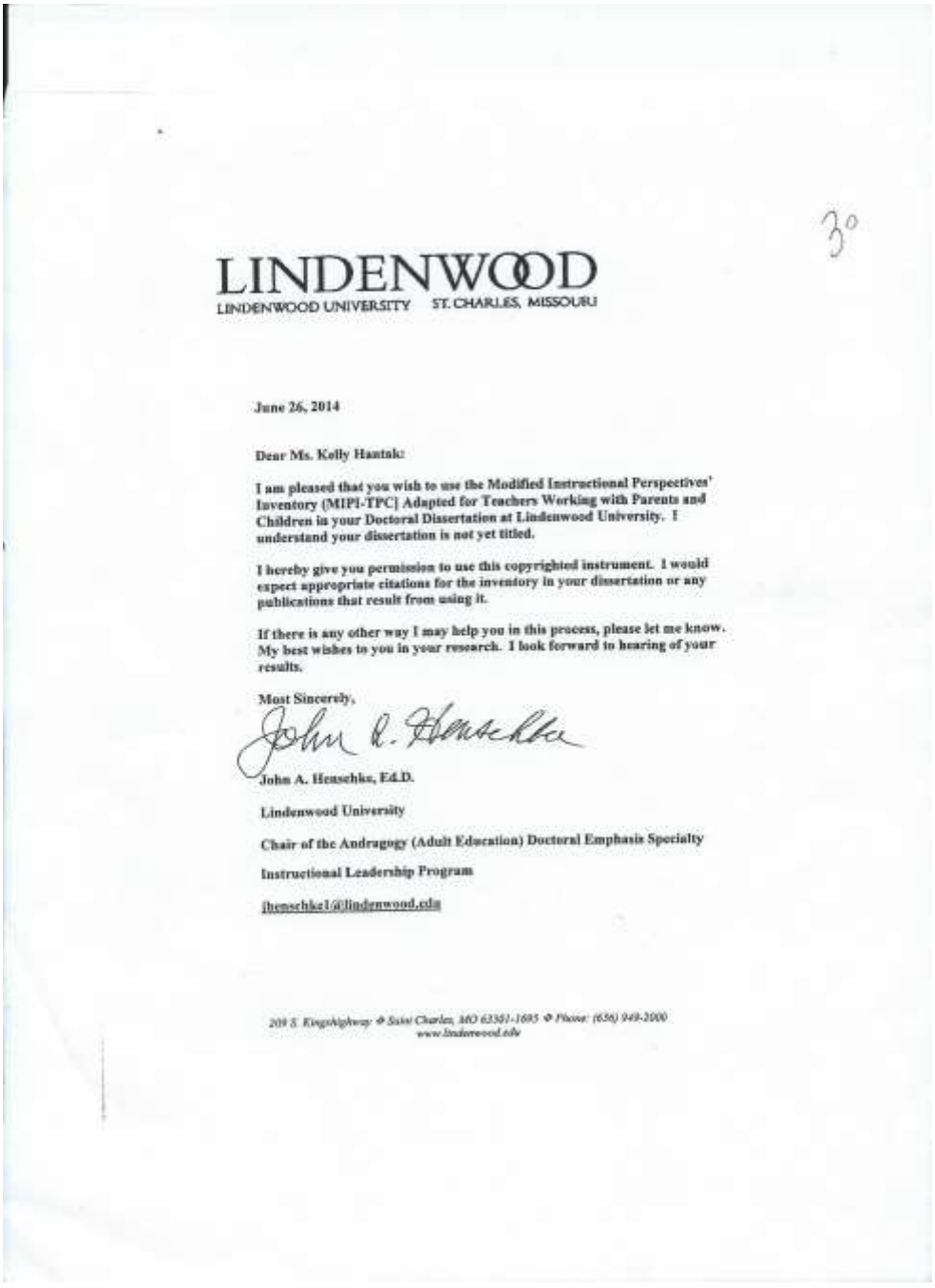
Scenario 5

- **Deafblind:** vision and hearing loss; development varies

Vision averaged in unless it is really low, like 0-10%S
Some professional judgment call in the decision of scenario; can change over time.

Appendix C

Letter of Support from Dr. Henschke



LINDENWOOD
LINDENWOOD UNIVERSITY ST. CHARLES, MISSOURI

June 26, 2014

Dear Ms. Kelly Hantak:

I am pleased that you wish to use the Modified Instructional Perspectives' Inventory (MIPI-TPC) Adapted for Teachers Working with Parents and Children in your Doctoral Dissertation at Lindenwood University. I understand your dissertation is not yet titled.

I hereby give you permission to use this copyrighted instrument. I would expect appropriate citations for the inventory in your dissertation or any publications that result from using it.

If there is any other way I may help you in this process, please let me know. My best wishes to you in your research. I look forward to hearing of your results.

Most Sincerely,

John A. Henschke, Ed.D.

Lindenwood University

Chair of the Andragogy (Adult Education) Doctoral Emphasis Specialty

Instructional Leadership Program

jhenschke1@lindenwood.edu

209 S. Kingshighway ❖ Saint Charles, MO 63301-1695 ❖ Phone: (636) 949-2000
www.lindenwood.edu

Appendix D

Copy of *Modified Instructional Perspectives Inventory*

MODIFIED INSTRUCTIONAL PERSPECTIVES INVENTORY

Listed below are 45 statements reflecting beliefs, feelings, and behaviors beginning or seasoned teachers of adults may or may not possess at a given moment. Please indicate how frequently each statement typically applies to you as you work with adult learners. Circle the number that best describes you.

	How frequently do you:	Almost Never	Not Often	Sometimes	Usually	Almost Always
1.	Use a variety of teaching techniques?	A	B	C	D	E
2.	Use buzz groups (learners placed in groups to discuss information from lectures)?	A	B	C	D	E
3.	Believe that your primary goal is to provide learners as much information as possible?	A	B	C	D	E
4.	Feel fully prepared to teach?	A	B	C	D	E
5.	Have difficulty understanding learner point-of-views?	A	B	C	D	E
6.	Expect and accept learner frustration as they grapple with problems?	A	B	C	D	E
7.	Purposefully communicate to learners that each is uniquely important?	A	B	C	D	E
8.	Express confidence that learners will develop the skills they need?	A	B	C	D	E
9.	Search for or create new teaching?	A	B	C	D	E
10.	Teach through simulations of real-life?	A	B	C	D	E
11.	Teach exactly what and how you have planned?	A	B	C	D	E
12.	Notice and acknowledge to learners positive changes in them?	A	B	C	D	E
13.	Have difficulty getting your point across to learners?	A	B	C	D	E

	How frequently do you:	Almost Never	Not Often	Sometimes	Usually	Almost Always
14.	Believe that learners vary in the way they acquire, process, and apply subject matter knowledge?	A	B	C	D	E
15.	Really listen to what learners have to say?	A	B	C	D	E
16.	Trust learners to know what their own goals, dreams, and realities are like?	A	B	C	D	E
17.	Encourage learners to solicit assistance from other learners?	A	B	C	D	E
18.	Feel impatient with learner's progress?	A	B	C	D	E
19.	Balance your efforts between learner content acquisition and motivation?	A	B	C	D	E
20.	Try to make your presentations clear enough to forestall all learner questions?	A	B	C	D	E
21.	Conduct group discussions?	A	B	C	D	E
22.	Establish instructional objectives?	A	B	C	D	E
23.	Use a variety of instructional media? (internet, distance, interactive video, videos, etc.)	A	B	C	D	E
24.	Use listening teams (learners grouped together to listen for a specific purpose) during lectures?	A	B	C	D	E
25.	Believe that your teaching skills are as refined as they can be?	A	B	C	D	E
26.	Express appreciation to learners who actively participate?	A	B	C	D	E
27.	Experience frustration with learner apathy?	A	B	C	D	E
28.	Prize the learner's ability to learn what is needed?	A	B	C	D	E
29.	Feel learners need to be aware of and communicate their thoughts and feelings?	A	B	C	D	E
30.	Enable learners to evaluate their own progress in learning?	A	B	C	D	E

	How frequently do you:	Almost Never	Not Often	Sometimes	Usually	Almost Always
31.	Hear what learners indicate their learning needs are?	A	B	C	D	E
32.	Have difficulty with the amount of time learners need to grasp various concepts?	A	B	C	D	E
33.	Promote positive self-esteem in learners?	A	B	C	D	E
34.	Require learners to follow the precise learning experiences you provide them?	A	B	C	D	E
35.	Conduct role plays?	A	B	C	D	E
36.	Get bored with the many questions learners ask?	A	B	C	D	E
37.	Individualize the pace of learning for each learner?	A	B	C	D	E
38.	Help learners explore their own abilities?	A	B	C	D	E
39.	Engage learners in clarifying their own aspirations?	A	B	C	D	E
40.	Ask the learners how they would approach a learning task?	A	B	C	D	E
41.	Feel irritation at learner inattentiveness in the learning setting?	A	B	C	D	E
42.	Integrate teaching techniques with subject matter content?	A	B	C	D	E
43.	Develop supportive relationships with your learners?	A	B	C	D	E
44.	Experience unconditional positive regard for your learners?	A	B	C	D	E
45.	Respect the dignity and integrity of the learners?	A	B	C	D	E

INSTRUCTOR'S PERSPECTIVE INVENTORY
FACTORS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 ____	7 ____	1 ____	6 ____	5 ____	2 ____	3 ____
12 ____	8 ____	9 ____	14 ____	13 ____	10 ____	11 ____
19 ____	16 ____	22 ____	15 ____	18 ____	21 ____	20 ____
26 ____	28 ____	23 ____	17 ____	27 ____	24 ____	25 ____
33 ____	29 ____	42 ____	37 ____	32 ____	35 ____	34 ____
	30 ____		38 ____	36 ____		
	31 ____		40 ____	41 ____		
	39 ____					
	43 ____					
	44 ____					
	45 ____					
TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL

Scoring process

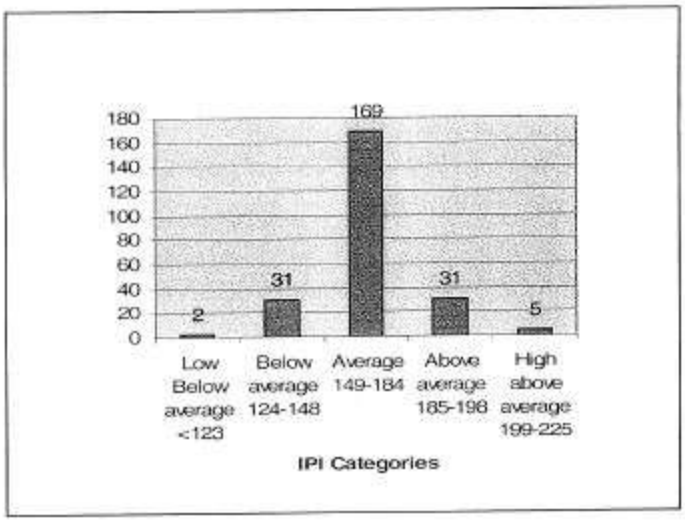
A = 1, B = 2, C = 3, D = 4, and E = 5

Reversed scored items are 3, 5, 11, 13, 18, 20, 25, 27, 32, 34, 36, and 41. These reversed items are scored as follows: A = 5, B = 4, C = 3, D= 2, and E = 1.

FACTORS	MEAN	TOTAL	POSSIBLE MINIMUM	POSSIBLE MAXIMUM
1. Teacher empathy with learners.	_____	= _____	5	25
2. Teacher trust of learners.	_____	= _____	11	55
3. Planning and delivery of instruction.	_____	= _____	5	25
4. Accommodating learner uniqueness.	_____	= _____	7	35
5. Teacher insensitivity toward learners.	_____	= _____	7	35
6. Experience based learning techniques (Learner-centered learning process).	_____	= _____	5	25
7. Teacher-centered learning process.	_____	= _____	5	25

Use of Andragogical Principles
Category Levels

Category Levels	Percentage	*IPI Score*
High above average	89%-100%	225-199
Above average	88% -82%	198-185
Average	81%-66%	184-149
Below average	65%-55%	148-124
Low below average	54%	<123



Appendix E

MODIFIED INSTRUCTIONAL PERSPECTIVES INVENTORY

Adapted for Teachers working with Parents and Children (MIPI –TPC) – Henschke and Hantak

Listed below are 45 statements reflecting beliefs, feelings and behaviors a beginning or seasoned teachers of adults and young children may or may not possess at a given moment. Please indicate how frequently each statement typically applies to you as you work with parents/guardians. Circle the number that best describes you.

How frequently do you:	Almost Never	Not Often	Sometimes	Usually	Almost Always
1. Use a variety of teaching techniques?	A	B	C	D	E
2. Use buzz groups (parents and children placed in groups to discuss?)	A	B	C	D	E
3. Believe that your primary goal is to provide parents and children as much information as possible?	A	B	C	D	E
4. Feel fully prepared to teach during each home visit?	A	B	C	D	E
5. Have difficulty understanding each parent's and child's point of view?	A	B	C	D	E
6. Expect and accept each parent's and child's frustrations as each one grapples with problems?	A	B	C	D	E

7. Purposefully communicate to parents and children that each one is uniquely important as a learner?	A	B	C	D	E
8. Express confidence to parents and children that each will develop the skills they need?	A	B	C	D	E
9. Search for or create new teaching techniques?	A	B	C	D	E
10. Teach through the simulation of real-life settings?	A	B	C	D	E
11. Teach exactly what and how you have planned?	A	B	C	D	E
12. Notice and acknowledge to each parent and child positive changes you see in them?	A	B	C	D	E
13. Have difficulty in getting your point across to parents and children?	A	B	C	D	E

How frequently do you:	Almost Never	Not Often	Sometimes	Usually	Almost Always
14. Believe that parents and children vary in the way they acquire, process, and apply subject matter knowledge?	A	B	C	D	E
15. Really listen to what parents and children have to say?	A	B	C	D	E
16. Trust parents and children to know what their own goals, dreams and realities are like?	A	B	C	D	E

17. Encourage parents and children to solicit assistance from other learners for support?	A	B	C	D	E
18. Feel impatient with parents' and children's progress?	A	B	C	D	E
19. Balance your efforts between engaging both parents and children in content acquisition and motivation?	A	B	C	D	E
20. Try to make your presentations to both parents and children clear enough to forestall all of their questions?	A	B	C	D	E
21. Conduct group discussions?	A	B	C	D	E
22. Establish instructional objectives for each home visit?	A	B	C	D	E
23. Use a variety of instructional media? (e.g. Internet, interactive teletherapy, video, etc.)	A	B	C	D	E
24. Use listening teams (learners grouped together to listen for a specific purpose) during lectures?	A	B	C	D	E
25. Believe that your teaching skills are as refined as they can be?	A	B	C	D	E
26. Express appreciation to parents and children who actively participate in learning?	A	B	C	D	E
27. Experience frustration with each parent's and child's apathy?	A	B	C	D	E
28. Prize the parent's and children's ability to learn what is needed?	A	B	C	D	E

29. Feel parents and children need to be aware of and communicate their thoughts and feelings?	A	B	C	D	E
How frequently do you:	Almost Never	Not Often	Sometimes	Usually	Almost Always
30. Enable parents and children to evaluate their own progress in learning?	A	B	C	D	E
31. Hear what parents and children indicate what their learning needs are?	A	B	C	D	E
32. Have difficulty with the amount of time parents and children need to grasp various concepts?	A	B	C	D	E
33. Promote positive self-esteem in parents and children?	A	B	C	D	E
34. Require parents and children to follow the precise learning experiences you provide them?	A	B	C	D	E
35. Conduct role plays with parents and children?	A	B	C	D	E
36. Get bored with the many questions parents and children ask?	A	B	C	D	E
37. Individualize the pace of learning for each parent and child?	A	B	C	D	E
38. Help parents and children explore their own abilities?	A	B	C	D	E

39. Engage parents and children in clarifying their own aspirations?	A	B	C	D	E
40. Ask the parents and children how they would approach a learning task?	A	B	C	D	E
41. Feel irritation at parent's and child's inattentiveness in the learning setting?	A	B	C	D	E
42. Integrate teaching techniques with subject matter content?	A	B	C	D	E
43. Develop supportive relationships with the parents and their children?	A	B	C	D	E
44. Experience unconditional positive regard for the parents and their children?	A	B	C	D	E
45. Respect the dignity and integrity of the parents and their children?	A	B	C	D	E

INSTRUCTOR'S PERSPECTIVES INVENTORY FACTORS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 _____	7 _____	1 _____	6 _____	5 _____	2 _____	3 _____
12 _____	8 _____	9 _____	14 _____	13 _____	10 _____	11 _____
19 _____	16 _____	22 _____	15 _____	18 _____	21 _____	20 _____
26 _____	28 _____	23 _____	17 _____	27 _____	24 _____	25 _____
33 _____	29 _____	42 _____	37 _____	32 _____	35 _____	34 _____
	30 _____		38 _____	36 _____		
	31 _____		40 _____	41 _____		
	39 _____					
	43 _____					
	44 _____					
	45 _____					
TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	

Scoring process
A = 1, B = 2, C = 3, D = 4, and E = 5
Reversed scored items are 3, 5, 11, 13, 18, 20, 25, 27, 32, 34, 36 and 41. These reversed items are scored as follows:
A = 5, B = 4, C = 3, D = 2, and E = 1

FACTORS	MEAN	TOTAL	POSSIBLE MINIMUM	POSSIBLE MAXIMUM
1. Teacher empathy with learners	_____ =	_____	5	25
2. Teacher trust of learners	_____ =	_____	11	55
3. Planning and delivery of instruction	_____ =	_____	5	25
4. Accommodating learner uniqueness	_____ =	_____	7	35
5. Teacher insensitivity toward learners	_____ =	_____	7	35
6. Experience based learning techniques (Learner-centered learning process)	_____ =	_____	5	25
7. Teacher-centered learning process	_____ =	_____	5	25

Use of Andragogical factors

Category Levels

Category Levels	**Percentage**	**IPI Score**
High above average	89% - 100%	225 - 199
Above average	88% - 82%	198 - 185
Average	81% - 66%	184 - 149
Below average	65% - 55%	148 - 124
Low below average	54% - 0%	< 123

Appendix F

Lindenwood Research Project (Hantak)

Child Study Information

Demographics:

ID #: _____

Date of Birth: _____

Gender: Male_____ Female_____

State of Residence: Missouri_____ Illinois_____

Assessment information:

Vision classification for child: circle the scenario that is most applicable:

1. Totally Blind
2. Low Vision
3. Mildly Multiply Involved
4. Severely Multiply Involved
5. DeafBlind

Family Outcome Survey (PreandPost) Yes _____ No _____

Developmental Checklist: (check) OR _____ HELP _____

Date administered: Date 1: _____ Date 2: _____

Services Provided:

Vision Providers: (list one or both if applicable)

Teacher of Visually Impaired _____

O and M Specialist: _____

# of visits/length of visits authorized for 12 month_____

# of visits/units provided: (same time period) _____

Appendix G

FAMILY OUTCOMES SURVEY
Revised Version

Section A: Family Outcomes **Instructions:** Section A of the Family Outcomes Survey focuses on the ways in which you support your child's needs. For each statement below, please select which option best describes your family right now: not at all, a little, somewhat, almost, or completely.	**Not At All**	**A little**	**Somewhat**	**Almost**	**Completely**
Outcome 1: Understanding your child's strengths, needs, and abilities					
1. We know the next steps for our child's growth and learning.	○	○	○	○	○
2. We understand our child's strengths and abilities.	○	○	○	○	○
3. We understand our child's delays and/or needs.	○	○	○	○	○
4. We are able to tell when our child is making progress.	○	○	○	○	○
Outcome 2: Knowing your rights and advocating for your child					
5. We are able to find and use the services and programs available to us.	○	○	○	○	○
6. We know our rights related to our child's special needs.	○	○	○	○	○
7. We know who to contact and what to do when we have questions or concerns.	○	○	○	○	○
8. We know what options are available when our child leaves the program.	○	○	○	○	○
9. We are comfortable asking for services and supports that our child and family need.	○	○	○	○	○

Outcome 3: Helping your child develop and learn	
10. We are able to help our child get along with others.	○ ○ ○ ○ ○
11. We are able to help our child learn new skills.	○ ○ ○ ○ ○
12. We are able to help our child take care of his/her needs.	○ ○ ○ ○ ○
13. We are able to work on our child's goals during everyday routines.	○ ○ ○ ○ ○
Outcome 4: Having support systems	
14. We are comfortable talking to family and friends about our child's needs.	○ ○ ○ ○ ○
15. We have friends or family members who listen and care.	○ ○ ○ ○ ○
16. We are able to talk with other families who have a child with similar needs.	○ ○ ○ ○ ○
17. We have friends or family members we can rely on when we need help.	○ ○ ○ ○ ○
18. I am able to take care of my own needs and do things I enjoy.	○ ○ ○ ○ ○
Outcome 5: Accessing the community	
19. Our child participates in social, recreational, or religious activities that we want.	○ ○ ○ ○ ○
20. We are able to do things we enjoy together as a family.	○ ○ ○ ○ ○
21. Our medical and dental needs are met.	○ ○ ○ ○ ○
22. Our child care needs are met.	○ ○ ○ ○ ○
23. Our transportation needs are met.	○ ○ ○ ○ ○
24. Our food, clothing, and housing needs are met.	○ ○ ○ ○ ○

Appendix H

DAZ Notes Sheet

Child:

First Home Visit: Date Service Written into IFSP:

Last Date of Service:

Change in frequency during IFSP: yes no Date:

Notes: (hospitalizations/excessive 'no shows,' etc.)

Child:

First Home Visit: Date Service Written into IFSP:

Last Date of Service:

Change in frequency during IFSP: yes no Date:

Notes: (hospitalizations/excessive 'no shows,' etc.)

Child:

First Home Visit: Date Service Written into IFSP:

Last Date of Service:

Change in frequency during IFSP: yes no Date:

Notes: (hospitalizations/excessive 'no shows,' etc.)

Appendix I

FAMILY OUTCOMES SURVEY
Revised Version
Section B: Helpfulness of Early Intervention

Instructions: Section B of the Family Outcomes Survey focuses on the helpfulness of early intervention. For each question below, please select how helpful early intervention has been to you and your family over the past year: Not at all helpful, a little helpful, somewhat helpful, very helpful, or extremely helpful.

		Not at all helpful	A little helpful	Somewhat helpful	Very helpful	Extremely helpful
Knowing your rights						
How helpful has early intervention been in…						
1.	giving you useful information about services and supports for you and your child?	○	○	○	○	○
2.	giving you useful information about your rights related to your child's special needs?	○	○	○	○	○
3.	giving you useful information about who to contact when you have questions or concerns?	○	○	○	○	○
4.	giving you useful information about available options when your child leaves the program?	○	○	○	○	○
5.	explaining your rights in ways that are easy for you to understand?	○	○	○	○	○
Communicating your child's needs						
How helpful has early intervention been in…						
6.	giving you useful information about your child's delays or needs?	○	○	○	○	○
7.	listening to you and respecting your choices?	○	○	○	○	○
8.	connecting you with other services or people who can help your child and family?	○	○	○	○	○
9.	talking with you about your child and family's strengths and needs?	○	○	○	○	○
10.	talking with you about what you think is important for your child and family?	○	○	○	○	○
11.	developing a good relationship with you and your family?	○	○	○	○	○

Helping your child develop and learn						
How helpful has early intervention been in…						
12.	giving you useful information about how to help your child get along with others?	○	○	○	○	○
13.	giving you useful information about how to help your child learn new skills?	○	○	○	○	○
14.	giving you useful information about how to help your child take care of his/her needs?	○	○	○	○	○
15.	identifying things you do that help your child learn and grow?	○	○	○	○	○
16.	sharing ideas on how to include your child in daily activities?	○	○	○	○	○
17.	working with you to know when your child is making progress?	○	○	○	○	○

Vitae

Kelly Hantak has been involved in the fields of Early Childhood Education/Early Childhood Special Education for over twenty years. She was a teacher and supervisor in non-profit, inclusive early childhood programs as well as an early childhood center affiliated with a local University. Currently, she is an Instructor at Lindenwood University and an early interventionist for the Missouri First Steps program.

Kelly holds a Bachelor of Science in Communication Disorders and a Masters of Education in Elementary Education with an Emphasis in Early Childhood Education. She also holds dual certification in the areas of Early Childhood Education and Early Childhood Special Education. Kelly is completing a Doctorate of Education in Instructional Leadership with an Emphasis in Andragogy at Lindenwood University.

She has co-authored articles for *The International Journal of Early Childhood Learning* and *Young Children*. Kelly is a Governing Board member of the National Association for the Education of Young Children (NAEYC) and the Association for the Education of Young Children - Missouri. She is also a member of the National Association of Early Childhood Teacher Educators, Missouri Association of Early Childhood Teacher Educators, currently serving as Vice-President, as well as the American Association for Adult and Continuing Education.