8-15-2013

A Mixed-Methods Study of Early Intervention Implementation in the Commonwealth of Pennsylvania

Janet Anne Mattern
Indiana University of Pennsylvania

A MIXED-METHODS STUDY OF EARLY INTERVENTION IMPLEMENTATION IN THE COMMONWEALTH OF PENNSYLVANIA

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

Janet Anne Mattern

Indiana University of Pennsylvania

August 2013

Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of Professional Studies in Education

We hereby approve the dissertation of

Janet Anne Mattern

Candidate for the degree of Doctor of Education

_____ _____
Mary Anne Hannibal, Ph.D.
Associate Professor of Education, Advisor

_____ _____
Becky Knickelbein, D.Ed.
Associate Professor of Special Education

_____ _____
Jennifer Rotigel, D.Ed.
Professor of Education

ACCEPTED

_____ _____
Timothy P. Mack, Ph.D.
Dean
School of Graduate Studies and Research

Title: A Mixed-Methods Study of Early Intervention Implementation in the Commonwealth of Pennsylvania

Author: Janet Anne Mattern

Dissertation Chair: Dr. Mary Anne Hannibal

Dissertation Committee Members: Dr. Jennifer Rotigel
Dr. Becky Knickelbein

Children grow and change more rapidly during the first eight years of life than any other time in their life span. Progression through the physical, cognitive, and social-emotional developmental stages varies for each individual child. Children with atypical development experience a wide spectrum of variability in their development. Over the past several years the Office of Special Education, the Division for Early Childhood Education of the Council for Exceptional Children, and researchers across the world have dedicated themselves to identifying evidence-based practices that improve the developmental trajectory for children with special needs. This study compared the experiences of families, early childhood educators, and early intervention service providers who participated in early intervention implementation. Early intervention describes the array of services, programs, supports, and policies established for improving the development and lives of young children, from birth to age eight, with special needs and their families.

Current research and literature have identified the elements of evidence-based practices in early intervention, and documented that high quality intervention positively affects student outcomes. Legislation has provided the regulations which govern the mandated delivery of early intervention services. This study found that the sample of Intermediate Units researched varied in their capacity to deliver early intervention

services throughout the Commonwealth of Pennsylvania. Research identified supports and barriers to early intervention implementation found among the Intermediate Units. Supports for successful early intervention implementation included joint professional development opportunities for early childhood educators and early intervention providers, collaboration between all stakeholders, the use of authentic assessments, and communication which is enhanced when Intermediate Units maintain their own service providers as opposed to contracted service providers. Barriers included difficulty accessing Pennsylvania's early intervention management system, parental concerns, lack of authentic assessment practices, lack of service coordination, lack of communication and partnership with early childhood educators, and variability in service delivery due to operating budgets. Intermediate Units that maintained their own staff and exhibited strong early intervention leadership provided a higher level of early intervention implementation reflecting evidence-based practices, and federal and state law.

ACKNOWLEDGMENTS

I do not think that anyone can comprehend the enormity of the completion of a doctoral program including a dissertation unless they have completed that process themselves. The pursuit of my dissertation began with a dream that God placed in my heart. Throughout this entire process He has equipped me to realize this dream, reminded me of His faithfulness, and surrounded me with the exact group of people and experiences necessary for its completion.

Dr. Mary Anne Hannibal served as my dissertation chair. Her welcoming and encouraging spirit the first day I oriented into higher education as a teaching associate immediately made me feel that I belonged. Her belief in me inspired me to believe in myself. Her questions and advice provided the direction that I needed on more than one occasion.

Dr. Jennifer Rotigel and Dr. Becky Knickelbein both served on my committee. Dr. Rotigel's professionalism set the tone for the success of our doctoral cohort. Her transparency provided much needed guidance and addressed so many concerns that we each secretly harbored. Dr. Knickelbein modeled honesty, openness, and a willingness to share her expertise in the field of special education. These three incredible women have provided a model of teaching excellence for me that I hope to carry into higher education.

The faculty of the Professional Studies in Education Department provided me with the opportunity to serve as a teaching associate and work with incredible faculty mentors and wonderful students. Their insight, resources, and encouragement were greatly appreciated. I will be forever grateful to Dr. Rieg for the many varied opportunities provided to me to grow professionally as a college instructor.

My parents have served as the two pillars that have supported me in everything that I have been able to accomplish in my lifetime. I have learned so much about integrity and unconditional love from my parents, qualities that I hope to emulate for my own children.

I have been blessed with three incredible children who have grown into amazing young adults. Your advice, care packages, notes of encouragement and love, instructions on the finer points of creating tables, and the "how-to's" of interviewing meant so much to me over the course of these three years. Meghan, Katie, and Cody you are loved beyond measure and I am so privileged to be your mother. I cannot wait to see the plans that God has for each of you.

And finally, I have to thank my wonderful husband, Kurt. You have never flinched in your encouragement and support. Dinners that you prepared so that I could write, and household chores that you completed because you knew that it bothered me are just a few examples of selfless devotion that you demonstrated over these past few years. The support of your entire basketball team during candidacy was incredible. I love you more than words can express, and I am so thankful that I get to spend my life with you by my side.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Recognizing the importance of identification and support of young children with special needs during the early years for future school success, the Congress of the United States amended the Education of All Handicapped Children Act in 1986 (P.L. 99-457) requiring states to expand services and provide free and appropriate public education to children with disabilities age 3 through 5 years (Pierangelo & Giuliani, 2009). The Commonwealth of Pennsylvania in compliance with P.L. 99-457 created The Early Intervention Services Systems Act of 1990 (Act 212) that created an entitlement to early intervention services for eligible children in Pennsylvania. These early intervention services would be provided and coordinated by local education agencies. The role of the federal government would be to provide access to an equitable education for all children regardless of services needed to make that education a reality. The role of the state would be to coordinate delivery of that education at the highest level of quality possible utilizing all resources available (Smith & Rous, 2011).

The prevalence of children identified with special needs is increasing in the United States. In 1976, approximately 3.5 million children were identified as 3 to 5 year old children served under Part B of the Individuals with Disabilities Education Act. This number increased to 6.5 million for the 2008-2009 school year, approximately 13.2% of the entire public school enrollment. In Pennsylvania, the number of 3 to 5 year old children served by Part B of the Individuals with Disabilities Education Improvement Act increased from 17,982 for the 1990 – 1991 school year to 31,072 in 2010. These children were identified as receiving special education services in Pennsylvania under Part B of

the IDEA for the fourteen disabilities that include: all disabilities, specific learning disabilities, speech or language impairments, mental retardation, emotional disturbance, hearing impairments, orthopedic impairments, other health impairments, visual impairments, autism, deaf-blindness, traumatic brain injury, multiple disabilities, and developmental delay (Office of Special Education Programs, 2010; United States Department of Education, 2010).

Using a mixed methods approach, the researcher analyzed the experiences of families, early childhood educators, and early intervention providers as they participate in the implementation of the early intervention delivery model in Pennsylvania. The research design of this study incorporated quantitative and qualitative data collection techniques using survey instruments and interviews to determine common themes prevalent in early intervention including early identification (Child Find), referral, evaluation, instructional strategies, experiences, and models prevalent in early intervention service delivery to 3 to 5 year old children in the Commonwealth of Pennsylvania. The experiences of families, early childhood educators, and early intervention providers who reside in urban, suburban, and rural communities throughout Pennsylvania will be compared to determine if the recommended practices and procedures for early intervention are implemented according to the Pennsylvania Early Intervention Services System Act of 1990 (Act 212) and Title 22, Chapter 14 of the Pennsylvania Code.

Background

The learning of all children takes place in the context of relationships. Families, early education practitioners, and early intervention agencies all interact to influence

successful outcomes for children who are especially vulnerable in their growth and development due to developmental delays, health impairments, or disabilities. Bronfenbrenner (1979) described the interactive elements which influence the development of children over time. His bioecological model demonstrates how the quality of a child's development is closely tied to the quality of the knowledge and resources of the family, the health and educational resources available in the community, and the accessibility and range of services available to children within the community. Changes in the organization and delivery of these resources at any point in time can significantly influence the subsequent development of a child.

A child's family plays a crucial role in his development. The knowledge and resources of the family impact the timeliness of early identification and the delivery of services available. The participation of the family in early intervention service planning not only determines the level of success of the child but the level of confidence parents develop in their ability to advocate or provide services for their own child (Bronfenbrenner, 1979). Coordinated services which focus on the needs of the child and also respect the strengths and needs of the family determine the overall quality of service delivery. Family characteristics including family size, socioeconomic status, cultural background, geographic location, education, and physical and mental health all influence the ability of the family to help a child with special needs benefit from early intervention (Gargiulo & Kilgo, 2000).

The educational resources available in the community determine the likelihood that a previously unrecognized developmental delay or disability will be identified as children enter early childhood educational settings. Developmental delays are sometimes

initially identified in the first year of preschool. The preschool year may be the first time that a young child has participated in a social setting with peers outside of his home environment. The preschool staff may be the ones who provide the initial referral for early intervention services due to observations or initial developmental screenings. The quality of the preschool program may determine the knowledge that preschool teachers have about intervention services available, and the procedures required to receive the full range of services available within the community. The quality of the relationships between the preschool staff and the families also influence the receptivity of the family to access resources or participate in full evaluation procedures for their child. Families may not understand the implications of the child's developmental delay or the potential for early intervention to improve his educational outcomes. Early childhood teachers may be the key to advocate for services necessary for children to be successful and provide the assurance to parents of the benefits and resources available through early intervention (Shapiro, 2011). Early identification of children with special needs facilitates the evaluation, assessment, diagnosis and delivery of early intervention services which will greatly improve educational outcomes (Shapiro, 2011).

The health and agency resources available in a community determine the setting for initial evaluation and subsequent services. The fourteen disability categories identified under Part B of the Individuals with Disabilities Education Improvement Act (IDEIA) include disabilities which may be determined by medical providers within hospital settings, or psychologists and therapists within educational settings. Identification may include one disability category or several. Eligible children may receive early intervention services in the home, hospital, or educational setting. IDEIA

requires that services for children occur in natural learning environments, or environments where these activities would occur if the child did not have a disability (Bredekamp, 2011; DEC/NAEYC, 2009; Kilgo, 2006).

The personnel involved with the eligibility determination work with service providers and agencies to develop individualized goals and objectives including specially designed instruction based on the needs of the child to support the child's learning and development. Sometimes a child's disability diagnosis requires the expertise of individuals across varied disciplines including physical therapy, speech-language pathology, nursing, behavioral health, and social work. The effectiveness of their services is sometimes dependent on their ability to collaborate and coordinate service delivery (Kilgo, 2006). Recommended practices suggest that a team approach that coordinates all aspects of service delivery including assessment, team meetings, program planning, intervention activities and service coordination is the most effective (Miller & Stayton, 2005).

The evaluation team may recommend delivery of services within a family service model or within a therapeutic model of treatment. All of these determinations and settings are influenced by the resources available within the child's community.

Statement of Problem

Early childhood is a distinct period of development. Children grow and change more rapidly during the first eight years of life than any other time in their life span. Marked changes in physical, cognitive and social-emotional growth occur throughout these formative years. However, progression through these developmental stages varies for each individual child (Bredekamp, 2011; Smith & Rous, 2011).

The longitudinal studies of The High/Scope Perry Preschool Project, Chicago Child Parent Study, and the Abecedarian Project of the University of North Carolina FPG Child Development Institute documented the positive impact high quality preschool can make for children as they move through these developmental stages, especially children who are considered at-risk. The children in these programs benefitted from highly qualified staff, individualized education plans, and parent involvement in their education (Barnett, 2008; Campbell, Pungello, Burchinal, Kainz, Pan, Wasik, Barbarin, Sparling, & Ramey, 2012; Quesenberry & Clark, 2011; Schweinhart, et al., 2005).

Some children do not develop along a cognitive, physical, or social-emotional continuum that would be considered typical. Children with atypical development experience a range of disabilities or developmental delays which are diverse and distinct. Early identification and effective intervention are critical to provide children with the support they need to reach their full potential. The purpose of early identification is to identify a delay or disability before it is fully evident in order to implement interventions that will either prevent or reduce the progression of the disorder (Shapiro, 2011). Meisels and Shonkoff (2000) and Walker (2011) found that young children, especially those children identified as at-risk or with developmental delays or disabilities, are more likely to succeed academically when they have the opportunity to participate in high quality preschool programs and receive early intervention services. In addition, they have a reduced need for continued special education services as they progress through school (Bagnato, Salaway, & Suen, 2009; Barnett, 2008; Burd-Sharps & Lewis, 2010).

Families, early childhood educators, and early intervention service providers are the primary context for growth and development for typical and atypical children

(Bredekamp, 2011). Problems which affect successful implementation of early intervention across settings include assessments that are not developmentally appropriate, instructional strategies and supports which are inconsistent among families, early childhood educators, and early intervention providers, and services which are not coordinated between stakeholders (Bagnato & Neisworth, 1991; Branson & Bingham, 2009; Vakil, Welton, O'Connor, & Kline, 2009). Communication, understanding, and consensus on approaches to education and intervention and roles for delivery of services are critical for successful early intervention. Research confirms the importance of a coordinated delivery of services which respects the concerns, interests, values, and priorities of families, early childhood educators, and service providers (Branson & Bingham, 2009; Kilgo, 2006; Rous, Hallam, Harbin, McCormick, & Jung, 2007). However, it is not sufficient to know that services are valuable and impact the long-term outcomes for children with delays or diagnoses; it is essential to study the quality and consistency of services provided, especially those which are governed, directed and delivered within the same state.

Kaczmarek (2011) observed that the identification of children with special needs, implementation of services to meet those needs, frequency of services, and the coordinated delivery of those services across educational settings and agencies must be provided with high collaboration and communication among the professionals involved in that delivery and the families and children impacted by it for services to be effective. Early childhood educators should understand the referral and identification process for early intervention, as well as the role of the service professionals provided by agencies to administer those services. Agencies should delineate a plan that includes (a) a

description of the actions, roles, and responsibilities of each agency and agency personnel including the service coordinator, (b) clarification of the financial and resource commitment of each agency, and (c) the specific timeline for which the agreement is in effect for those children who require multidisciplinary services across agencies (Branson & Bingham, 2009; Rous & Hallam, 2006).

Policy makers at the federal, state and local level are cognizant of research which documents the economic and educational benefits of early intervention which include decreased K-12 schooling costs, increased lifetime earnings, and decreased special education placements in K-12 classrooms (Bagnato, Salway, & Suen, 2009; Barnett & Masse, 2007). The increase in the number of children needing services is evident in the IDEA data collection (United States Department of Education, 2010). Today, little research exists documenting the implementation of early intervention services to 3 to 5 year old children throughout the Commonwealth of Pennsylvania in urban, suburban and rural communities (Odom, 2009; Trivette, Dunst, Hamby, & Meter, 2012). What is needed is research which describes elements or characteristics of early intervention service models, instructional strategies, identification methods, disability definitions, and IEP protocols which are consistent and implemented in communities throughout the state (Scull & Winkler, 2011). Families should feel informed and confident that the delivery of early intervention services, although individualized to meet the specific needs of their child, are coordinated and integrated and provide the highest quality possible.

Purpose of Study and Research Questions

The purpose of this two-phase, sequential mixed-methods research study is to describe and compare the experiences of families, early childhood educators, and early

intervention service providers who are engaged or involved in the delivery of early intervention services for children ages 3 to 5 in urban, suburban and rural communities throughout the Commonwealth of Pennsylvania. Early intervention describes the array of services, programs, supports, and policies established for improving the development of young children, from birth to age eight, with special needs and their families (Smith & Rous, 2011). Variation in the delivery of the early intervention model of services will also be examined. The following research questions will guide this study:

1. How do families, early childhood educators, and early intervention service providers describe their experiences in early intervention in the Commonwealth of Pennsylvania?
2. How do the experiences of families, early childhood educators, and early intervention service providers compare as they participate in early intervention in various communities throughout the Commonwealth of Pennsylvania?
3. Is the depth of understanding regarding the delivery of early intervention services or the frequency of early intervention services influenced by community size (urban, suburban, rural) within the Commonwealth of Pennsylvania?

Significance of Study

The United States Congress and the legislature of the Commonwealth of Pennsylvania realize the importance of providing a free and appropriate public education for all children. Children receiving a free and appropriate education are to receive their education in an environment that is best suited for their educational needs in the least restrictive environment (LRE) or natural learning environment. Oftentimes, this environment is in the preschool classroom.

As children are identified as eligible for early intervention services and additional behavioral health needs, the number of providers across disciplines who may service these children simultaneously in the preschool classroom increases. These service providers have received training using an educational model, a therapeutic model, or a medical model dependent on their area of expertise and training.

Many of these service providers are familiar with the recommended practices promoted by the Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) for early intervention and early childhood special education. Odom (2009) found through a validation survey that even though many of these practitioners knew what the recommended practices were for early intervention or early childhood special education the implementation of these practices was not happening in their programs and if recommended practices were implemented at all, they were not implemented according to the evidence-based norm. Recommended practices and procedures have been established, researched, and updated, however little research exists to verify the implementation of those recommended practices and procedures as they are intended (Sandall, Hemmeter, Smith, & McLean, 2005).

This study seeks to determine if the recommended practices and procedures for early intervention are implemented according to the Pennsylvania Early Intervention Services System Act, and consistent across the Commonwealth. The results of this study will be useful to share evidence of the successful implementation of early intervention and identify areas of needed training to enhance delivery of the early intervention service model throughout the Commonwealth of Pennsylvania.

Definition of Terms

Age of Beginners – the minimum age that a child can attend first grade in their own school district.

Authentic Assessment- an assessment that examines naturally occurring skills in natural, everyday settings using the child's own toys and activities rather than from something external (e.g., a set of test questions).

Birth to Three Program- early intervention program which offers supports and services for children from birth to three who exhibit developmental delays.

Child Care Setting – out of home care setting for children.

Developmental Delay – (1) a developmental delay as measured by appropriate diagnostic instruments and procedures, or 25% of the child's chronological age in one or more of the developmental areas of cognitive development; physical development, including vision and hearing; communication development; social or emotional development; and adaptive development, (2) as documented by test performance of 1.5 standard deviations below the mean on accepted or recognized standardized tests in the areas listed above, or (3) a diagnosed physical or mental condition which has a high probability of resulting in a developmental delay

Early Intervention - a collection of services for eligible young children that exhibit developmental delays from birth to age of beginners.

FAPE- Free and Appropriate Public Education guaranteed by Public Law 94-142.

IEP – Individualized Education Plan which is a written plan for the provision of appropriate early intervention services to an eligible child, including services to enable the family to enhance their child's development. It is based on and

responsive to the child's multi-disciplinary team evaluation. The IEP identifies the child's educational levels, learning strengths and needs, annual goals and objectives, specially designed instruction and the special education and related services necessary to support the child's learning and development.

IFSP – Individualized Family Service Plan is designed for the child and family to include the outcomes important to the family, details about the services provided, and the recognition that goals and objectives for the family as a unit will be developed.

IU – Intermediate Unit. A regional educational service agency providing "agreed to" educational services to participating school districts as part of the public school system in Pennsylvania.

LEA – Local Education Agency, which is ultimately responsible for the education of all eligible students, ages 3 to 21, usually a school district.

LICC – Local Interagency Coordinating Council made up of parents and agencies in the county that are directly involved with services for young children.

MAWA – Mutually Agreed Upon Written Arrangement is a written agreement between the PA Department of Education and a local Intermediate Unit or school district for the provision of early intervention services to eligible children age three to the age of beginners.

MDT – Multidisciplinary Team responsible for evaluating and reevaluating children to determine eligibility of special education services.

Preschool – educational programs serving children ages 3 to the age of beginners delivered under various sponsorships.

Limitations of the Study

When professionals are asked to self-evaluate, there is a risk that the results and feedback received will lack integrity. This is especially true when the services that these professionals are called to provide are regulated by law. Participation is voluntary. Motivation of the respondents to participate or to decline to participate is unknown. There may be hesitation by participants to disclose their honest feelings about supports and barriers due to fear of reprisal (real or imagined) by their employers. Pajares (1996) found that an individual's self-beliefs are influenced by his environment because individuals operate within sociocultural constructs.

This study will focus on preschool children ages 3 to the age of beginners receiving early intervention services in the Commonwealth of Pennsylvania. This study will not include 3 to 5 year old children in childcare settings. Results will therefore not be generalizable to a childcare population.

Summary

This chapter serves as an introduction to the entitlement program of early intervention in the Commonwealth of Pennsylvania. A brief introduction to Bronfenbrenner's (1979) ecological model was described in order to explain the context for learning which affects all children. This theoretical model framed the study of the interaction between children, families, educators and agencies within a community as they participate in early intervention. The purposive sample included families, early childhood educators and early intervention agency providers from across the Commonwealth of Pennsylvania in urban, suburban, and rural areas.

Chapter II presents a review of the literature to explore the history and implementation of the law which directs the delivery of early intervention services in the Commonwealth of Pennsylvania. An overview of Urie Bronfenbrenner's bioecological model as a framework for understanding the complex and dynamic relationships which influence children as they grow and develop will be provided, and finally a review of the related literature on early childhood intervention from its inception to current practices.

CHAPTER II

LITERATURE REVIEW

This chapter seeks to provide the background necessary to understand how early intervention services were established, to provide a theoretical framework which describes the interactions that influence a child's development, and an overview which explains how early intervention has transformed from initial implementation in Head Start classrooms to current practices. In order to understand the early intervention service delivery model, understanding the laws that regulate the service delivery model are needed. Laws have been enacted at the federal level, coordinated at the state level, and implemented by local agencies to deliver intervention services for children with special needs. Early intervention services provided for children need to be examined through the lens of Bronfenbrenner's (1979) theoretical framework in order to understand the context of children's learning and development. This framework provides the contextual structure necessary to define the practices critical for high quality early intervention: access, participation, and support.

Litigation and Legislation

Litigation

For most of our nation's history, schools were allowed to exclude children with disabilities. Prior to WWII there were few federal laws authorizing special benefits for anyone with disabilities. Those laws that did exist addressed only the needs of servicemen returning from war with injuries. In 1954, the court ruled in *Brown versus the Board of Education* that according to the Fourteenth Amendment of the U. S. Constitution it was illegal to discriminate against a group of people. This ruling applied

to the schooling of children as well. *Brown v. the Board of Education* set the precedent which opened the door for legislation to follow which would ensure that all children could receive a public school education including those children identified with disabilities (Pierangelo & Giuliani, 2009).

Since the 1970s, several federal and state court legal decisions have led to legislation which has defined and shaped the policies and procedures which guide special education today (Gargiulo & Kilgo, 2000). Some of the more significant pieces of legislation have included *Pennsylvania Association for Retarded Persons (PARC) v. Commonwealth of Pennsylvania* in 1972, and *Mills v. Board of Education, District of Columbia*, 1972.

In *PARC v. Commonwealth of Pennsylvania*, the United States District Court, Eastern District Pennsylvania, ruled that schools may not exclude children who have been classified with mental retardation from the classroom. PARC presented the case for thirteen individual retarded children who were excluded by public schools. The Board of Education's exclusion was based on four state statutes which relieved the State Board of Education from any obligation to educate a child whom a school psychologist identified as uneducable and untrainable. Children identified as uneducable and untrainable were to be cared for by the Department of Public Welfare. According to Statute 13-1304 schools were allowed indefinite postponement of admission to public school of any child who had not attained a mental age of 5 at the time of enrollment (24 Purd. Stat. Sec. 13-1304). The plaintiffs argued that the defendants violated due process since they lacked a provision for notice before a retarded person was excluded, and they violated Pennsylvania law and constitution which guarantees an education to all children.

The parties agreed to an amended consent agreement in February, 1972. The United States District Court found that all mentally retarded persons are capable of benefiting from a program of education and training and that the earlier such education and training begins, the more thoroughly and efficiently a mentally retarded person will benefit from it. The court ruled that a pre-school program of education and training for children aged less than six years of age was to be provided with access to a free public program of education and training appropriate to the learning capacities of every mentally retarded child of the same age (C.A. No. 71-42, Sec 13-1371-1). *PARC v. Commonwealth of Pennsylvania* provided the groundwork to ensure that all children had a right to a free public education.

Also in 1972, a civil action case was brought before District Judge Waddy in the District of Columbia. *Mills v. Board of Education, District of Columbia* (348 F. Supp. 866) was a class action lawsuit on behalf of seven children excluded from public education in the District of Columbia. The Board of Education for the District of Columbia argued that they did not have the financial means to provide the educational placement and services these children required due to their alleged diagnoses of mental retardation, brain damage, epilepsy, and behavioral issues. The Board of Education had created a special classroom for children with disabilities but did not have the resources to accommodate all children, therefore several children were excluded from receiving an education.

The court ruled that the Board of Education for the District of Columbia shall provide a suitable free and publicly supported education regardless of the degree of the child's mental, physical or emotional disability or impairment. Furthermore, the Board

was required to complete a public advertising campaign to identify children who were not receiving the education or services they required. Once children were identified, an evaluation was to be completed within 20 days, with placement in an appropriate educational setting within 30 days. The judgment went on to provide criteria for the notification of placement decisions to parents with an outline for procedures to be followed in the event that a due process hearing was required. Mills v. Board of Education reaffirmed the right that all children had to receive a free and appropriate public education regardless of the financial resources available to a school district. This case also established the due process procedures designed to protect the rights of children (Gargiulo & Kilgo, 2000; Pierangelo & Giuliani, 2009). These cases along with several others that occurred throughout the United States during this same time set the stage for the passage of the first federal law which mandated a free and appropriate education for children with disabilities.

Federal Legislation

Years of exclusion and inappropriate services for students with disabilities ended in 1975 with the passage of The Education of All Handicapped Children Act (EHA), (P.L. 94-142) by the United States Congress. This law outlined the entire foundation on which current special education practices rest. This law provided major provisions to ensure that all students received a free and appropriate public education: placement in the least restrictive environment best suited for their educational needs; the development of an Individualized Education Program (IEP) which includes both long-term and short-term goals; nondiscriminatory identification and evaluation measures; and parental informed consent before any evaluation, testing, or placement can be completed. The law provided

guidelines regarding the identification and education of children with special needs, due process protections to assure that the rights of children with special needs and their families were protected, financial resources to assist states and local communities in providing the services needed, and an assessment system to measure the effectiveness of the services provided. Preschool Incentive grants for providing services to young children with disabilities were also provided under this legislation (Office of Special Education Programs, n.d.).

Recognizing the importance of identification and support during the early developmental years for future school success, the Congress amended the Education of All Handicapped Children Act in 1986 (P.L. 99-457) requiring states to provide free and appropriate public education to children with disabilities age 3 through 5. All of the protections and services provided for school-age children in P.L. 94-142 filtered down to preschool age children in the new legislation. P.L. 99-457 contains several parts or titles.

Title 1, identified as Part H, was added to the law to meet the needs of children from birth to age three. Part H encouraged states to identify and provide comprehensive early intervention for children, birth to age 2, and their families (Pierangelo & Giuliani, 2009). Title II of the new legislation is identified as Part B. Children identified under Part B of P.L. 99-457 may receive intervention services in the following developmental domains: cognitive, physical, speech and language, social, adaptive (self-help), and pre-academic skills. P.L. 99-457 also established state-level interagency councils on early intervention, instituted Individualized Family Service Plans (IFSPs), provided case management services to families, maintained a public awareness program about the

comprehensive child find system, and required the development of a multidisciplinary, coordinated interagency model of service delivery.

In 1990, P.L. 94-142 was reauthorized and renamed The Individuals with Disabilities Education Act (P.L. 101-476). IDEA was amended in 1997 (P. L. 105-17) to include several significant changes which: strengthened the role of parents, strengthened the obligations of agencies to provide services for children and to collaborate and communicate regarding those services, expanded the members of the IEP team, strengthened the least restrictive environment mandate, emphasized assistive technology, gave schools several options when disciplining a student with a disability, and changed Part H to Part C.

IDEA 1997 (P.L. 105-17) mandated that parents must be informed of their child's progress toward annual goals, and their concerns must be included in decisions regarding eligibility and placement when developing the IEP [Section 300.534.535(a)(1)]. All states are required to have interagency agreements that ensure that all public agencies will cooperate as they provide services to children [20 U.S.C. 1412 (2)(12)]. IEP teams must include at least one special education teacher and one regular education teacher if the child participates in a regular education classroom.

The Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) (P.L. 108-446) was a reauthorization of IDEA (P.L. 105-17). The new law was intended to ensure that the education of children with special needs is held to the same high standard the law set forth for students in the No Child Left Behind Act of 2001 (P. L. 107-110). IDEIA stated that almost 30 years of research and experience had demonstrated that the education of children with disabilities could be made more

effective by: having high expectations for such children, strengthening the role of parents to participate in their child's learning at home and in the school, coordinating the services of this title with other educational service agencies, providing appropriate special education services, supporting high-quality intensive professional development for all professionals who work with children with disabilities including scientifically based instructional practices, and early intervening services in order to reduce the need to label children as disabled in order to address the learning and behavioral needs of such children (P.L. 108-446 Stat. 2649 – 2650).

The IDEIA operates as a federal grant program to State Education Agencies (SEA) who provide funds to Local Education Agencies (LEA) to provide a free appropriate education to children with disabilities. States and LEAs must locate, identify, and evaluate all children suspected of having a disability who, because of the disability, require special education and related services. Local school districts are required to comply with the IDEA and its implementing regulations as a condition of receiving federal funds (Latham, Latham, & Mandlawitz, 2008).

State Legislation

The Commonwealth of Pennsylvania in compliance with P.L. 99-457 created The Early Intervention Services Systems Act of 1990 (Act 212) that created an entitlement to early intervention services for eligible children in Pennsylvania. The system includes many components to guarantee assurance to families that early intervention services for children with developmental delays will be provided by highly qualified professionals who are appropriately trained. These services will be provided within a system which promotes quality assurance, including evaluation of the developmental appropriateness,

quality and effectiveness of programs; compliance with program standards; and provision of assistance from the state level to assure compliance.

The eligibility requirements for early intervention services for this population of children from birth to the age of beginners identified in P.L. 99-457 for Pennsylvania are outlined in Title 22 Education, Chapter 14 of the Pennsylvania Code. Chapter 14 identifies the local education agencies in Pennsylvania who will provide early intervention services to children with disabilities, they include: Intermediate Units, school districts, or state operated programs or facilities or other public organizations providing educational services. The Pennsylvania General Assembly established Intermediate Units in 1971 to operate as regional educational service agencies. Intermediate Units provide early intervention services to children three to the age of beginners, and several other related educational services including education, resources and counseling for parents, after-school programs, special education services for school-age children, and services to homeless or migrant family children. Chapter 14 also outlines the procedures to be followed in the state regarding child find, eligibility evaluations, implementation timelines, IEP elements including team participants, the range of services provided, the due process procedure, and a system of quality assurance to document compliance and progress. Child find describes the system that is used to locate and identify eligible young children and those children thought to be eligible who reside within the boundary served by Intermediate Units (22 Pa. Code § 14.103 – 14.162).

Early intervention services are provided to children younger than the age of beginners and at least three years of age who meet the disability determination as outlined in IDEA, Part B having intellectual disability, a hearing impairment, a speech or language

impairment, a visual impairment, a serious emotional disturbance, an orthopedic impairment, autism, traumatic brain injury, other health impairments, a specific learning disability, deaf-blindness, multiple disabilities, or children experiencing developmental delays [20 U.S.C. 1401(3)].

The federal government allows the states the option to define the eligibility criteria for developmental delay. A large number of states use similar quantitative guidelines to determine developmental delay, however, there is a wide variation in degree of delay required with some states requiring delays in multiple developmental domains (Danaher, 2011). The Commonwealth of Pennsylvania adopted the following eligibility criteria: (1) a developmental delay as measured by appropriate diagnostic instruments and procedures, or 25% of the child's chronological age in one or more of the developmental areas of cognitive development; physical development, including vision and hearing; communication development; social or emotional development; and adaptive development, (2) as documented by test performance of 1.5 standard deviations below the mean on accepted or recognized standardized tests in the areas listed above, or (3) a diagnosed physical or mental condition which has a high probability of resulting in a developmental delay (22 PA Code § 14.101).

Early Intervention services for children ages 3 to the age of beginners in the Commonwealth of Pennsylvania are regulated by the Office of Child Development and Early Learning under the direction of the Pennsylvania Department of Education. The services provided to children and their families differ based upon the individual needs and strengths of each child and the child's family. It is intended that these varied services be provided in settings where a child would be if he/she did not have a disability. Several

professionals may provide services for children with special needs including: special education teachers, speech language pathologists, occupational therapists, physical therapists, psychologists, audiologists, vision therapy instructors, and behavior specialists.

Interagency Relationships

Recognizing that many agencies are involved in the delivery of services to children and their families, P.L. 99-457 (reauthorized as The Individuals with Disabilities Education Act in 1990, 1997, and 2004), Act 212, and the Pennsylvania Code all address the issues of interagency cooperation. Specifically, these laws address the issues of interagency coordination between each noneducational public agency (IDEA 2004, Regulation 300.154), policies and procedures for agencies to determine and identify interagency coordination responsibilities to promote the coordination and timely delivery of appropriate services (IDEA 2004, Statute 612a12iv.), and the development of a Local Interagency Coordinating Council to improve the delivery and coordination of services between agencies (Pennsylvania Act 212). In fact, according to P.L. 99-457, once a state applies for, qualifies for and receives funds, it must assure the Federal Government that it will have in place a statewide, comprehensive, coordinated, multidisciplinary interagency system to provide early intervention services (National Federation of the Blind, 1990).

The Commonwealth of Pennsylvania outlines in PA Act 212 the state interagency agreement to enable the state and local agencies to establish working relationships that will increase the effectiveness of their early intervention services. The interagency agreement outlines the members' responsibilities of those state and local agencies in order to facilitate a coordinated service delivery system through local interagency

agreements. The literature shares a great deal of insight regarding barriers and supports for interagency agreements and coordination at the state level. Barriers include assessment tools that are not developmentally appropriate, lack of professional development in effective routine-based training models, consistent statewide monitoring systems, and lack of funding to support these areas of need. Supports include the infrastructure which incorporates the public policies which regulate early intervention (Branson & Bingham, 2009; Fowler & McCollum, 2000, Hadden & Fowler, 2000; Peterson, 1991; Salisbury, Crawford, Marlowe, & Husband, 2003).

Peterson (1991) describes three levels of interagency relationships: (1) agencies can cooperate with one another by supporting each other's programs and sharing information, however, their own goals and their decisions are made autonomously and internally, (2) agencies can coordinate their efforts synchronizing their activities to promote compatible schedules so that each agency might achieve their individual goals, working together on some brief common task like a joint conference, or (3) agencies can collaborate relinquishing some agency autonomy, adapting some operating rules and policies in order to work together in joint planning and decision making in order to promote the optimal delivery of services to children and their families.

Coordination between education communities at the local and state level is viewed as particularly critical to the successful implementation of early intervention services (Meisel & Shonkoff, 1990). Friend and Cook (1996) encourage professional teams to go beyond just coordination to collaboration as a means to improve their outcomes. They define collaboration as "coequal parties voluntarily engaged in shared decision making as they work toward a common goal" (p.6). Effective interagency teams

are characterized by collaborative relationships where members have a common goal, share responsibility for decision making, share accountability for outcomes, and trust each other (Friend & Cook, 1996).

A high degree of collaboration is necessary to implement transdisciplinary and integrated therapy approaches for children with special needs (Rainforth, York, & Macdonald, 1992; Vakil et al., 2008). The ability to provide services for children incorporating the expertise of specialists in each area of need is a model that should ensure the most effective support strategies possible for helping children reach their educational goals. As long as the agencies involved collaborate to deliver those services, share in problem-solving, and joint planning and decision making will they be able to pull the best from each agency to enhance the services provided for our most vulnerable students. This level of collaboration needs to be evident at the federal, state and local level. Especially important is the level of collaboration among the local interagency coordinating councils (LICC) who are really on the front line providing direct early intervention services to children. The LICC is comprised of key representatives from various agencies that serve children receiving intervention services including early intervention, preschool special education, private preschool, family resource centers, and hospitals (Hadden & Fowler, 2000).

Currently the models for interagency collaboration that encourage communication and partnerships between agencies advocate the development of comprehensive and coherent strategies across agencies for implementing policies and testing practice (Ellis & Cramer, 1994). Interagency agreements that encourage collaboration delineate roles and responsibilities highlighting three major components: (a) description of the actions, roles,

and responsibilities of each agency and agency personnel; (b) clarification of the financial and resource commitment of each agency; and (c) the specific timeline for which the agreement is in effect (Branson & Bingham, 2009; Rous & Hallam, 2006). Factors important for successful interagency collaboration include commitment, communication and relationships among the child, family service providers and agencies within the community, supportive interagency infrastructure and alignment, continuity between service delivery systems, and strong leadership (Branson & Bingham, 2009; Grisham-Brown & Pretti-Frontczak, 2003; Johnson, Zorn, Yung Tam, Lamontagne, & Johnson, 2003; Rous et al., 2007). These collaborations improve as agencies spend time developing relationships learning to understand each other and working together (Johnson et al., 2003).

At the root of all of the focus on interagency collaboration is the desire to provide early intervention services for children and families that are coordinated, seamless, and multidisciplinary. Children receive the best education when early intervention merges the expertise of professionals who share their knowledge, experience, training, and instructional strategies to educate all children. Bronfenbrenner (1979) developed the theoretical context which describes how these elements interact continuously in a child's life ultimately influencing the growth and development of a child.

Theoretical Framework

In order to understand the human development of a child, it is necessary to understand Bronfenbrenner's (1979) theoretical model that describes the dynamic relationships that exist between the individual child and the multilevel ecological system that surrounds that child as he develops. The idea that individuals influence the people

and institutions of their ecology as much as they are influenced by them has significant implications for children in early intervention. A child's eligibility for early intervention services dictates the need to interact with multiple providers and settings outside of the home as delays in communication, social emotional development, and motor development are addressed. The child will be affected not only by his relationships and interactions with each of his teachers, parents, and therapists, but also the interactions these individuals have with each other. Studying children in natural settings representative of their actual schools, homes, and communities and the way in which relations between settings impacts what happens within them provides insight to the actual behaviors of children that are instigated, sustained, or developed.

At the center of the model (see Figure 1) we find the child with his IQ, health, temperament and interests, but the child is not isolated from his environment. He is part of an ecological environment which includes a nested arrangement of interactive structures identified as microsystems, mesosystems, exosystems, and macrosystems which describe the settings in which the child lives. The relations between these settings, and the contexts in which these settings are embedded affect the developing child (Bronfenbrenner, 1979). Bronfenbrenner (2005) labels interactions which occur between the developing child and his environment as "proximal processes" which are influenced and highly variable, depending upon the interactions of the child with his immediate and surrounding environment, the contexts of the interactions, and the time periods in which those processes take place (p. xv).

The proximal processes of a child would be observed throughout his day as his mother reads to him, his father teaches him to tie his shoes, his preschool teacher teaches

him how to hold a paintbrush, or as he participates in introductory youth soccer at the local YMCA. The quality of these experiences is influenced by the development of the child and the relations he has with each of the settings and people he interacts with in each situation. Children with special needs are dependent on knowledgeable "others" to help them develop from where they are to where they need to be.

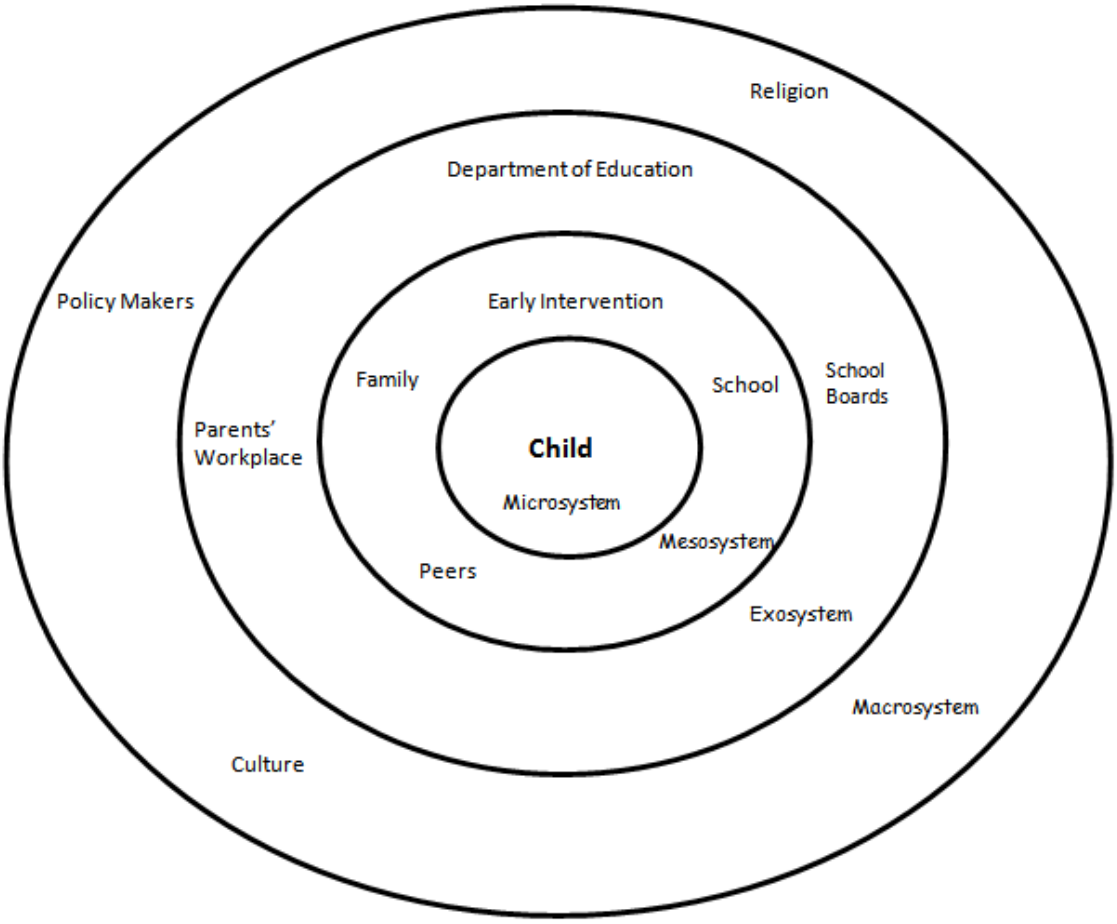

Figure 1. The ecological context of child development.

A child's parents are an important part of a child's microsystem. In order to develop intellectually, emotionally, socially, and morally, a child must establish strong mutual attachments to the persons in his microsystem who are committed to his well-being and development (Bronfenbrenner, 2005). These attachments formed with his

parents will continue to influence the development of the child into adolescence and beyond. Parents' confidence and competence in meeting the individual needs of their child affect their interactions with their child. The attachments formed with parents would also encourage him to engage in activities with his teachers, and his early intervention providers which would continue to help him develop cognitively, physically, and socially. The quality of the interpersonal relationships developed will either foster or inhibit engagement in increasingly complex interactions including participation with the world of symbols and language (Bronfenbrenner & Morris, 1998). The microsystem describes the settings that a child actively experiences or participates in regularly. These settings would include his home, school, and community. The microsystem of a child ages 3 to 5 receiving early intervention services would include his home, preschool, and also the setting where early intervention services are delivered. The value and significance of each of these settings to the child is dependent upon the meaning that he attaches to the experiences instigated, sustained, or developed within these settings.

The mesosystem describes the next level of the ecological structure. Bronfenbrenner (1979) stresses that it is not just the setting or environment that influences how a child develops or engages in schooling, family life, or early intervention, but the way in which each of the persons which are part of these environments are perceived by each other as they engage in the process of similar undertakings or goals.

> A mesosystem comprises the interrelations among two or more settings in which the developing person actively participates (such as, for a child, the relations among home, school, and neighborhood peer group (p. 25).

Whenever a child transitions from home where his family relationships are in place to school where he has developed relationships with his teachers and peers, interactions occur between participants to influence the developing child. The quality of communication between the family, early childhood educator, and early intervention service providers, and the continuity and consistency of learning supports including verbal prompts, cues, visual supports, daily schedules, and classroom expectations would all interact reciprocally to have an effect on the quality of services received by the child. The quality of these relationships will also determine which behaviors become extinct or are maintained. The ability, experiences, knowledge and skill which exist in the settings of the mesosystem enhance or disrupt the processes which lead to development. To be effective, these processes must occur regularly over extended periods of time (Bronfenbrenner & Morris, 1998).

The exosystem describes the settings whose occurrences affect the child even though he is not an active participant in those settings (Bronfenbrenner, 1979). For example, the parent's place of work, the family's network of friends, the governing board of the preschool, and the local educational agencies. A parent who loses a job experiences various levels of stress that ultimately affect the environment at home and the relationships that exist between family members, teachers, and agency personnel. Losing a job may influence the attendance of a child to a particular preschool, especially if attendance is dependent upon family income. The affordability and availability of high quality early childhood education options within a community can affect the quality of early intervention services that a child may receive. The flexibility of a work setting allowing parents to attend Individualized Education Plan meetings, the support network

necessary to transport children to and from early intervention services, and the presence of friends and neighbors who can help out when needed, all interact to determine the capacity of parents to meet the needs of their child with developmental delays.

The macrosystem describes the outermost sphere of the bioecological model. The macrosystem includes the beliefs, values, attitudes, and understanding of norms and customs of society and culture (Bronfenbrenner, 2005). It might also encompass the vision of a society's political leaders including policies determined by state and federal leaders (Bronfenbrenner, 1979). The value that a society places on the education of its children is reflected each year in the state and federal budgets which are negotiated and set. The early intervention service delivery model including the quality of services, the number of children served, the frequency of services and the implementation of child find activities are all affected by the level of funding designated for early intervention by the state legislature and the federal government. The beliefs and attitudes of a family will determine the receptivity of a family to engage in the process of securing services for a child with special needs. This overarching system includes elements which influence the nature of all of the interactions which occur within the bioecological model. Public policies and practices that impact conditions or events in the larger environment significantly influence the developmental processes of children (Bronfenbrenner, 2005).

All of the systems are affected by the concept of time. Time in the microsystem is described as the ongoing episodes of the proximal processes and refers to the sustained exposure and effects of experiences over time (Lerner, Dowling, & Chaudhuri, 2005). How much time does a mother spend reading to a child? What is a child's age when he attends preschool or transitions to kindergarten? Does the child receive an hour of speech

services in an individual setting, or a half an hour within a group setting? Within the mesosystem time is measured in days and weeks. Does the occupational therapist provide intervention services to the child every other week due to her caseload, or weekly and because of this increased time significant changes are observed in the child's attainment of his occupational therapy goals? Ultimately, the macrosystem reflects changes in early intervention over time measured in years. Bronfenbrenner's paradigm which describes the interactions of all of the components that affect a child who is engaged in early intervention is illustrated in Table 1.

Table 1

Components of Bronfenbrenner's Bioecological Paradigm that Interact in Early Intervention

Development	***Character***	***Proximal Processes***	***Context/Settings***	***Time***
Child	Temperament, IQ, Interests, Gender, Beliefs	Persons – family, friends, teachers, therapists Activities Education Intervention	Home, School, Early Intervention Community, Culture	Moments engaged with others. Significant events or milestones.
Families	Temperament, IQ, Interests, Socioeconomic Status, Beliefs	Persons – child, family, friends, teachers, therapists, employer. Education Intervention	Home, School, Early Intervention Community, Culture, Work	Engaged with child, teachers, interventionists, family, work, community
Early Childhood Educators	Temperament, Educational Qualifications, Experience, Beliefs, Interests	Persons – child, family, colleagues, interventionists, supervisors. Education Intervention	School, Governing Board, Accrediting Agency	Engaged in teaching, planning, communicating
Early Intervention Service Providers	Temperament, Educational Qualifications, Experience, Beliefs, Interests	Person – child, family, colleagues, interventionists, supervisors. Education Agencies Expectations	Early childhood classrooms, homes, agency, Governing Board	Engaged in teaching, planning, documentation

The litigation over early intervention services has prompted legislation which continues to improve the service delivery model for early intervention within the Commonwealth of Pennsylvania and across the United States. Research continues to encourage the development of high quality preschools and early intervention programs (Bagnato et al., 2009). Finally, annual performance evaluations by the U. S. Department of Education, Office of Special Education Program (OSEP) continue to evaluate Pennsylvania's Early Intervention Program to find those policies which need to be updated or changed to improve delivery of early intervention services over time (Pennsylvania Bureau of Special Education, 2012).

Bronfenbrenner's bioecological theory represents the dynamic settings that continuously interact to affect the development of an active individual (Lerner, 2005). This study describes the settings from the perspective of the participants who interact in the early intervention services delivery model in Pennsylvania to determine if the interactions within the mesosystem consistently provide the kinds of activities and relationships that are crucial to the development of young children with special needs. Interviews were used to identify experiences, values, and policies that exist in the macrosystem that may influence implementation of the early intervention service delivery model.

Bronfenbrenner's vision for human development is that a child would interact with his environment, and that interaction would actually benefit both the child and the setting (Lerner, 2005). This study seeks to determine the extent that Bronfenbrenner's vision is being realized in urban, suburban, and rural communities in the Commonwealth of Pennsylvania. This vision during his early work provided the motivation to begin the

first early childhood education program in the country that addressed the needs of children with disabilities, Head Start.

Early Intervention

History

The history of early childhood intervention or early childhood special education as it is sometimes called has evolved from a period of institutionalization during the 18th and 19th centuries to a period of inclusion in the 20th century. There is a new realization that children with disabilities achieve better outcomes when they are supported in their learning alongside their typically developing peers (Smith & Rous, 2011). Urie Bronfenbrenner was instrumental in helping to shift the perceptions surrounding the most effective setting necessary for children with disabilities to receive a high quality education. Bronfenbrenner (1979) provided the research which explained the critical components which interacted to influence the development of a child throughout his life. These included the child's family, peers, community, and teachers. Bronfenbrenner used this knowledge as he helped design Project Head Start.

Project Head Start was a federal program established by the Johnson Administration, in 1972, as part of its War on Poverty. Head Start was established to provide early intervention for young children at risk of school failure due to poverty (Smith & Rous, 2011). Parents and members of the local community were encouraged to take an active role in the decision making and implementation of the program. In fact, active family participation was required. Bronfenbrenner believed that the active participation of all of the members who interact in the various contexts of a child's life was critical to the child's success (Bronfenbrenner, 2005).

The design of Head Start also included a requirement that programs allocate ten percent of the enrollment for children with disabilities. This was the first time that early intervention services were provided on a national level, including children with disabilities along with their typically developing peers in a preschool setting.

Prior to the establishment of the Head Start Project, the Kennedy administration provided support to people with disabilities by establishing the Bureau of Handicapped Children within the Department of Health Education and Welfare. Another significant support was established by Congress in 1968 with the creation of the Handicapped Children's Early Education Program (HCEEP). HCEEP was created to encourage research of effective practices for children with disabilities, to provide grants to universities to encourage them to develop training programs for early childhood special education teachers, and to provide technical assistance and training for states on how to deliver early childhood intervention services. The Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) was established through the initiatives of HCEEP. Research conducted by HCEEP pointed to the effectiveness of early intervention, and the recognition that the earlier services began, the more significant the gains (Smith & Rous, 2011). Throughout the past several years there have been amendments to IDEA to refine the process and procedure for states to follow to ensure that identification of children with disabilities or special needs occurs as early as possible.

Pennsylvania's Model of Early Intervention

Early intervention services in the Commonwealth of Pennsylvania are provided through The Bureau of Early Intervention Services, Office of Child Development and Early Learning (OCDEL) under the Pennsylvania Department of Education. The Bureau

of Early Intervention Services follows a family centered model of service delivery which means that families are an integral part of the early intervention team. Family based services occur within natural learning environments for children. A transdisciplinary model of service delivery is followed in which all team members including families, community early childhood programs, and early intervention providers are all equally involved in decisions regarding assessment, team meetings, program planning, related services, intervention activities, and service coordination (Kilgo, 2006; Miller & Stayton, 2005). The team has a collective responsibility to develop goals and strategies to help children in early intervention succeed. Family based services prevent fragmentation of services along disciplinary lines, avoid duplication of services, view the whole child's development as integrated, and emphasize the importance of the family as equal (Kilgo, 2006; McWilliams, 2005). Family centered models also recognize that families are the constant in a child's life, therefore, homes are the primary nurturing context for learning and development (Chandler, Young, & Ulezi, 2011). This transdisciplinary model is to be used to guide policies and procedures for child find, referral, IEP development, instructional strategies, and service coordination.

The procedures for child find, screening, evaluation, and referral are found in the State Board of Education's regulations as prescribed in the Pennsylvania School Code Title 22, Code §§14.121-14.123 (Pennsylvania Department of Education, 2009). Intermediate Units are responsible for Child Find activities necessary to provide equitable services for children ages 3 to the age of entry in kindergarten. In order to promote the timely identification of children with special needs, Intermediate Units are to (1) use public outreach and awareness systems to locate and identify children eligible for early

intervention services in each Intermediate Unit's jurisdiction, (2) conduct public awareness activities which explain the potentials signs and risks of developmental delays, and (3) use public media to notify parents about child find activities and procedures followed to ensure confidentiality of information shared (22 Pa Code §14. 152).

Children who are identified or referred for evaluation by early childhood teachers or parents are to receive an evaluation by the early intervention program of the Intermediate Unit. This evaluation is completed by a multi-disciplinary team (MDT) after parental informed consent, and includes evaluations which are sufficient in scope and depth to determine all of the factors affecting a child's development including: physical development, cognitive and sensory development, learning problems, learning strengths and educational need, communication development, social and emotional development, self-help skills and health considerations, as well as an assessment of the family's perceived strengths and needs. Evaluations are to be completed no later than 60 days after parental informed consent is received by the early intervention program of the Intermediate Unit (22 Pa Code §14.153).

The MDT completes their evaluation report which is then given to the Individualized Education Plan (IEP) Team. The IEP team consists of at least one special education teacher or special education provider, as well as an agency representative familiar with appropriate activities for preschool children and knowledgeable about the availability of the resources of the early intervention agency, family members, and the preschool teachers. Early childhood education personnel and family members should be part of the early intervention team. This enables all members to elicit and share IEP information which in turn assists early childhood education teachers and family members

in the implementation of the IEP (PDE, n.d.). Ideally, this collaboration would provide an opportunity for early intervention and early childhood staff to benefit from each other's experiences and expertise. The team develops an Individualized Education Plan for the child including goals and objectives for each area of developmental delay or disability. The IEP must also include a section on family services which provide for appropriate services to assist the family in supporting their child's development. The IEP of each eligible young child shall be implemented as soon as possible, but no later than 14 calendar days after the completion of the IEP. The IEP is reviewed and reevaluated by the IEP team at least annually, although parents may make a written request for a review of the IEP at any time. If an eligible young child moves from one early intervention agency to another in this Commonwealth, the new early intervention agency shall implement the existing IEP to the extent possible or shall provide services and programs specified in an interim IEP agreed to by the parents until a new IEP is developed (Title 22, Pa Code §14.154).

The IEP team shall recommend early intervention services be provided in the least restrictive environment. This environment may include the early childhood education setting, the home, an early childhood special education environment, or a specialized setting if necessary. Specially designed instruction is linked to the outcomes and goals which are based on the strengths and needs of the child. Through conversations with early childhood educators and family members, early intervention providers should seek to identify routines and activities which are part of the child's day to embed services, supports, and strategies. These routines, supports, and instructional strategies can then be used by the early childhood educators and family members. Strategies may include

modification or adaptation of the materials used, the sequence of a routine, or providing the early childhood educator with teaching strategies that can enhance the child's participation within natural learning environments (PDE, n.d.).

Coordination of Early Intervention Services

Early intervention service delivery coordination is dependent upon communication between and among all personnel who serve the eligible child and the child's family. The more severe a child's disability or the more at risk a child's family, the more likely that the child will receive services from a variety of disciplines, agencies and systems. Services and strategies implemented by one discipline affect the services and strategies provided by other agencies (Kaczmarek, 2011).

A child may receive physical therapy, speech, and occupational therapy from the service providers of the Intermediate Unit's early intervention program which is regulated by the Pennsylvania Department of Education. If a child requires social-emotional or behavioral support, those services are regulated by the Bureau of Children's Behavioral Health Services, Office of Mental Health Program of the Pennsylvania Department of Public Welfare. Neither system requires that one service provider talk to the other. Oftentimes, service coordinators are not provided to bridge the gap between the services of these two agencies. Families end up assuming the role of service coordinator between these two agencies as they advocate for their children (Kaczmarek, 2011).

The services provided by the Intermediate Unit are delineated on the IEP, however, the goals and objectives set for behavioral or social-emotional domains are included in an Individualized Family Support Plan (IFSP). The Pennsylvania Department

of Education follows a family-centered model of early intervention for the services they provide. The Bureau of Children's Behavioral Health Services follows the Child and Adolescent Service System Program (CASSP) service delivery. The CASSP system focuses on child-centered, family-focused, community-based, multi-system delivery requiring professionals from multiple agencies to collaborate with the family, the mental health system, the school, and other relevant agencies. Interagency collaboration on behalf of young children with disabilities and their families is a required component of the IDEA, 2004 (Pennsylvania Bureau of Children's Behavioral Health Services, 2012).

The primary function of early intervention is to promote and advance children's developmental abilities as a result of their participation in early intervention services. A child's learning is affected by his experiences within the learning environment. The goal of early intervention should be to maximize the likelihood that all of a child's experiences in his environment promote the learning of desired skills and minimize interactions that impede the learning of desirable skills (Sandall et al., 2005).

Evidenced-Based Practice

Research provides an extensive body of knowledge about recommended evidence-based practice in early intervention. High quality early intervention programs are those programs which have successful child find and referral services to provide access to services, encourage participation and offer support for providers, family members, and children, and professionals who are qualified to deliver high quality services (Smith & Rous, 2011). Evidence-based practice includes assessment evaluations which are developmentally appropriate, individualized for children and families, reliable, inclusive of multiple measures administered over multiple points in time, and incorporate

feedback from all members of the early intervention team (Neisworth & Bagnato, 2005). Evidence-based practices suggest that early intervention providers and early childhood educators should organize the environment to promote children's safety, engagement, learning, participation, and membership. The goals and objectives developed must be based on observations which encourage and solicit input from parents and early childhood educators. Early intervention providers encourage children to learn skills, and to use skills naturally, but also to maintain those skills in various settings when instruction ceases (Sandall, et al., 2005).

Ongoing professional development is crucial for the implementation of evidence-based practices. Professional development that not only focuses on pre-service teachers within the university setting, but also on training at the in-service level for veteran teachers. Training should include knowledge of early intervention policies and procedures as well as the implementation of instructional approaches grounded in scientific-based research in order to improve professional competence within the field. Training that may require additional funding in order to provide on-site coaching and support from highly competent professionals. (Smith & Rous, 2011).

Implementation

The IDEA, the Pennsylvania Early Interventions Systems Act of 1990, and their accompanying regulations prescribe how aspects of the overall policy for early intervention will be implemented (Bruder, 2010; Hebbeler, Spiker, & Kahn, 2012). Research supports the idea that the implementation of high quality, comprehensive early intervention programs improves the outcomes for children with disabilities that are the result of biological risks, environmental risks, autism, or multiple developmental delays

(Durlak & DuPre, 2008; Guralnick, 2005; Odom, Buysse, & Soukakou, 2011). Research even provides a framework to evaluate high quality early intervention programs. High quality early intervention programs are evaluated based on their ability to provide access, participation, and support (Sandall, et al., 2005). Access ensures that all eligible children and families receive services. Participation focuses on the instructional strategies and intervention approaches used to promote children's engagement, learning, and sense of belonging. Supports include the infrastructure which includes the public policies which regulate early intervention, the professional development of personnel, and the coordination of service delivery (Odom et al., 2011; Sandall, et al., 2005).

Barriers to the successful implementation of the framework for high quality intervention include: (1) inadequate eligibility assessment tools which have not kept pace with scientific advances in child development, (2) insufficient professional development in the use of effective routine-based training models to build the capacity for service providers to improve family participation, (3) lack of consistent statewide monitoring procedures to measure child and family outcomes, and (4) sufficient funding necessary to provide the major components of service delivery as it was intended (Bruder, 2010; Campbell & Anketell, 2007; Dunst, Trivette, & Hamby, 2007; Fleming, Sawyer, & Campbell, 2011; Guralnick, 2005; Neisworth & Bagnato, 2005).

Dane and Schneider (1998) identify aspects of successful implementation. Three of these aspects are applicable to early intervention implementation. They are (1) fidelity, the extent to which the delivered program matches the intended program, (2) dosage, the frequency and strength of program delivery, and (3) quality, which refers to how well the program components are delivered. Accurate interpretation of child

outcomes from early intervention is dependent upon knowing what aspects of the early intervention program were delivered and how well they were conducted. Implementation is affected by communities, providers, organizational structures, and support systems. There is strong support for the premise that effective early intervention is associated with better outcomes for children with special needs. However, transferring effective programs into real world settings and maintaining them there for the benefit of many diverse children across many diverse communities is a complicated, long-term process (Durlak & DuPre, 2008).

Summary

Early childhood special education views the child's educational, developmental and functional needs as the focus of special education. Cognizant of the fact that children in early intervention will be provided multiple services through multiple agencies, early childhood special education professionals must advocate for a high level of collaboration and coordination of services. Practitioners must work together and communicate clearly to assess children with appropriate developmental measures, to share effective instructional strategies, and to advocate for engagement on interagency collaborative teams. Instructional strategies that are developmentally appropriate and consistent across disciplines must be implemented. All members of all interagency teams need to be included in the development of Individualized Education Plans (IEP) and Individualized Family Service Plans (IFSP). Families need to be encouraged to invite friends or service providers to walk beside them as they navigate their way through early intervention services.

Since the aim is to meet the needs of children with special needs, stakeholders will work hard to understand that a team is much stronger than individuals. Individual practitioners assess students, diagnose problems, develop intervention plans, and evaluate the success of those plans. In a collaborative model, intervention plans may need to be negotiated until mutual understanding and agreement is reached between families, early childhood educators, and early intervention service providers (Friend & Cook, 1996). Open communication provides the opportunity to understand the wealth of resources within the contexts of children's lives. The purpose of the interagency collaboration model is to focus on the interactions and relationships that exist among all levels of the child's services (child, family, providers, program, and community) to promote a coordinated, comprehensive, multidisciplinary intervention service.

Chapter II summarizes the literature related to the framework currently in place that defines early intervention practices that include access, participation, and support. Litigation and legislation have provided the legal framework to improve access and participation for children with special needs in least restrictive environments. Bronfenbrenner's (1979) theoretical model provides the contextual structure necessary to understand the significance of the interactions of families, early childhood educators, and early intervention providers within settings which influence the growth and development of children. Themes evident in the literature include the need for evidence-based practices, and service delivery coordination and collaboration between families, early childhood settings, and early intervention providers. The question that remains is whether this framework is currently implemented with fidelity, quality, and accountability in urban, suburban, and rural communities throughout the Commonwealth

of Pennsylvania? The information gained in this review of the literature provided the foundation for the design and methods used in this study described in the following chapter.

CHAPTER III

METHODOLOGY

Introduction

This chapter describes the research design used to carry out a study exploring early intervention experiences of early childhood educators, families of children with special needs, and early intervention agency providers in Pennsylvania. The chapter begins with a description of the purpose of the study and the research questions which guided the study. The next section includes the research design, the selection of the sample from the population, the instrumentation used, and the data collection procedures followed. The final section includes an explanation clarifying how the data were analyzed.

Purpose of Study and Research Questions

The purpose of this two-phase, sequential mixed-methods study was to describe and compare the experiences of families, early childhood educators and early intervention service providers as they engage in and implement early intervention services for 3 to 5 year old children in urban, suburban, and rural communities throughout the Commonwealth of Pennsylvania. This study sought to identify themes which described the actual implementation of services as they evolved from the comparisons between the experiences of families of children with special needs, early childhood educators, and early intervention service providers. A review of the literature found that research has identified the elements and importance of evidence-based practices in early intervention (Odom, et al., 2011; Sandall, et al., 2005). What is needed now is research which describes the current implementation, understanding, or adoption of evidence-based

practices among practitioners who provide early intervention services (Trivette et al., 2012).

The first phase of the study was quantitative in nature. Families of children with special needs, early childhood educators, and early intervention agency providers located in urban, suburban, and rural communities throughout the Commonwealth of Pennsylvania were invited to complete an online survey to determine and compare their experiences as they have participated in the early intervention process, especially in the areas of child find (early identification), referral processes, intervention practices which include IEP/IFSP development, instructional strategies used, and the early intervention model which describes the system of delivery. The data from this online survey were explored in depth in the second qualitative phase.

In the second phase, qualitative interviews were used to probe significant areas of agreement or disagreement found within data and to determine if common themes existed which described the experiences of the participants in the early intervention process. The rationale for using both quantitative data and qualitative data was that a survey of families, early childhood educators, and early intervention service providers' experiences should be used initially to determine if significant themes could be identified to describe the experiences of the participants. The triangulation of the experiences of each group affected by early intervention would strengthen the occurrence and relevance of the survey results. Qualitative data was collected to gain a deeper understanding of the themes present in the survey data.

This research study was guided by the following questions:

1. How do families, early childhood educators, and early intervention service providers describe their experiences in early intervention in the Commonwealth of Pennsylvania?
2. How do the experiences of families, early childhood educators, and early intervention service providers compare as they participate in early intervention in various communities throughout the Commonwealth of Pennsylvania?
3. Is the depth of understanding regarding the delivery of early intervention services or the frequency of early intervention services influenced by community size (urban, suburban, rural) within the Commonwealth of Pennsylvania?

The three research questions were answered with both quantitative and qualitative data. The quantitative nature of the research questions was answered using an online survey instrument. The qualitative nature of the research questions was answered using in-depth interviews involving detailed exploration guided by the results of the quantitative surveys. The results from the quantitative method helped to identify the questions asked in the qualitative method, which was the rationale for using the mixed-method design (Creswell, 2009).

Research Design

A mixed-methods research design utilizing the strengths of both quantitative and qualitative research methods was used in this study. The sample for the study included three of the interactive elements which impact a child's development over time as depicted by Bronfenbrenner's (1979) ecological model: families, early childhood

educators, and early intervention service providers. A mixed-methods study provides the opportunity for more insight through the combination of characteristics of quantitative and qualitative research as opposed to the use either method alone (Creswell, 2009).

Quantitative data were collected using a survey instrument designed by the researcher to collect descriptions of the experiences of families, early childhood educators, and early intervention service providers as they participated in early intervention in urban, suburban, and rural communities throughout the Commonwealth of Pennsylvania. Each group completed the same survey instrument in order to compare and triangulate data to see if they yielded similar results. Greater credibility is attributed to findings in which multiple sets of data converge and indicate the same results (Mertler & Charles, 2011).

The quantitative data were used to develop a participant sample to complete the qualitative portion of the research which included interviews. The quantitative data also provided areas of focus for the interview questions. Mixed-methods studies are beneficial when researchers have both quantitative data and qualitative data that when considered together provide a better understanding of the research problem. Quantitative research yields information from a large number of people that can be analyzed statistically to offer useful information, and qualitative data provide opportunities for individuals to express their own perspectives or experiences (Creswell, 2005).

One of the ways quantitative research is used in the field of special education is to collect data to answer questions regarding the current status of selected variables. Through the use of surveys, researchers seek to collect evidence concerning a particular phenomenon in order to make a valuable contribution to a discipline's knowledge base

(Rumrill & Cook, 2001). The quantitative portion of this research study included a survey to determine the current experiences of families, early childhood educators, and early intervention agency providers as they participated in the early intervention service delivery model. The results of the survey were used to determine which areas deserved a more in-depth analysis.

In qualitative research, the researcher is viewed as the instrument of data collection (Rumrill & Cook, 2001). Denzin and Lincoln (2008) explain that qualitative research consists of interpretive practices which may include field notes, interviews, and conversations to make the world more visible. Each practice makes the world visible in a different way, therefore oftentimes more than one practice is used to provide in-depth understanding of the phenomena in question. As a strategy, this adds rigor, breadth, complexity, and richness to any inquiry. Due to the complexity of the diverse, interactive elements which affect children, a survey instrument alone is not sufficient to describe the interactions which take place daily in a child's life as he participates in early intervention. Individual interviews were used to provide participants with an opportunity to describe in-depth their experiences as they participated in early intervention. Interviews provide opportunities to produce data that are rich and elaborative, and guided by a protocol which oftentimes stimulates respondents to participate and recall information (Denzin & Lincoln, 2008).

When planning a mixed-methods study using both quantitative and qualitative data collection, researchers need to determine if data collection will occur sequentially or concurrently, how data will be weighted, if there will be mixing of the data, and whether or not the study is guided by a theoretical perspective (Creswell, 2009). This research

study collected data sequentially in two phases; the quantitative data was collected first, followed by the qualitative data. Priority was given to the quantitative data collection initially which provided areas for further exploration in the qualitative data collection. The qualitative data collection sought to generate richer, more in-depth details. Therefore, the quantitative and qualitative data were connected. Bronfenbrenner's (1979) ecological model provided a lens as the researcher explored the experiences of parents, educators, and agencies that all interact with the child in the early intervention process.

Population and Sample

This study took place in the Commonwealth of Pennsylvania. The study sample represented three groups who interact with 3 to 5 year old children who receive early intervention services in Pennsylvania: families, early childhood educators, and early intervention service providers.

The first group was composed of the families of 3 to 5 year old children who received early intervention services and attended one of the preschools of the early childhood educators in the sample. Families who participated in one of three advocacy groups for parents of children with special needs in the Commonwealth of Pennsylvania were also included. These groups include: Parent Education and Advocacy Leadership (PEAL), Parent Education Network (PEN), and the Family Engagement Office of the Office of Child Development and Early Learning. The parent advocacy group population included families who had children who were either currently participating in early intervention or families of children who participated in early intervention in the past. Advocates for early intervention who belonged to these parent advocacy groups but did not have children who participated in early intervention, were excluded from this study.

These parent advocacy agencies are located in different areas of the Commonwealth, but they all serve families within the Commonwealth.

The second group of the sample, early childhood educators, was composed of individuals who work in early childhood education facilities that are accredited by the National Association for the Education of Young Children (NAEYC) and early childhood educators whose programs participate in the Keystone Stars initiative in the Commonwealth of Pennsylvania at the Star 3 or Star 4 level. The selection of early childhood educators who serve schools who have received this level of accreditation or recognition for continuous quality improvement ensured that the sample included representatives of high quality early childhood programs represented in the urban, suburban, and rural communities throughout the Commonwealth of Pennsylvania. This purposive sampling also ensured that public as well as private schools were represented in the sample.

NAEYC accredited programs were selected due to their commitment to program quality, teacher certification, and developmentally appropriate practice. Keystone Stars programs, which are an initiative of the Office of Child Development and Early Learning (OCDEL), were selected because of the diverse representation present within their early childhood settings throughout the state. The Keystone Stars preschools are rated on a continuous quality improvement plan continuum as they work to improve their early childhood program environment and promote positive child outcomes. The Keystone Stars program recognizes and supports preschools from the Star 1 to Star 4 level. Star 4 providers must provide documentation that their program director and early childhood teachers have Bachelor of Science degrees in Early Childhood Education. They must

provide professional development opportunities throughout the year and continuously document evaluation and progress of their programs. The NAEYC accredited programs and Keystone Stars programs are represented in every county throughout the Commonwealth of Pennsylvania.

The third group, early intervention service providers, was composed of therapists and supervisors who worked for one of the 29 Intermediate Units in the Commonwealth of Pennsylvania. Intermediate Units serve as the local education agency responsible for implementation of early intervention services under Part B of the IDEA in the Commonwealth of Pennsylvania. The quality of early intervention services provided to children ages 3 to 5 is influenced by the knowledge of families, early childhood educators, and early intervention service providers; therefore, it is important to measure the early intervention experiences of each of these groups.

This sample only included families, early childhood educators, and early intervention providers who served children 3 to 5 years old who attended preschool. Children who attended childcare, or children birth to age 3 were not included in this study. Children birth to age 3 are served by Part C of the IDEA, and the focus of this study is children served by Part B.

This study included two types of non-probability sampling: purposive and convenience. Naturalistic inquiry begins with the assumption that context is critical, and the more homogenous the sampling population, the better the inferences (Lincoln & Guba, 1985).

Instrumentation

Two data collection instruments were used for this study to provide an in-depth understanding of the experiences of families, early childhood educators, and early intervention service providers as they interacted with children in early intervention: a survey, and an interview protocol. The survey and interview protocol were developed after reviewing the literature on current evidence-based practices in early intervention for early identification, referral, intervention practices, instructional strategies, and early intervention service models. The survey and interview protocol were also influenced by the literature on the federal and state legislation which regulates delivery of early intervention services.

The survey and interview protocol were piloted by representatives of each group who were then excluded from the study. Three experts in the field of early intervention were asked to review the instruments. These multiple data collection strategies were used to triangulate data. Lincoln & Guba (1985) propose certain operational techniques to improve the credibility, transferability, dependability, and confirmability of qualitative studies, and among these are triangulation of data and member checking.

The piloted survey instrument included 4-point Likert-type rating scale questions and open-ended questions to determine participants' experiences with early intervention practices as they related to child find (early identification), referral, evaluation, instructional strategies, and service delivery models. The questionnaire included repetitive options to support agreement on items. The survey was created and delivered using the Qualtrics Online Survey Software (© Qualtrics Labs, Inc. 2012).

The interview protocol included more in-depth open ended questions to gain an understanding of the participants' experiences in early intervention as identified by the results of their survey data. Demographic data were collected using both the survey and the interview protocol.

Data Collection Procedures

After securing approval to complete this research study by the Institutional Review Board of Indiana University of Pennsylvania (Appendix A), a cover letter of introduction (Appendices B-D) and the anonymous link for the online survey instrument (Appendices E-G) were e-mailed to each participant in the sample using Qualtrics (© Qualtrics Labs, Inc., 2012). The letter explained the purpose of the research study and advised participants of the voluntary nature of participation affirming that there were no negative consequences for the participant if he/she did not choose to participate in the study. The anonymous link to the online survey was included at the end of the introductory letter. The use of an anonymous survey link provided by Qualtrics (© Qualtrics Labs, Inc., 2012) provided anonymity for the participants.

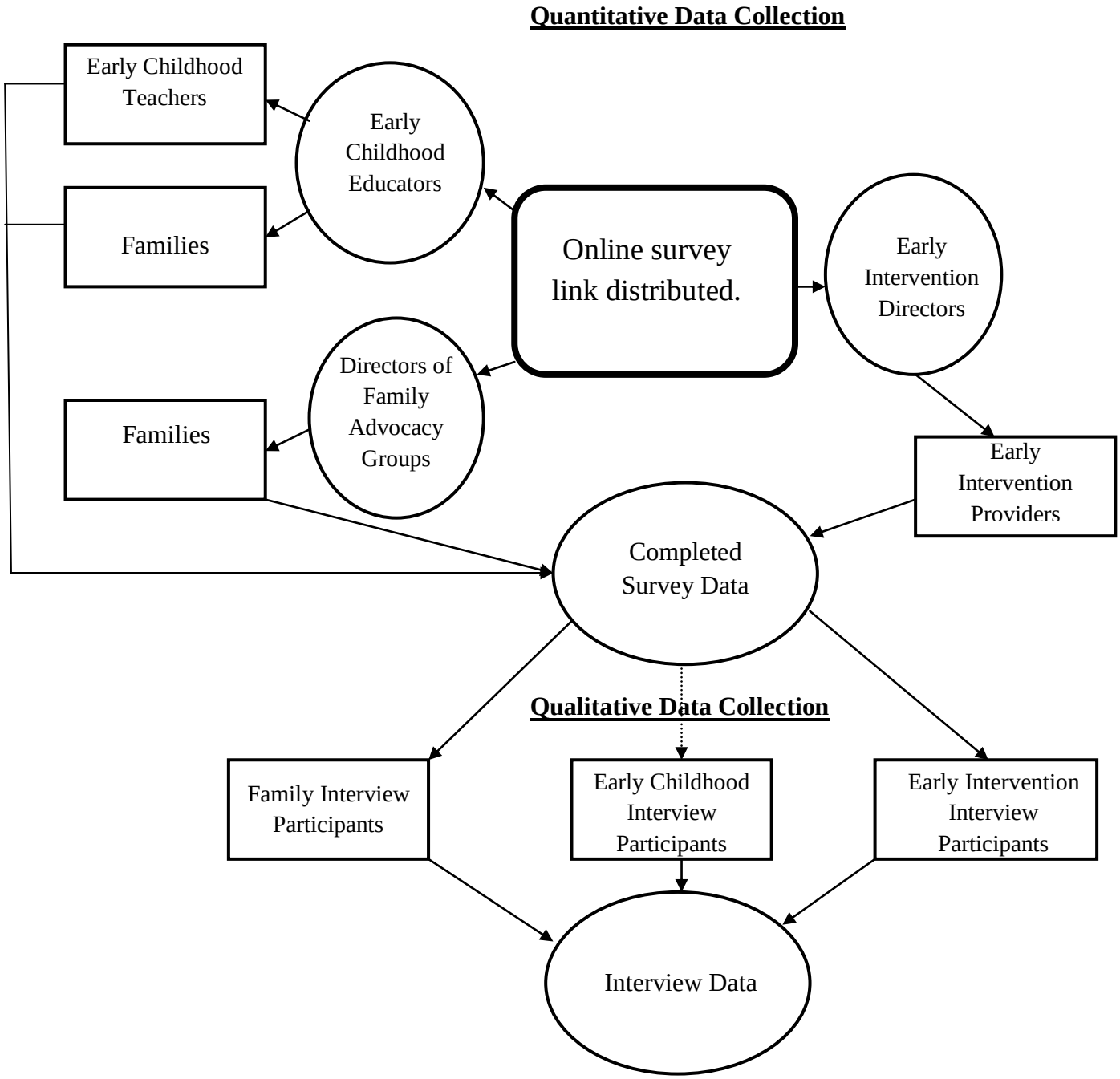

Figure 2. Data collection procedures.

In order to gather data from the family group and the early childhood educator group, the anonymous online survey link was e-mailed to the NAEYC and Keystone Stars early childhood program directors. This e-mail included the cover letter stating the purpose of the study, an assurance of the anonymity of the participants' results, and a reminder to participants that they were free to discontinue the study at any time (Appendix B, Appendix D). The e-mail addresses for preschools located in Pennsylvania were obtained from the NAEYC and Keystone Stars websites. The early childhood educators were asked to distribute the survey link and request for participation to families of children with special needs, as well as the early childhood educators who teach in their early childhood programs.

In order to gather data from the families who participate in the parent advocacy groups, the survey link was e-mailed to the Early Intervention Director of Family Outreach for the State Interagency Coordinating Council and the Special Assistant for Family Engagement in the Office of Child Development and Early Learning. This e-mail included the cover letter stating the purpose of the study, an assurance of the anonymity of the participants' results, and a reminder to participants that they were free to discontinue the study at any time (Appendix B). The letter included a request for the director and assistant to forward the survey to families who participate in the Parent Education and Advocacy Leadership Center, Parent Education Network, and the Office of Child Development and Early Learning Family Engagement Program. The e-mailed letter invited families whose children were currently participating in early intervention, or had participated in early intervention in the past to complete the online survey using the anonymous survey link.

In order to gather data from the early intervention providers group, the anonymous online survey link was e-mailed to the Director of Early Intervention of each of the 29 Intermediate Units in the Commonwealth of Pennsylvania. The e-mail included the introductory cover letter explaining the purpose of the study, the assurance of anonymity for all participants, and a reminder that participants were free to discontinue the study at any time (Appendix C). The letter included a request to the director to forward the survey to the early intervention service personnel who worked for the Intermediate Unit. The online survey provided respondents with the opportunity to indicate if they would be willing to participate in an in-depth interview with the researcher at a future date to elaborate on their responses.

Interview subjects were selected from the survey participants who volunteered to participate using convenience sampling to ensure representation of at least four parents, four early childhood educators, and four early intervention service providers. The researcher sought to have representation of the various urban, suburban, and rural communities in the Commonwealth of Pennsylvania as well as public and private schools among the participants. The participants who were selected to complete the interview received a cover letter of introduction (Appendix H) explaining the purpose of the study, the obligation of time necessary to conduct the interview, the assurance of anonymity for all participants, and a reminder that participants were free to discontinue the study at any time. The researcher conducted one-on-one interviews with the sample participants using the interview protocol designed for this study (Appendices I-K). The interviews were each completed in thirty minutes. The interview protocol included open-ended questions to provide participants with the opportunity to share more in-depth responses to the

survey questions about their experiences with early intervention practices. Interviewees signed a consent form (Appendix L) and interviews were digitally recorded with the consent of participants.

The digital recordings from the individual one-on-one interview conversations were transcribed verbatim, then participants received a transcription of their interviews. The researcher asked the participants to review the transcripts and add comments or clarifications to ensure that the transcript accurately reflected their opinions. This provided an opportunity for member checking advocated by Lincoln & Guba (1985) to improve the trustworthiness of data collection. The researcher randomly selected three audio interview transcripts and asked a colleague to listen to the interviews to ensure that the protocol for each interview was followed consistently.

Data Analysis Procedures

The methodological design for this research study was sequential mixed-methods. Quantitative and qualitative data were collected in a two phase sequential order (Figure 3). The quantitative data included the results of the survey distributed and collected using Qualtrics (© Qualtrics Labs, Inc., 2012). The results of the surveys were differentiated at first using a nominal scale to classify responses by participant group, for example, family member, early childhood educator, or early intervention service provider.

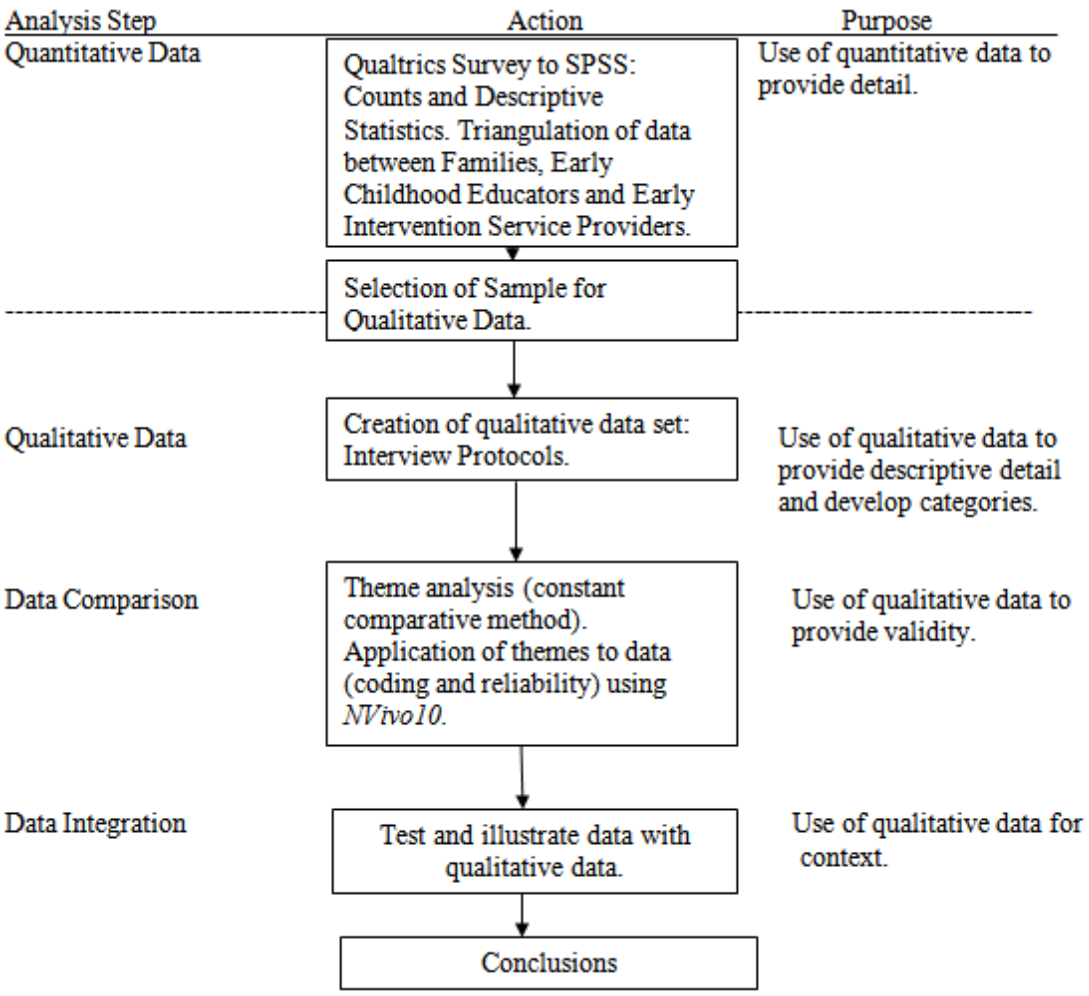

Figure 3. Data analysis

Table 2 outlines the survey questions used in the online survey instrument (Appendices E-G) and the interview questions (Appendices I-K) which were used to collect data to answer specific questions about early intervention implementation in the areas of: (1) identification, referral, and evaluation, (2) IEP development, (3) intervention practices including instructional strategies, collaboration, and communication, (4) knowledge of early intervention implementation, and (5) frequency of services.

Table 2

Survey and Interview Questions for Participant Groups

Research Focus Area	Participant Group	Survey Questions	Interview Questions
Identification, Referral and Evaluation	Families	7, 8, 9	
	Early Childhood Educators	9, 10, 11	2, 3, 4
	Early Intervention Providers	7, 8, 9	
IEP Development	Families		
	Early Childhood Educators	12a, 12b, 12d, 12f, 12i	5 a-f
	Early Intervention Providers		
Intervention Practices Including Instructional Strategies, Collaboration, and Communication	Families	12b, 12c, 12e, 12f, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n, 12o	6, 7
	Early Childhood Educators		
	Early Intervention Providers		
Knowledge of Early Intervention Implementation	Families	4, 12p, 12q, 12 r	8, 9, 10, 11
	Early Childhood Educators	6, 12p, 12q	
	Early Intervention Providers	4, 12p, 12q	
Frequency of Services Provided	Families	10, 11	
	Early Childhood Educators	12, 13	9
	Early Intervention Providers	10, 11	

The data from the online survey were uploaded to the Statistical Package for the Social Science (SPSS) (© IBM Corporation, 2012) to determine the means and standard deviations. A one-way analysis of variance (ANOVA) was used to compare the responses among the participant groups.

Qualitative studies attempt to gain understanding by uncovering meanings from participant's responses. The constant comparison method was used to look for indicators

of categories or themes present in the interview data. Analysis of data is not a fixed process. Instead, it is constantly evolving and changing as analysts move back and forth between different types of coding in order to interpret data (Strauss & Corbin, 1998). The responses were categorized and coded using *NVivo10* (QSR International, 2012). Pertinent phrases from initial responses served to provide code names. As the researcher compiled responses, like responses were coded and then placed into categories for examination. Categories that shared central meaning with other categories were collapsed into categories and their overarching themes were identified. A frequency table containing coded similar response categories was constructed by the researcher. The categories, attributes and themes identified were entered into *NVivo10* (QSR International, 2012) to further analyze the data.

The common themes provided consensus for describing experiences which occurred during the actual implementation of early intervention in urban, suburban and rural communities throughout the Commonwealth of Pennsylvania.

Risks and Potential Benefits

The participants in this study were families, early childhood educators, and early intervention service providers who worked with children ages 3 to 5. Children were not directly involved in the collection of data in this study. The participants were asked to complete an online survey and share insights and perceptions regarding their experiences in the delivery of early intervention services in the Commonwealth of Pennsylvania. Participants were not compensated for their participation. Results were only evaluated in aggregate form and responses on the surveys and during interviews were anonymous.

The development of local policies supported by state and federal policies to improve the delivery of early intervention services involving multiple agencies to individual children may benefit not only the children served, but the early childhood educators, and the agencies as well. Sharing expertise and resources while coordinating service delivery will provide a model that benefits all members of the early intervention teams mandated by P.L. 99-457, Pennsylvania Act 212, and Title 14 of the Pennsylvania School Code.

The researcher did not include identifying labels on the surveys or interview protocols. Interview responses were coded upon receipt. The researcher was the only one who knew the specific coding criteria for identifying interview participants. The researcher also coded the audio interview transcripts. The codes will be kept by the researcher for three years beyond the defense of the dissertation which uses the data collected. After three years, the codes will be destroyed.

Summary

This study used a sequential mixed-methods design to identify, describe and compare the experiences of families of children with special needs, early childhood educators, and early intervention service agencies as they participated in the implementation of the early intervention model mandated by Part B of the IDEA. These findings provided a framework to compare the elements of the law which mandates that all children with special needs receive the same level of service as they are identified in the early intervention system and the actual implementation of that law in the Commonwealth of Pennsylvania. The law addresses the areas of child find (identification), referral for services, evaluation, IEP development to deliver those

services, and intervention practices including communication and collaboration. The quantitative and qualitative data from these three groups were used to triangulate the data which reflected the experiences of each group.

CHAPTER IV

DATA AND ANALYSIS

The purpose of this sequential mixed-methods research study was to determine if early intervention services are implemented in the Commonwealth of Pennsylvania according to evidence-based practices as determined by the Division for Early Childhood of the Council for Exceptional Children (Sandall et al., 2005), and outlined in The Early Intervention Services Systems Act of 1990 (Act 212). The early intervention experiences of families, early childhood educators, and early intervention providers were analyzed using an online survey instrument and an interview protocol consisting of eleven questions. Chapter IV explains the data analysis used in this study and presents the findings which are organized by the research questions which provided the foundation for this study:

1. How do families, early childhood educators, and early intervention service providers describe their experiences in early intervention in the Commonwealth of Pennsylvania?
2. How do the experiences of families, early childhood educators, and early intervention service providers compare as they participate in early intervention in various communities throughout the Commonwealth of Pennsylvania?
3. Is the depth of understanding regarding the delivery of early intervention services or the frequency of early intervention services influenced by community size (urban, suburban, rural) within the Commonwealth of Pennsylvania?

This study was designed as a two-phase, sequential mixed-methods study with both quantitative and qualitative data collected to answer the three research questions. The quantitative data were collected through an online survey instrument (Appendix E-G). The Statistical Package for the Social Sciences (SPSS) (© IBM Corporation, 2012) was used for statistical analysis. Descriptive statistics were used to report the experiences of families, early childhood educators, and early intervention providers and to collect their perceptions as to whether early intervention services were implemented with fidelity across the Commonwealth of Pennsylvania. An ANOVA was used to compare the perceptions of families, early childhood educators, and early intervention providers to answer research questions two and three. The aim of phase one was to analyze the data to determine the experiences of the participant groups, and a concurrent aim was to identify themes which existed in the experiences of each group and to select the participants for the collection of qualitative data which would provide an opportunity to explore these themes in depth.

The qualitative data were collected through one-on-one interviews conducted using an 11-question interview protocol (Appendix I-K). The final question of the survey invited participants to demonstrate their willingness to participate in an interview. This interview was designed to provide participants with an opportunity to elaborate on their responses previously recorded in the survey. Four participants from each group (family, early childhood educator, and early intervention provider) were selected based on their representation of geographic location and population density.

Description of Sample

Fifty family members responded to the request to participate in the online survey. Of the fifty members who responded to the survey, only eleven family members completed the entire survey. One family member started the survey, but it was not complete. Thirty-eight family members accessed the survey, but due to a technical difficulty, they were unable to see the survey questions. It is unknown if this was because the forwarded survey link was not the correct anonymous link.

Family participants were either currently participating in early intervention service implementation (45%) or participated in early intervention services in the past (55%). Family respondents live in urban (20%), suburban (60%), and rural (20%) communities throughout the Commonwealth of Pennsylvania. Table 3 provides the details of the demographics of the family group.

Table 3

Family Group Participant Demographics (N=11)

		Age Of Child			Age of Child for Initiation of Services			
Primary Exceptionality of Child	*n*	3	4	≥ 5	Birth to 3	3	4	5
Autism	2	1	0	1	2	0	0	0
Developmental Delay	4	0	1	3	4	0	0	0
Intellectual Disability	1	0	1	0	1	0	0	0
Speech or Language Impairment	4	1	2	1	0	2	1	1

A total of 546 early childhood educators were contacted to participate in the study, with a total of 172 surveys accessed. The number of responses varied on each question from a high of 149 responses to two questions, and 111 to one question. Responses were received from early childhood educators whose schools were located in urban (20%), suburban (59%), and rural (21%) settings. Respondents included early childhood educators from NAEYC accredited schools (48%), Keystone Star Level 3 schools (27%), Keystone Star Level 4 schools (66%), and those who did not know their level of accreditation (2%). Table 4 provides the demographics of the early childhood educator group.

Table 4

Early Childhood Educator Group Participant Demographics (N=149)

Current Position		Educational Certification				Years in Current Position			
	n	B.S. ECE	M.Ed./ Ed.D. ECE	B.S./ M.Ed. Related Field	NR	< 1	1 - 5	>5	NR
Educators	149	55	27	66	1	6	27	113	3

Note. NR represents No Response

The early intervention provider directors of 29 Intermediate Units in Pennsylvania were invited to complete the online survey. The directors were encouraged to forward the online survey link to the therapists and specialists who provide early intervention services for the Intermediate Unit. Online surveys were accessed by 92 early intervention providers, and completed by 66. These early intervention providers deliver services in urban (12%), suburban (54%), and rural (34%) settings. The early intervention providers identified the settings where their children receive early intervention services including

NAEYC accredited schools (9%), Keystone Star Level 3 settings (8%), Keystone Star Level 4 settings (6%), multiple settings with various accreditation (56%), and unknown accreditation (20%). Table 5 provides the demographics for the early intervention providers group.

Table 5

*Early Intervention Provider Group Participant Demographics (*N=66)

Current Position	*n*	Educational Certification			Years in Current Position		
		B.S. Spec. Ed.	M.Ed./Ed.D Spec. Ed.	Licensed	<1	1-5	>5
Administrator	8	5	2	1	2	0	6
Occupational Therapist	1	0	0	1	0	0	1
Developmental Specialist	11	6	5	0	0	2	9
Physical Therapist	3	0	0	3	0	0	3
Speech and Language Pathologist	25	0	2	23	5	4	16
Teacher/Service Coordinator	18	5	13	0	0	4	14

Phase two of the study included one on one interviews with participants who indicated on the survey their desire to participate in an interview to share their early intervention experiences in depth. Purposive sampling was used to select interviewees who were not only representative of urban, suburban, and rural communities throughout the Commonwealth, but who were also representative of the various regions in the Commonwealth. A representative of each group (family, early childhood educator, and early intervention provider) was selected from the western, northern, southern, and eastern regions of the Commonwealth of Pennsylvania. Each of the interview

participants has been coded with a pseudonym to ensure anonymity. The experiences of these participants will be shared as the findings of this study are discussed in the framework of the three research questions. The demographics of the interview participants are shown in Table 6.

Table 6

Interview Participant Demographics (N=12)

Families

Pseudonym	Exceptionality of Child in Early Intervention	Community Setting
Alice	Speech Delay	Suburban
Ben	Autism	Rural
Carly	Speech Delay	Suburban
David	Developmental Delay	Urban

Early Childhood Educators

Pseudonym	Position	Teaching Degree	Teaching Experience	Community Setting
Evelyn	Director	B.S. Ed.	10-20 years	Rural
Franny	Director	M.Ed.	Over 20 years	Urban
Gail	Director	M.Ed.	10-20 years	Suburban
Helen	Director	B.A. Psy.	10-20 years	Suburban

Early Intervention Providers

Pseudonym	Position	Certification	Teaching Experience	Community Setting
Jane	Administrator	M. Sp.Ed.	10-20 years	Suburban
Karen	Developmental Specialist	M. Sp.Ed.	10-20 years	Rural
Lois	Administrator	Ed.D.	Over 20 years	Urban
Mary	Early Childhood Supervisor	M.Ed.	Over 20 years	Suburban

Research Question One

During phase 1 of the study, the researcher sought to answer the following question: *How do families, early childhood educators, and early intervention providers describe their experiences in early intervention implementation in the Commonwealth of Pennsylvania?* Responses to the online survey instrument (Appendix E - G) which included 14 questions were analyzed. These questions were crafted around the four focus areas outlined in Pennsylvania's Early Intervention Services System Act of 1990 (Act 212) for early intervention implementation: (1) identification, referral, and evaluation, (2) IEP development, (3) intervention practices including instructional strategies, collaboration, and communication, and (4) knowledge of early intervention implementation.

Identification, Referral and Evaluation

Early identification is the first step in the process to identify children who may have delays or deficits in one of the five developmental domains. If after an initial screening, evidence indicates that a child may be at risk, then a full evaluation is completed to confirm the delay or disability, and interventions are set in place to prevent or modify the progression of the delay (Shapiro, 2011). Title 22 of the Pennsylvania School Code delineates the responsibility that early intervention agencies have for identifying, referring, and evaluating 3 to 5 year old children who may have atypical development. Each early intervention agency shall adopt and use a system to identify eligible young children and young children thought to be eligible who reside within the boundary served by the early intervention agency. Each early intervention agency shall conduct awareness activities to inform the public of early intervention services and

programs and the manner by which to request these services and programs through annual public notification, published or announced in newspapers or other media, or both, with circulation adequate to notify parents throughout the area served by the agency of child identification activities and of the procedures followed to ensure confidentiality of information pertaining to eligible young children (22 Pa. Code §§ 14.152 a-c). This is called Child Find. Evaluations are conducted by early intervention agencies for children thought to be eligible using assessments administered by qualified professionals sufficient in scope and depth to investigate information relevant to the young child's suspected disability (22 Pa. Code §§ 14.153).

Specific survey items were used to explore the experiences and knowledge of families, early childhood educators, and early intervention providers regarding early identification, referral and evaluation. A comparison of the responses of each group for these survey items is found in Appendix M. The responses received from each group will be considered individually.

Families. The following questions were used to explore the experiences of families regarding early identification, referral and evaluation.

- Item 7: How was your child who receives early intervention services identified?
- Item 8: Who initiated the evaluation of your child receiving early intervention services?
- Item 9: How did you learn about the procedures for implementation of early intervention for children with special needs?

Figure 4 provides a graphic representation of the various personnel families felt identified their children with developmental delays, or deficits in one of the five developmental domains. This bar graph shows that families identified their child's early childhood educator most often (40%) as the person who initially identified their child with a developmental delay or deficit, followed by the early intervention provider (30%), and themselves (30%).

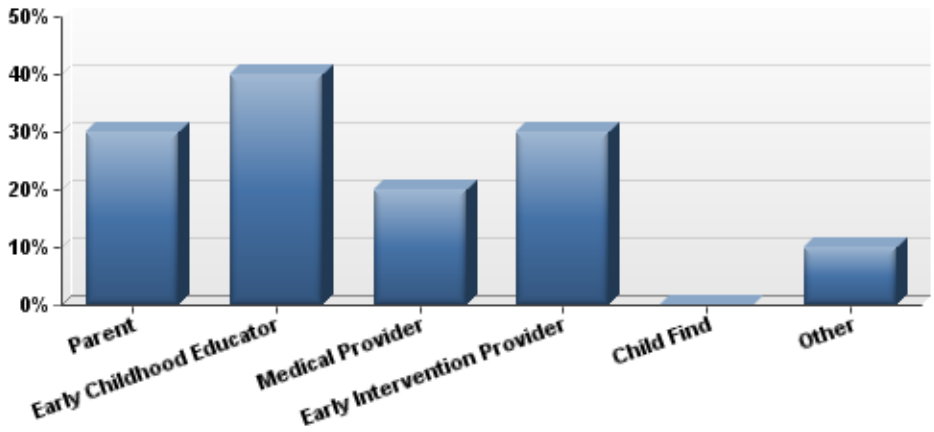

Figure 4. Personnel who identified children with atypical development.

After children are identified as developing atypically, the signature of a parent (legal guardian) is required to complete a formal evaluation. Figure 5 provides a graph to depict the families' responses regarding who they felt initiated the evaluation process for their child. Fifty percent of the families felt that they initiated the evaluation process, followed by the early intervention provider, and the early childhood educator.

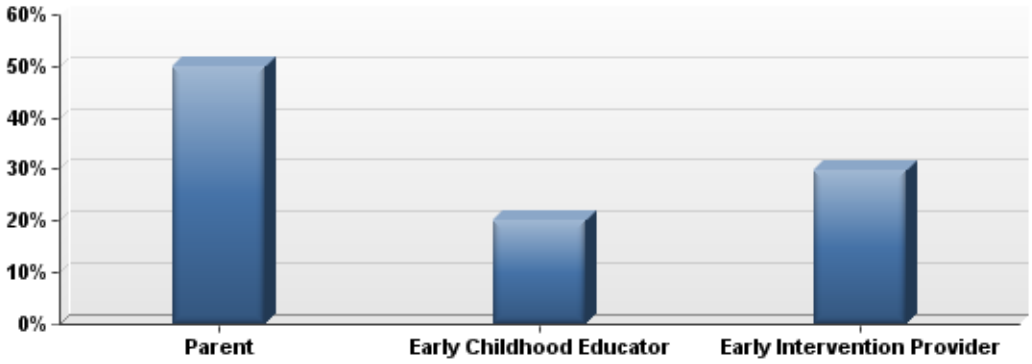

Figure 5. Personnel who initiated the evaluation of children.

After a full evaluation is completed, procedures will be set in place to implement early intervention services for those children who are determined as eligible for services based on the percentage of their deficit in at least one of the developmental domains. Figure 6 represents the personnel that the families identified as responsible for helping them learn the procedures for early intervention implementation. Early intervention providers are identified by half of the participants as the personnel who helped family members learn about early intervention implementation, followed by early childhood educators.

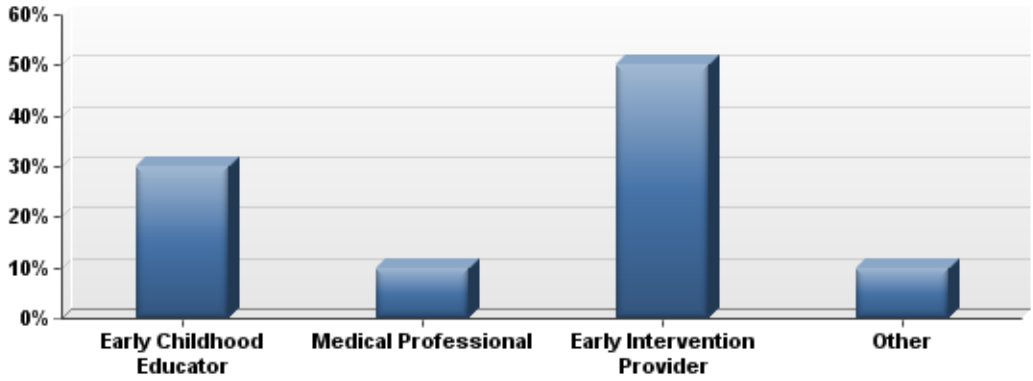

Figure 6. Personnel identified as helping families learn about implementation.

Four family participants from the survey data were selected to participate in a one- on-one interview with the researcher to add depth and understanding to the survey data responses. The following questions were included in the interview protocol (Appendix K) to determine more specifically how children were identified, referred and evaluated for early intervention services:

- Item 2: How did you first learn about early intervention services for your child?
- Item 3: What role did the Child Find system play in your participation in early intervention?
- Item 4: How would you describe the referral or evaluation process you experienced with your child?

Responses to these interview questions were coded using *NVivo 10*. Themes identified matching the focus areas of identification, referral, evaluation, and Child Find will be discussed here. The four pseudonyms assigned to the family participants were Alice, Ben, Carly, and David.

Alice and Ben each identified the early childhood educator as the person who first identified their children as demonstrating delays in development. Alice's statement was echoed by Ben,

> So I was glad when his preschool teacher said you might want to think about this (screening) for him. I was so glad that she mentioned it early on and we could get the I.U. I was glad it was done early and it progressed the way it did.

David's child had a diagnosis of Down Syndrome identified at birth at the hospital, so his identification experience was very different from the experiences of Alice and Ben. Carly was the one parent who noticed that her child did not seem to be developing typically, and she asked her pediatrician for guidance.

Child Find did not play a role in the identification of any of the children to receive early intervention services. David knew that Child Find was "where you go out into the community, through community events, through screening processes, and that. I have been to some of these fairs and stuff and you are looking to identify children who may possibly be on the autism spectrum, who are having speech delays, fine motor. Who would qualify based on their domain for early intervention services." Through his work, he became very familiar with Child Find, but it was not part of the identification process for his own child.

After children are identified, they are referred for a full evaluation to determine the extent of their developmental delays and the services required to meet their needs. The early childhood educator set the process in motion and provided Alice and Ben with the necessary paperwork to have a full evaluation completed by the Intermediate Unit

team. Carly and David's children were both identified in the Birth to Three program and therefore their evaluation process was a little bit different. Carly reported that she

> contacted them (the I.U.), explained the process that our pediatrician had told us that they were seeing, and that's when they said that they would come in and do an initial screening with us. This was before he was 3, and then they did a full evaluation based on that screening.

David's experience for his child was the same with a service coordinator from the Birth to Three program sending personnel to his home to start the evaluation process and develop the plan for services.

Early childhood educators. The following survey questions were used to explore the experiences of early childhood educators regarding early identification, referral and evaluation.

- Item 9: How were the children who receive early intervention services in your school identified (Select all that apply.)?
- Item 10: Who initiates the evaluation of your children receiving early intervention services?
- Item 11: How did you learn about the procedures for implementation of early intervention services for children with special needs?

Figure 7 provides a graphic representation of the personnel that early childhood educators reported as identifying children in their classrooms with developmental delays or deficits. Data from the survey revealed that early childhood educators felt that they were the ones who identified children most often in their classroom setting (88%),

followed by parents of the children in their classrooms (79%), early intervention providers (38%), and Child Find (2%).

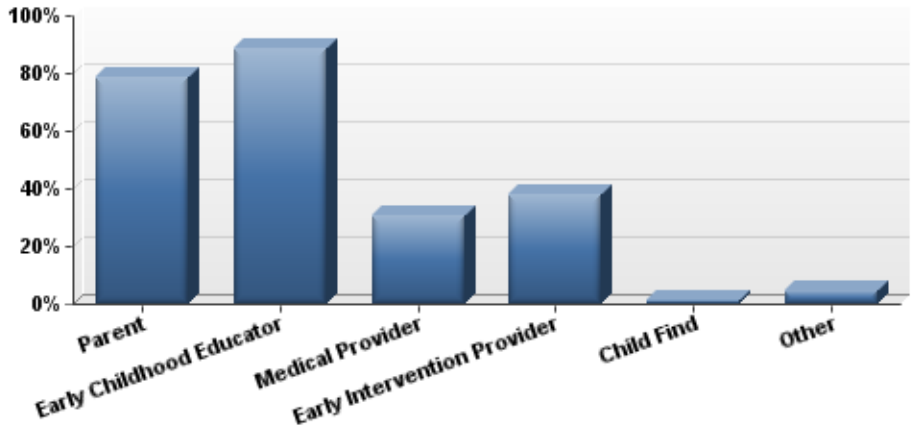

Figure 7. Personnel who identified children with atypical development.

Children in early childhood classrooms who were identified as having atypical development were then referred for a full evaluation. Figure 8 provides a graphic representation displaying the personnel that early childhood educators identified as initiating the evaluation process for children in their classrooms. Early childhood educators identified themselves as the personnel who most often initiated the evaluation process for children with atypical development (46%), closely followed by parents (41%), and finally early intervention providers (12%).

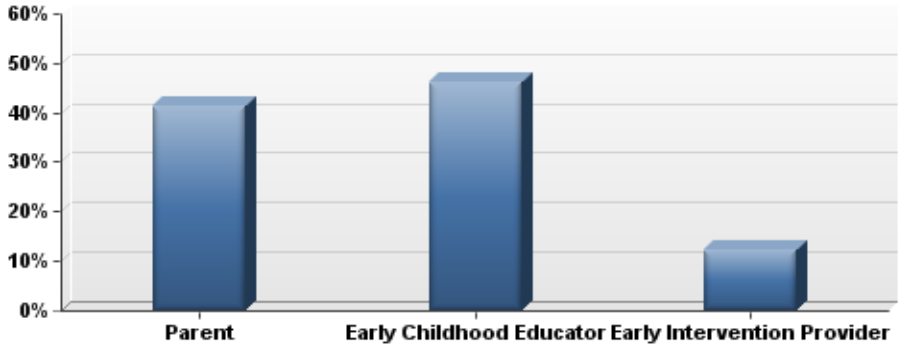

Figure 8. Personnel who initiated the evaluation of children.

Early childhood educators clearly identified early intervention providers as the personnel who help them understand the procedures for early intervention implementation for the children in their classrooms with early childhood educators identified by 18% of the participants. Other responses include university, self taught, training, and years of experience. Figure 9 provides a graphic representation of these responses.

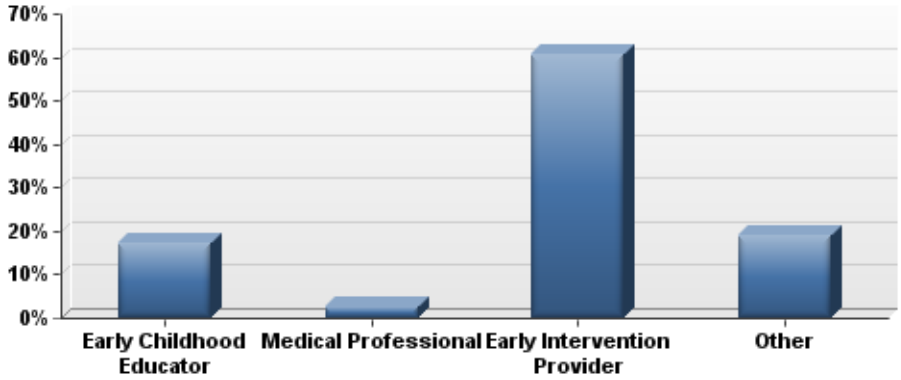

Figure 9. Personnel identified as helping early childhood educators learn about implementation.

Four early childhood educators were selected from the survey data to participate in a one-on-one interview with the researcher to add depth and understanding to the survey data responses. The following questions were included in the interview protocol (Appendix I) to determine more specifically how children were identified, referred, and evaluated for early intervention services:

- Item 2: How did you first learn about early intervention services for children in your classroom?
- Item 3: What role did the Child Find system play in identifying children in need of early intervention?
- Item 4: How would you describe the referral or evaluation process you experienced with the children who receive early intervention services in your school?

Responses to these interview questions were coded using *NVivo 10*. Themes identified matching the focus areas of identification, referral, evaluation, and Child Find will be discussed here. The four pseudonyms assigned to the early childhood educator participants were Evelyn, Franny, Gail, and Helen.

Evelyn learned about early intervention through her role as a preschool teacher. Gail and Helen learned about early intervention services as preschool teachers for Head Start programs. And Franny's knowledge about early intervention came from bulletins issued by the state which described early intervention services to early childhood educators.

Evelyn and Franny both described using teacher's observations and screening instruments to document children's development. These observations or developmental

screenings were used for all of the children in their early childhood classrooms and were especially helpful in identifying children whose development seemed atypical to them. Franny is required to use the Ages and Stages developmental screening tool by the state of Pennsylvania as a Keystone Star provider and in her Pre-K Counts classroom. But even though Evelyn and Franny are both Keystone Star providers, one located in northern Pennsylvania and the other in eastern Pennsylvania, they reported that they are not permitted to make a referral for these children to receive early intervention services directly to their Intermediate Unit. Franny is able to make a referral for her Pre-K Counts children, but not for any other children in her early childhood program that are not currently participating in the Pre-K Counts classroom. She provided this description of her experiences,

> It is not a good process. We would tell the parents we cannot actually refer them unless they are a Pre-K Counts child. If we have a child we are concerned about and we contact the I.U. about that child, their response is that you need to have the parent call us even if it is just an initial screening. I can give you an exact example. We had a little boy who was with us who was not developmentally where he should be. The teachers did Ages and Stages. They saw that he just wasn't there. We talked to the parents. We called the parents in. That is the first thing we do. We call the parents in and tell them we would like this to happen. And we actually called as a follow-up to see if the parents had called and they had not called the intervention service. So, we pushed it a lot with this family because the little guy really needed the services. And then finally they went. We were not part of the IEP meeting. The parents actually did not want to give us the IEP.

> And, when we pursued it further the father got a little bit hostile with us and fortunately his child moved into the Pre-K Counts room and then he had no choice.

Gail, located in southern Pennsylvania, and Helen, located in western Pennsylvania, are able to call their I.U. directly to make a referral. Helen shared that "typically I try to give the parent as much power in that decision making process as possible so there is follow through." Since parental informed consent is required for an evaluation to take place, Evelyn, Franny, Gail, and Helen all try to encourage parents to make the phone call to the Intermediate Unit to set the process in motion for an initial screening and then full evaluation to take place. They each spoke of the waiting game involved in the process,

> I think it's a long process. And a lot of the times it is even getting to that point of getting the parent on board without them feeling like they have done something wrong or having them have that inferior feeling. Once we get them on board, then it is making the phone call. And then it's the waiting game. You know, they've got, they've got their period of time that they have before they will follow-up with the parents and then we have to hope and pray the parent still goes along with it when the I.U. calls them and then we have to schedule something for the person to come in and do an observation. Then again it is a lot of hoping and praying that the parent takes that child to the I.U. site to have them screened and go through that whole process because sometimes parents will back out when they have gotten so far. Or, they will get the screening tools in the mail for them to fill

out and they are intimidated by the questions that are on that and they don't want to proceed any farther.

Even though Evelyn, Franny, Gail, and Helen identify the children in their early childhood programs as needing early intervention services, and encourage the parents to contact the Intermediate Unit for an initial screening and evaluation, they each expressed frustration because they felt that once the families contacted the Intermediate Unit the teachers were kept out of the loop through the rest of the process unless the parent was asking them for advice.

These early childhood educators have many years of expertise and experience between them, but none of them had ever heard of Child Find as an identification method used in the state to find children who might be eligible for services. Gail had only heard of its mention recently because she had been invited to become a part of her county's Local Interagency Coordinating Council and they mentioned the Child Find committee.

Early intervention providers. The following questions were used to explore the experiences of early intervention providers regarding early identification, referral and evaluation.

- Item 7: How are the children who receive early intervention services identified (Select all that apply.)?
- Item 8: Who initiates the evaluation of young children receiving early intervention services?
- Item 9: How do families learn about the procedures for implementation of early intervention services for children with special needs?

Early intervention providers identified multiple personnel who might be involved in the identification of children who are eligible for early intervention services. In fact, parents (86%), early childhood educators (83%), early intervention providers (85%), and medical providers (71%) were selected as the personnel responsible for identification at similar percentages when providers were encouraged to select all that apply. Early intervention providers felt that Child Find (52%) and other agencies like Birth to Three played important roles in helping to identify children who would be eligible for early intervention services. Figure 10 is the graphic representation of the personnel identified by early intervention providers.

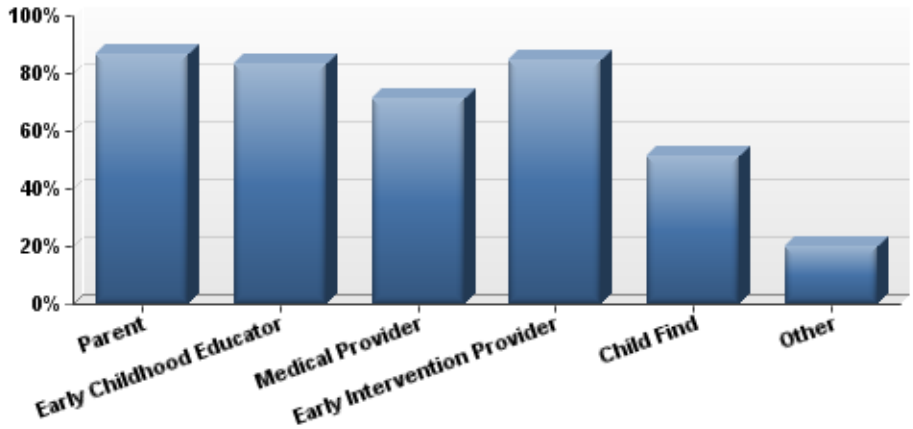

Figure 10. Personnel who identified children with atypical development.

Figure 11 provides a graphic representation of the responses of the early intervention providers when asked who they felt initiated the evaluation process for children receiving early intervention services. The early intervention providers indicated through their responses that they believed parents (59%) most often initiated the evaluation of children with atypical development, followed by early intervention providers (27%), and early childhood educators (14%).

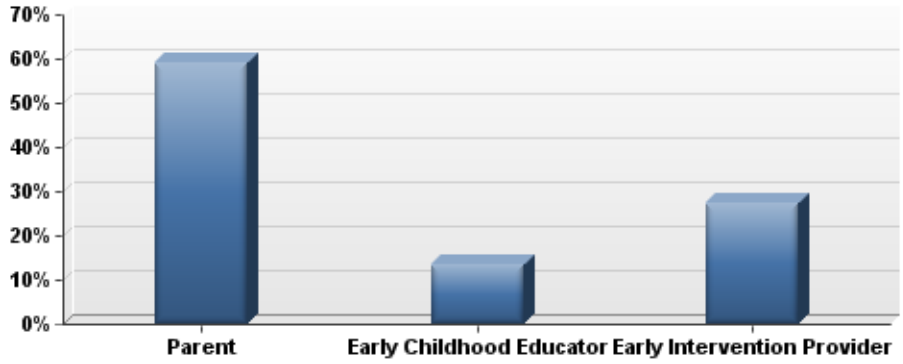

Figure 11. Personnel who initiated the evaluation of children.

Children are identified as having atypical development, referred for evaluation, and then early intervention services are implemented. Early intervention providers felt that they were the catalyst to help families and early childhood educators learn about the process of early intervention implementation with 80% of the provider participants selecting the early intervention provider category. The "Other" category received 17% of the provider responses and the final 3% included the categories early childhood educator, medical professional, and early intervention provider. The persons identified as supports for early intervention implementation are represented in Figure 12.

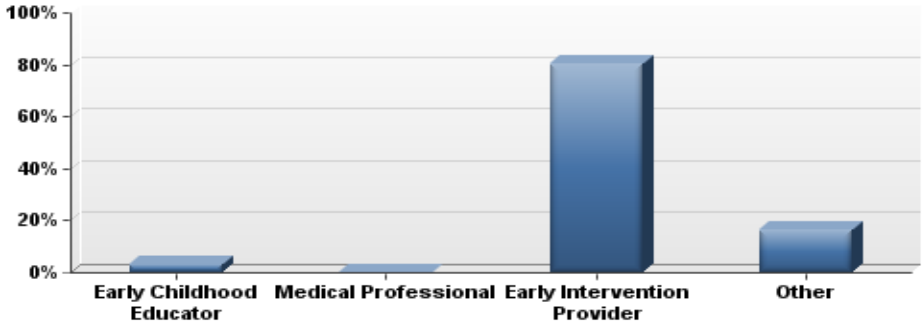

Figure 12. Personnel identified as helping families learn about implementation.

Four early intervention providers were selected from the survey data to participate in a one-on-one interview with the researcher to add depth and understanding to the survey data responses. The following questions were included in the interview protocol (Appendix J) to determine more specifically how children were identified, referred and evaluated for early intervention services:

- Item 2: How did you first learn about early intervention services for children?
- Item 3: What role did the Child Find system play in identifying the children that you provide services for in early intervention?
- Item 4: How would you describe the referral or evaluation process for early intervention services?

Responses to these interview questions were coded using *NVivo 10*. Themes identified matching the focus areas of identification, referral, evaluation, and Child Find will be discussed here. The four pseudonyms assigned to the early intervention provider participants were Jane, Karen, Lois, and Mary.

Jane, Karen, and Mary identified parent referrals as the most frequently observed method of identifying children who may need to be screened for early intervention services. Preschools are either encouraging parents to call or they may even mention it to the early intervention personnel who are providing services in the preschool classrooms. Mary, who works for an Intermediate Unit as an early childhood specialist, describes how her staff uses observations and work sampling to evaluate the strengths and needs of all of their children. When they feel that a child would benefit from early intervention, the early childhood staff shares their findings with parents during conferences and strongly encourages them to call early intervention to start the screening process. Because Mary's

early childhood program is part of the Intermediate Unit, early intervention "buys" slots in her classrooms for children with developmental delays or disabilities. Early intervention consultants are constantly present in her early childhood classrooms to provide services for these children and "they may give a nod or an encouragement 'I really think this would be something this child could really benefit from extra services' or something like that" for children they feel may need early intervention services.

Families are encouraged to call the Intermediate Unit to receive early intervention services for their child who may be experiencing developmental delays. Karen described how the Intermediate Unit secretary takes all of their demographic information and then passes that information on to a service coordinator in northern Pennsylvania. In southern Pennsylvania, Jane explained that the information is passed on to an evaluation team representative. Karen described the system for evaluation that has been used by her Intermediate Unit for the last six years,

> We do something called evaluation teams where we set up meetings with a special ed teacher, a service coordinator, and a speech therapist. And the family brings their child to this place and we do a complete evaluation at that moment. If they qualify for services, we continue on with the evaluation. We write the ER (evaluation report), we write the IEP, and they leave that day ready to start the services.

Jane's team completes the evaluation in "the setting that they are most often in and a setting that they would be provided services in," which is sometimes the preschool.

Lois is the administrator of an Intermediate Unit that maintains its own early childhood classrooms. Since early intervention falls under the early childhood program,

all of the children who participate in the Birth to Three program at the Intermediate Unit automatically transition into the early childhood classrooms. There are several early childhood classrooms throughout the community and the Intermediate Unit screens each of the children in these classrooms for developmental delays. When children demonstrate deficits or delays on the screen, they check to see if the parents would like the Intermediate Unit to proceed with a full evaluation. If the parents sign the paperwork giving their approval, early intervention personnel go into the classrooms to complete a full evaluation. Lois described the online system that the Intermediate Unit has established to help with referral,

> We have an online referral system. So, it can be the teacher of a classroom, it can be a pediatrician, it can be us because some of our teachers are already in those classrooms, anyone can make that referral. They just go to our website and they click one button. It's really easy. You're there and we start the whole process going.

Jane, Karen, Lois, and Mary shared that they have many activities for Child Find including placing advertisements in newspapers, connecting with community leaders, and distributing pamphlets. Jane spoke of how they "fax all these updated documents to the pediatricians' offices. And we were finding that it is still not getting to where it needs to go. We go out and ask people to put flyers in their doctor's office with our little cards for Child Find and it is not happening the way we would like it to happen." They each realize that their ability to identify children who need early intervention services is dependent on their relationships with their local preschools, early childhood community leaders, and Birth to Three programs.

Individualized Education Plan Development

Once a child is identified, referred, evaluated, and determined to be eligible for early intervention services, an Individualized Education Plan (IEP) is developed to identify the goals and related special education services needed. This plan is developed in collaboration with the family, the early childhood teacher if the child's least restrictive environment is the early childhood classroom, and the appropriate early intervention personnel such as the speech therapist, developmental specialist, physical therapist, and the occupational therapist who will address the needs of the child (Rous & Smith, 2011).

Families. Survey items 12a and 12d which are displayed in Table 7 were used to determine the experiences and knowledge of families regarding IEP development. These survey items were part of a set of 17 items which were scored using a 4-point Likert scale. The responses range from Strongly Disagree to Strongly Agree.

Table 7

Family Results Regarding IEP Development

	Strongly Disagree	Disagree	Agree	Strongly Agree
12a. I am invited to participate in IEP/IFSP team meetings for my child who receives early intervention services.	1	1	2	6
12d. I received a written copy of the IEP/IFSP for my child receiving early intervention services.	1	1	2	6

The majority of the family respondents indicated that they strongly agreed that they were active participants in the IEP meetings, and they received a written copy of the IEP when they left the meeting.

During the one-on-one interviews, Alice, Ben, Carly and David were asked to describe the IEP meetings they experienced for their children receiving services through early intervention. The following questions were included in the interview protocol (Appendix K) to determine more specifically how the elements of the IEP were explained:

- Item 5: How would you describe your child's IEP meeting?
    a. How were you notified about your child's IEP?
    b. Who was in attendance at your IEP meeting?
    c. Were you informed that you were allowed to invite anyone that you wanted to attend the IEP meeting, for example a friend or advocate?
    d. Were the elements of the IEP explained to you? For example, your child's present level of performance, areas of strength, areas of weakness, learning goals and objectives.
    e. Did you receive a written copy of the IEP when you left the IEP meeting?
    f. Did the early intervention provider who coordinated your IEP meeting explain due process to you?

Because Carly and David had children who participated in the Birth to Three program in their communities, the service coordinator organized the IEP meeting for their children to transition into preschool services with the Intermediate Unit. The service coordinator also notified each of them about the time and date for their IEP transition meeting. David described the process, "and then they did another evaluation. I mean, a lot of input came from us, and from the people who were working with our child, so it was, it was very smooth. We had good communication there."

Alice and Ben both had their IEP meeting at the preschool. They both had similar feelings about the process as expressed by Ben,

> It was also in the context of preschool which was just, you know perfect. Whenever we had meetings at the preschool I always felt that they were very, I felt very encouraged, and I felt really grateful that they were working with my child. Having those meetings in the preschool definitely made it easier.

Alice, Carly, and David both knew they could invite an advocate, friend, or teacher to attend the IEP meeting with them. Ben did not feel that this information was communicated to him. In fact, David felt that his knowing, "was kind of the exception to be honest with you. I don't think people were aware of that."

Alice felt that the elements of the IEP were reviewed but that "no one really explained to me how they would use the information or what they were looking for." David stated that, "when they were first explaining them to us they were using a lot of acronyms. I can remember saying just once you talk it out because we are not familiar." Alice, Ben, Carly, and David each received a written copy of the IEP to take with them. They each also assumed that the preschool where their children attended would automatically receive a copy as well. Each parent also stated that due process or their legal rights were explained before they left the meeting.

Early childhood educators. Table 8 displays the results of survey questions 12a and 12d from the perspective of early childhood educators regarding IEP development. These survey items were part of a set of 17 items which were scored using a 4-point Likert scale. The responses range from Strongly Disagree to Strongly Agree.

Table 8

Early Childhood Educator Results Regarding IEP Development

	Strongly Disagree	Disagree	Agree	Strongly Agree
12a. I am invited to participate in IEP/IFSP team meetings for children who receive early intervention services.	9	14	58	40
12d. I received a written copy of the IEP/IFSP for my children receiving early intervention services.	3	12	51	52

The majority of early childhood educators responded that they agreed or strongly agreed that they were active participants in the IEP meetings, and they received a written copy of the IEP when they left the meeting.

The experience of early childhood educators with IEP development was explored in depth during the one-on-one interviews with the four early childhood educators. Evelyn, Franny, Gail, and Helen were asked to describe the IEP meetings they experienced for children in their classrooms receiving services through early intervention. The following questions were included in the interview protocol (Appendix I) to determine more specifically how the elements of the IEP were explained:

- Item 5: How would you describe IEP meetings for children who receive early intervention services in your school?
    a. How were you notified about children's IEP meetings?
    b. Who was in attendance at the IEP meetings?
    c. Were the parents informed that they were allowed to invite anyone they wanted to attend the IEP meeting, for example a friend or advocate?
    d. Were the elements of the IEP explained to you? For example, the children's present levels of performance as determined by the evaluations conducted by the multidisciplinary team, areas of strength, areas of weakness, learning goals and objectives.
    e. Did you receive a written copy of the IEP when you left the IEP meeting?
    f. Did the early intervention provider who coordinated the IEP meeting explain due process to the parents?

The experiences of Gail and Helen were in agreement with the online survey data. They were both aware of the IEP meeting and they received a copy of the IEP after the conclusion of the meeting. Gail stated,

> I was invited to that IEP meeting because mom had said to me 'I have this IEP meeting. I don't know what to expect. I mean I don't know what's going to happen. I have no idea.' And I said, 'Well I could go with you.' She said, 'You could?' I said, 'Absolutely.' And so I kind of invited myself to the meeting. And

> I was glad that I had done that because she really felt intimidated by the situation. She was kind of afraid of it all. She didn't know what to expect. And I felt that having someone there on her team made the experience a little easier for her. The state wants us to have copies of those IEPs as a STAR facility. They want us to have that information. Well, so we need to have it. So, we just made it a requirement rather than a request. Before we made that requirement we were not consistently receiving them.

Evelyn and Franny described very different experiences. As early childhood educators, they were not notified of the IEP meeting and did not feel that their students' parents even knew they were allowed to invite the classroom teacher or an advocate to attend the IEP meeting with them. Evelyn shared the reason expressed by all of the early childhood educators for wanting to be actively involved in the IEP process, "we want to be the team with you (the families). We want to be able to know what your child's goals are on the IEP and put that into the lesson plans and make sure we are all on the same page and doing things the same way." Franny explained, that the exception is for the children in her Pre-K Counts classroom.

> The school district has the I.U. release the IEP to the Pre-K Counts classroom. If the parents of children who are not in a Pre-K Counts classroom do not want us to have a copy of the IEP, no, it wouldn't be, 90% of the time we don't get any, 10% we will. We say to the parents we need your IEP or we can't meet the goals if we do not know what they are.

Although Helen felt that the elements of the IEP were explained to the family members clearly, Evelyn, Franny, and Gail disagreed. Gail stated, "I don't think they are

given enough information before the meeting to know that they really have a part to play in writing that IEP. I don't think the I.U. has explained what the real process of an IEP involves." None of the four were sure whether or not due process was explained to the parents so that families knew their legal rights regarding the IEP.

Early intervention providers. Table 9 displays the results of survey questions 12a and 12d from the perspective of early intervention providers regarding IEP development. These survey items were part of a set of 17 items which were scored using a 4-point Likert scale. The responses range from Strongly Disagree to Strongly Agree.

Table 9

Early Intervention Provider Results Regarding IEP Development

	Strongly Disagree	Disagree	Agree	Strongly Agree
12a. I am invited to participate in IEP/IFSP team meetings for the children who receive early intervention services.	4	1	7	54
12d. I received a written copy of the IEP/IFSP for the children I serve receiving early intervention services.	4	0	10	50

Early intervention providers predominantly selected the strongly agree category when evaluating their belief that early intervention services are correctly implemented and that they are actively involved in IEP development.

The experience of early intervention providers with IEP development was explored in depth during the one-on-one interviews with the four early intervention providers. Jane, Karen, Lois, and Mary were asked to describe the IEP meetings for children receiving services through early intervention. The following questions were

included in the interview protocol (Appendix J) to determine more specifically how the elements of the IEP were explained:

- Item 5: How would you describe IEP meetings for children in early intervention?
    a. How do the parents and teachers of children learn about the IEP meeting?
    b. Who was in attendance at the IEP meetings?
    c. Do you inform the parents of children in early intervention that they are allowed to invite anyone they would like to attend the IEP meeting, for example a friend or advocate?
    d. Do you explain the elements of the IEP explained to families? For example, the child's present level of performance, areas of strength, areas of weakness, learning goals and objectives.
    e. Do you give families and preschool teachers a written copy of the IEP when you leave the IEP meeting?
    f. Do you explain due process to the parents at the IEP meeting?

Karen's Intermediate Unit holds the IEP meeting directly following the completion of the evaluation and the evaluation report. The team who completes the evaluation report, and writes the IEP are also the team that sits down with the family to explain the IEP. An annual IEP meeting is scheduled with the families for each year that the child participates in early intervention. That meeting may take place at the preschool the child attends, in the home of the family, or in a local restaurant, wherever they can connect with families. Parents can provide information at these meetings which is handwritten on the IEP. For that reason Karen stated "I may only come with 1 or 2 IEPs because I know that we are going to be adding. I mean, this process has certainly not made it friendly for parents to have input."

Jane's Intermediate Unit bases the IEP meeting on what the parents want to do. If parents want a face to face meeting with the team that is providing services for the child, it is scheduled at their convenience, in the location of their choosing. If they wish to conduct the IEP meeting over the phone, it is held over the phone. Even though parents

have completed a questionnaire to provide input into the strengths and needs of their child prior to the meeting, the IEP at that point is still considered a fluid document able to incorporate suggestions or changes that are made at the meeting that can be written in by hand. A formal copy is created and sent to the parents at a later date.

Lois' Intermediate Unit includes everyone in the IEP meeting who will be serving the child along with the child's early childhood teacher. She pointed out that "the classroom teachers need to work on those goals as well as the early intervention staff. The early intervention teacher may only be there an hour a week. Which isn't much time. The expectation is that the EC teacher will reinforce the goals of the child." Because of this, they make sure that the early childhood teachers have a copy of the IEP.

However, Jane, Karen, and Mary did not describe having preschool teachers at the IEP meetings. All of the participants mentioned that the Intermediate Unit designated a person to be the LEA (local education agency representative). The LEA attended the meeting because they had the authority to allocate funds. The IEP meeting also included the speech therapist, special education teacher from the Intermediate Unit, and developmental specialist who would also be able to address the goals submitted by the occupational therapist or physical therapist depending on the needs of the child. Jane, Karen, Lois, and Mary also stated that the legal rights of the parents are on page three of the IEP, and that parents must sign that they understand due process. Jane has created a checklist for her early intervention staff to follow to ensure that all documents are properly signed and presented.

Intervention Practices Including Instructional Strategies, Collaboration, and Communication

The Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) promotes policies and evidence-based practices that support families and enhances the optimal development of young children who are at risk for developmental delays and disabilities. These practices are based on research and the experiences of stakeholders who are involved in the implementation of early intervention services. Recommended practice includes using data to individualize instruction and develop strategies that are consistent within and across environments, activities, and routines to promote children's learning and participation in inclusive environments. Recommended practice promotes collaboration between families and all early intervention and early childhood professionals that interact with the child, working together to jointly achieve goals and outcomes. And finally, recommended practice promotes communication between families and the professionals who interact with the child to achieve family-identified outcomes (Sandall et al., 2005).

Families. Table 10 provides the responses of family members to survey items 12b, 12c, 12e, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n, and 12o that were scored using a 4-point Likert scale. Responses ranged from Strongly Disagree to Strongly Agree to indicate the participant's perception that early intervention services were implemented according to evidence-based practice.

Table 10

Family Results Regarding Evidence-Based Practices

	Strongly Disagree	Disagree	Agree	Strongly Agree
12b. I feel that I am an equal partner in the decision making required to plan my child's early intervention education.	1	1	2	6
12c. My child receives early intervention services with children without disabilities to the maximum extent possible.	2	0	2	4
12e. The early intervention program involves parents in evaluations of whether early intervention strategies are effective.	1	1	3	5
12g. The early intervention program involves teachers in evaluations of whether early intervention strategies are effective.	2	1	1	6
12h. The early intervention specialists from the Intermediate Unit communicate the instructional strategies they implement to promote successful outcomes to me so that I might also use these strategies in my home.	2	1	4	3
12i. Early intervention services have been provided to my child in a timely manner.	3	0	2	5
12j. The Intermediate Unit specialists consult with me, seeking my input for successful implementation of services.	3	1	3	3
12k. The early intervention specialists provide me with strategies to deal with my child's behavior.	3	0	3	4
12l. Providers of early intervention give me information about the research that supports the approaches they use to help my child learn.	3	2	1	4
12m. If I have a problem/concern with an Intermediate Unit specialist, I feel comfortable sharing my concerns with them.	1	2	3	4
12n. Early intervention providers explain what options parents have if they disagree with a decision made by the early intervention program.	2	1	4	3
12o. Early Intervention providers connect families with one another for mutual support.	5	1	2	2

Overall, the scores of family members' confidence that early intervention was implemented according evidence-based practice correlated to the agree category for the Likert responses. The highest score for the family results of the 12 items was item 12b, family members are considered an equal partner in the decision making required to plan their child's early intervention education, with family members scoring that item between agree and strongly agree. But a similar question in 12j, Intermediate Unit specialists consult with the families seeking input for successful implementation of services, received a much lower score and would be categorized as somewhere between disagree and agree. Family members demonstrated the least confidence in Item 12o, early intervention providers connect families with one another for mutual support, scoring that item in the disagree category.

The experience of families with evidence-based practice was explored in depth during the one-on-one interviews with Alice, Ben, Carly, and David. These family representatives were asked to describe the instructional strategies, collaboration, and communication they experienced for their children receiving services through early intervention. The following questions were included in the interview protocol (Appendix K) to explore the experiences of family members:

- Item 6: Describe the strategies that the early intervention service provider uses when working with your child and then communicates to you and your child's preschool teacher.
- Item 7: How does the early intervention service provider incorporate the goals and strategies being used with your child into the routines of your day?

David described the stress of transitioning from home-based services in the Birth to Three program to a preschool setting. "It is a big jump to take a child from 3 years old because the child is little anyways and having the confidence to place them in a quality early childhood setting which is the best place for them." Alice, Ben, Carly, and David all felt that because early intervention services were provided within the preschool setting, that it all came together "quite nicely."

Alice, Ben, Carly, and David had similar experiences with their early intervention provider using a folder to communicate instructional strategies. Alice described her experience which was very similar for each family member. She stated,

> She had the folder that was a pretty good method of communication for us. She would have things in there um, games that she had played with him that she encouraged us to play. Or sounds, or different formations that she had used with him that would keep the consistency between her and school. I don't know if she shared those with the preschool teachers. She briefly mentioned the research behind her strategies. I never asked a lot of questions because in my head she knew what she was doing and he was making progress.

David felt that the communication his family had with the therapist was high because "they pushed for that."

Early childhood educators. Table 11 provides the results of the Early Childhood Educators' responses to the survey questions 12b, 12c, 12e, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n, and 12o which focused on the implementation of evidence-based practices. These items were scored using a 4-point Likert scale. Responses ranged from Strongly Disagree to Strongly Agree to indicate the participant's perception that early

intervention services were implemented according to evidence-based practice as determined by research and outlined by the DEC.

Table 11

Early Childhood Educator Results Regarding Evidence-Based Practices

	Strongly Disagree	Disagree	Agree	Strongly Agree
12b. I feel that I am an equal partner in the decision making required to plan the children's early intervention education.	9	31	55	26
12c. My children receive early intervention services with children without disabilities to the maximum extent possible.	5	11	51	50
12e. The early intervention program involves parents in evaluations of whether early intervention strategies are effective.	1	10	65	42
12g. The early intervention program involves teachers in evaluations of whether early intervention strategies are effective.	8	26	49	34
12h. The early intervention specialists from the Intermediate Unit communicate the instructional strategies they implement to promote successful outcomes to me so that I might also use these strategies in my classroom.	3	18	65	31
12i. Early intervention services have been provided to my children in a timely manner.	7	30	59	21
12j. The Intermediate Unit specialists consult with me, seeking my input for successful implementation of services.	6	34	53	23
12k. The early intervention specialists provide me with strategies to deal with my children with special needs' behavior.	6	19	68	24
12l. Providers of early intervention give me information about the research that supports the approaches they use to help my child learn.	13	51	38	14
12m. If I have a problem/concern with an Intermediate Unit specialist, I feel comfortable sharing my concerns with them.	8	17	64	28
12n. Early intervention providers explain what options parents have if they disagree with a decision made by the early intervention program.	4	30	64	18
12o. Early Intervention providers connect families with one another for mutual support.	12	54	35	10

The responses for the early childhood educators clustered predominantly around the Agree category for their perceptions as to whether or not early intervention services are implemented according to evidence-based practice. The strongest agree categories were in response to items 12b, early childhood educators felt that they were an equal partner in the decision making required to plan early intervention services for the children in their classrooms, and 12e, the early intervention program involves parents in the evaluation of effective early intervention strategies. The lowest score which correlated with early childhood educators selecting Disagree as a descriptor involved items 12l, providers of early intervention share with early childhood educators the research which supports the approaches they use with children receiving early intervention services, and 12o, early intervention providers work to connect families with one another for mutual support.

The experience of early childhood educators with evidence-based practice was explored in depth during the one-on-one interviews with Evelyn, Franny, Gail, and Helen. As early childhood educators, they were asked to describe the instructional strategies, collaboration, and communication they experienced for the children in their programs receiving services through early intervention. The following questions were included in the interview protocol (Appendix I) to explore the experiences of early childhood educators:

- Item 6: Describe the strategies that the early intervention service providers use when working with children in your school. Are these strategies communicated to you so you can incorporate and understand the strategies? Are you able to use

these strategies as you provide instruction in the classroom with your children identified with special needs?

- Item 7: How does the early intervention service provider incorporate the goals and strategies being used with children into the routines of your day?

Evelyn, Franny, Gail, and Helen each identified the session notes that the early intervention providers completed each time they worked with a child as the communication tool that described the instructional strategies the early intervention provider used. A copy of the session note is sent home in the child's folder and a copy is made to keep at the preschool. The early intervention providers do not typically explain or model the strategies they are using to the early childhood educators, and the early childhood educators were not confident that these strategies were explained or modeled for the parents. Franny shared, "They (the parents) will ask our teachers more of that but not the therapist. I don't believe that she shares information. We talk to the parents a lot here, but I don't believe that they have the same communication with the therapist." Each of the early childhood educators felt that if the early intervention providers shared "some tips, some techniques, some games to play, that would help the children when they are in the classroom would really promote what they are doing in those individual sessions."

Evelyn, Franny, Gail, and Helen each expressed the desire that their early interventionists provide services within the classroom setting instead of pulling the children out of the classroom to work with them individually in another room. Gail said, "ultimately I would really like to see those sessions happen in the classroom. She takes the children into the small office in the other classroom and she works with them out in

that small office. She is not in the classroom modeling. Not at all." Helen had a slightly different experience in that her physical therapist would work right along with the whole group providing support for the child receiving services through gross motor activities completed by the entire class, and her developmental specialist would work in the classroom, but not the other early interventionist who provided services. Each of the early childhood educators shared a desire to be an "open collaborative partner" with the early interventionists providing services in their preschools. They felt that the process of arriving, pulling the child into a separate room, providing services, and then leaving diminished collaboration and communication.

Early intervention providers. Table 12 provides the results of the Early Intervention Providers' responses to the survey questions 12b, 12c, 12e, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n, and 12o which focused on the implementation of evidence-based practices. These items were scored using a 4-point Likert scale. Responses ranged from Strongly Disagree to Strongly Agree to indicate the participant's perception that early intervention services were implemented according to evidence-based practice as determined by research and outlined by the DEC.

Table 12

Early Intervention Provider Results Regarding Evidence-Based Practices

	Strongly Disagree	Disagree	Agree	Strongly Agree
12b. I feel that I am an equal partner in the decision making required to plan the children's early intervention education.	4	1	18	43
12c. Children receive early intervention services with children without disabilities to the maximum extent possible.	5	4	20	36
12e. The early intervention program involves parents in evaluations of whether early intervention strategies are effective.	4	3	23	35
12g. The early intervention program involves teachers in evaluations of whether early intervention strategies are effective.	4	1	24	37
12h. The early intervention specialists from the Intermediate Unit communicate the instructional strategies they implement to promote successful outcomes to me so that families/teachers might also use these strategies in their classroom/home.	4	1	20	40
12i. Early intervention services have been provided to my children in a timely manner.	4	1	15	45
12j. As an Intermediate Unit provider, I consult with teachers and families, seeking input for successful implementation of services.	4	1	11	49
12k. As an early intervention provider, I provide families/teachers with strategies to deal with children with special needs' behavior.	4	1	22	38
12l. As an early intervention provider, I give information to teachers/families about the research that supports the approaches I use.	3	5	31	24
12m. If I have a problem/concern with a teacher/family member, I feel comfortable sharing my concerns with them.	4	8	26	28
12n. As an early intervention provider, I explain what options parents have if they disagree with a decision made by the early intervention program.	4	1	22	39
12o. As an early intervention provider, I connect families with one another for mutual support.	6	13	30	16

The early intervention providers' responses predominantly fall between the Agree and Strongly Agree category with item numbers 12j, early intervention providers consult with teachers and families seeking their input for successful implementation of services, and 12i, early intervention has provided services in a timely manner, receiving the highest scores. One item, item 12o, early intervention providers connect families with one another for mutual support received the lowest score among early intervention providers falling between the Agree and Disagree category.

The experience of early intervention providers with evidence-based practice was explored in depth during the one-on-one interviews. Jane, Karen, Lois, and Mary were asked to describe the instructional strategies, collaboration, and communication they experienced for the children in their programs receiving services through early intervention. The following questions were included in the interview protocol (Appendix J) to explore the experiences of early intervention providers:

- Item 6: Describe the strategies that you use when working with children and then communicate to parents and preschool teachers.
- Item 7: How do you incorporate the goals and strategies being used with children into the routines of their day?

Each of the early intervention providers who were interviewed described using session notes to communicate with families about the services that were provided to their children. Karen shared the methods that she uses to communicate with families including a triplicate form that she completes after each session with a child. It is just a half sheet of paper with notes on it. She stated that she will

try to communicate some strategies that way. I make phone calls. I develop materials you know, if there is a kid like this one here, she's got some issues with just identifying some basic vocabulary. So, I will pick a theme for a month and print a bunch of picture cards off and say practice these at home.

Jane, Karen, Lois, and Mary felt that it was hard to model strategies for the parents because their children that they provide services for are often dropped off at school by a bus or a van and they do not get to see the parents. In order to address this problem, they have held parent teacher conferences, and Lois is actually in the process of working with a team to include all of this information in an online system. Parents would be able to access the session notes for their child at any time to see the progress monitoring, or the instruction that was provided for their child during an early intervention session.

Lois also stated that they modeled the instructional strategies they use for the early childhood educators so they can meet the goals of the IEP in the classroom when the early intervention providers are not present. Jane said that the quality of that modeling or sharing of instructional strategies is really dependent on the relationship that the early intervention providers have developed with the preschools where they provide services. She stated,

It just depends on how often that speech therapist is at that center or the developmental teacher and how welcome and open and willing to listen to strategies. So, sometimes we run into barriers there. I think that our staff can sometimes be a barrier at times just for the simple fact that how approachable are they? Do they come across as I know everything and you know make the other

person feel as if they are not approachable or do they come across as here I am and this is the information that I have to offer you. I have some people that are excellent at that. I would just love to clone them.

This same attitude of feeling welcome in a preschool or approachable also influences the amount of time that children receive services within the large classroom setting, and how often they are pulled into a private session with the early intervention provider. Mary stated that her early intervention consultants are really good about working with the students within the classroom settings, but most often the speech therapists, physical therapists, and occupational therapists pull the students into a private room to provide services. Jane pointed out the Bureau for Early Intervention in Pennsylvania is requiring that early interventionist "provide two hours pushed into the setting." She felt this is fine if you are working for example with a child with speech difficulties and you want to encourage who, what, when, where responses in an integrated setting with peers. It is more difficult though having children working on more difficult sounds and using a mirror to see the position of the tongue with distractions in the room. This was a concern shared by Karen.

Knowledge of Early Intervention Implementation

The focus of early intervention legislation has been that young children with developmental delays or disabilities have the opportunity to participate in inclusive early education classrooms along with their typically developing peers. Knowledge of access, participation, and support for early intervention services is a key issue for effective implementation of early intervention services (Rous & Smith, 2011).

Families. Survey items 12p, 12q, and 12r which are displayed in Table 13 were used to determine the experiences of families regarding their knowledge of the early intervention process and the personnel involved with the delivery of early intervention services. These survey items were part of a set of 17 items which were scored using a 4-point Likert scale. Responses range from Strongly Disagree to Strongly Agree to indicate the family's perception that they understood the early intervention process and the roles of the early intervention personnel.

Table 13

Family Results Regarding Knowledge of Early Intervention Services

	Strongly Disagree	Disagree	Agree	Strongly Agree
12p. I feel that I understand how the early intervention services system works.	4	0	2	4
12q. I understand the roles of the various individuals who provide early intervention services for my child with special needs.	3	1	2	4
12r. I understand what due process is in relation to my child's early intervention services.	2	1	4	3

The scores for the knowledge survey items fell primarily around the Agree category among respondents with the responses split between Strongly Disagree and Strongly Agree. Family participants were asked in a separate survey question, number 4, if they knew the model which described early intervention implementation in the Commonwealth of Pennsylvania. The results were split evenly between the correct answer Family-Centered Model (36%), and Do Not Know (36%). The responses of therapeutic model and transdisciplinary model each received 9%. The Family-Centered Model accurately describes the focus for the Commonwealth of Pennsylvania that early

intervention supports families' involvement in program planning, decision-making, and service delivery. These supports and services are to be provided in accordance with family values and priorities addressing the changing needs of families and encouraging parent and professional partnerships (PDE, 2010).

The knowledge of early intervention services was explored in depth during the one-on-one interviews with Alice, Ben, Carly, and David. Families were asked to identify the model which described the early intervention services their child received. The following questions were included in the interview protocol (Appendix K) to explore the knowledge of family members:

- Item 8: How would you describe the early intervention model that is used to provide services for your child?
- Item 10: How do you feel that early intervention could support you as you experience the implementation of early intervention services? Would connecting with other families who are going through early intervention with their children be of benefit to you?

None of the family members knew there was a model that described early intervention service delivery in Pennsylvania, although David felt that it was something that had to be community-based. David also expressed concern for those families he knew of who lived in rural counties but had little knowledge about the resources that were available for early intervention, especially the resource of the Down Syndrome Centers in both Pittsburgh and Philadelphia. He also reiterated that "resources are only as good if people know about them." Carly expressed concern for those families who

were told by their pediatrician not to worry about their child like she was initially told, but who didn't have the education or resources to push their pediatricians for follow-up.

> And I just often thought about that uneducated mother that if that was her first child she wouldn't have anything to compare it to. And if her pediatrician was saying fine, then probably where early intervention could have come in and really helped push that child where they needed to be wouldn't have happened until they got to kindergarten because probably that mother wouldn't have been able to afford preschool.

David shared that his county has an on-line family resource guide to provide families with the names and numbers of people to call to access resources. Alice, Ben, Carly, and David were all given pamphlets about Parent to Parent, and although David accessed Parent to Parent, none of the other family members did. Parent to Parent is an organization that links families of children with special needs to each other for support.

Early childhood educators. Survey items 12p, and 12q which are displayed in Table 14 were used to determine the experiences of early childhood educators regarding their knowledge of the early intervention process and the personnel involved with the delivery of early intervention services. These survey items were part of a set of 17 items which were scored using a 4-point Likert scale. Responses range from Strongly Disagree to Strongly Agree to indicate the early childhood educator's perception that they understood the early intervention process and the roles of the early intervention personnel.

Table 14

Early Childhood Educator Results Regarding Knowledge of Early Intervention Services

	Strongly Disagree	Disagree	Agree	Strongly Agree
12p. I feel that I understand how the early intervention services system works.	3	19	70	24
12q. I understand the roles of the various individuals who provide early intervention services for my child with special needs.	3	12	78	24

The responses of the early childhood educators cluster around the Agree category. Early childhood educators were asked in a separate question, survey question number 6, if they knew the model which described early intervention implementation in the Commonwealth of Pennsylvania. The results were between the correct answer Family-Centered Model (30%), and Do Not Know (32%). The responses of therapeutic model (18%) and transdisciplinary model (17%) were approximately equal in the percentage of respondents who believed they accurately reflected the model of early intervention implementation in Pennsylvania.

The knowledge of early intervention services was explored in depth during the one-on-one interviews with four early childhood educators. Evelyn, Franny, Gail, and Helen were asked to identify the model which described the early intervention services that the children in their early childhood classrooms received. The following questions were included in the interview protocol (Appendix I) to explore the knowledge of early childhood educators:

- Item 8: How would you describe the early intervention model that is used to provide services for children in your school?

- Item 10: How do you feel that early intervention could support you as you experience the implementation of early intervention services? Would connecting with other families who are going through early intervention with their children be of benefit to you?

The early childhood educators were not aware of the model that described early intervention implementation in Pennsylvania. Franny said, "What I see here is we (early intervention therapists) run in, we do our therapy and we run out." Helen felt that the lack of knowledge of early childhood educators and directors minimized inclusive opportunities for children with developmental delays or disabilities,

> I just wish there were more places for kids that are inclusive. I think on the early childhood side they just don't have the knowledge, enough of it to feel confident in and being able to connect families to supports, to work with the supports. They just don't have that confidence and understanding of okay, if I have a child that is having these issues, how do I connect them with what they need? What supports do I get to make this successful and not jeopardize the other quality pieces so they just kick them out is what ends up happening.

Each of the early childhood educators described providing community resources to support families and counseling families on the resources available for early intervention. Evelyn was vaguely familiar with the Parent to Parent initiative knowing that "it was it's a 1-800 number that they can call and they can connect with other families who have the same, are going through the same different delays or whatever the issue or diagnosis is. And they can talk with other families and work through that." Gail and Franny shared that they provide lots of opportunities through parent nights to educate

families on supports for children with developmental delays or disabilities, but that parents do not always take advantage of those opportunities. Franny felt that their lack of participation was due to "fear and more resistance to going through the process."

Early intervention providers. Survey items 12p and 12q which are displayed in Table 15 were used to determine the experiences of early intervention providers regarding their knowledge of the early intervention process and the personnel involved with the delivery of early intervention services. These survey items were part of a set of 17 items which were scored using a 4-point Likert scale. A higher score corresponds to a higher perception that early intervention providers felt that they understood the early intervention process and the roles of the early intervention personnel.

Table 15

Early Intervention Provider Results Regarding Knowledge of Early Intervention

	Strongly Disagree	Disagree	Agree	Strongly Agree
12p. I feel that I understand how the early intervention services system works.	4	1	19	42
12q. I understand the roles of the various individuals who provide early intervention services for my child with special needs.	4	0	12	50

The scores of the early intervention providers fall within the Agree to Strongly Agree range with scores falling closer to Strongly Agree. The final item, 12q, was actually the highest scoring item on the entire survey among the Likert response items. Early intervention providers were asked in a separate question, survey question number 4, if they knew the model which described early intervention implementation in the Commonwealth of Pennsylvania. The correct answer according to the Pennsylvania Department of Education Bureau of Early Intervention is a Family-Centered Model

which was identified by 12% of the early intervention providers. Transdisciplinary model was identified by 52% of the early intervention respondents, followed by Other 15%, Do Not Know 11%, and therapeutic model 9%.

The knowledge of early intervention services was explored in depth during the one-on-one interviews with four early intervention providers. Jane, Karen, Lois, and Mary were asked to identify the model which described early intervention service delivery. The following questions were included in the interview protocol (Appendix J) to explore the knowledge of early intervention providers:

- Item 8: How would you describe the early intervention model that is used to provide services for children in early intervention?
- Item 10: How do you feel that early intervention could support you as you experience the implementation of early intervention services? Would connecting with other families who are going through early intervention with their children be of benefit to you?

Each of the early intervention providers described their model of delivery using different terminology. Jane identified the model as integrative service delivery because they are focused on the educational component. She stated that if you "are looking at it from the state perspective we are a family based service. Where we look different is that we also have that educational component." Karen felt that they were transdisciplinary because the early intervention service providers consult with each other on the best instructional strategies to use. Lois felt that her model was best described as consultative because that is the role the early intervention service providers play in service delivery.

Mary correctly identified the model as family centered, especially the Birth to Three component since they provide services in the home.

Each of the early intervention providers shared examples of connecting with the families they serve. Jane mentioned that they invite the Parent to Parent representatives to their staff meetings so they can share the resources that they provide to families. Karen and Mary mentioned that they sponsored activities or fun nights for families to get together but unfortunately many families do not take advantage of those opportunities. Karen even taught parenting classes for a few years, providing childcare and snacks so the entire family could attend, but with funding cuts, that program was discontinued. They do try to list family resources on the IEP so parents know what is available.

Overall Impression of Early Intervention Experience

After data were analyzed according to the separate focus areas of identification, IEP development, intervention practices, and knowledge, the overall experiences of families, early childhood educators and early intervention providers were analyzed by adding the scores from each of the 17 Likert scale items (Strongly Disagree corresponds to 1, Strongly Agree corresponds to 4) together for a maximum possible score of 68. A score approaching 68 corresponds to a higher participant group's perception that early intervention services were implemented with fidelity according to the focus areas listed above in accordance with IDEA 2004, Part B and PA Act 212. The participant group's perception scores are described in Table 16. Due to their small number, the family response score was not significant to include in this table.

Table 16

Participant Group's Overall Perception of Early Intervention Implementation

	N	Mean	Standard Deviation	95% Confidence Interval	
				Lower	Upper
Early Childhood Educators	107	50.15	9.09	48.41	51.89
Early Intervention Providers	57	58.07	12.21	54.83	61.31

Although the number of respondents was higher for each group when analyzing the four focus areas, when determining the overall score, only those respondents who answered every question were included in the results. The early intervention providers had the highest score when sharing their perceptions that early intervention services were implemented with fidelity. Families and early childhood educators each received a mean score of 50.86 and 50.15, respectively.

The overall experiences of the families, early childhood educators, and early intervention providers were explored in depth during one-on-one interviews. During the coding of the interviews using *NVivo* additional themes emerged from the interviews with all of the participant groups. These themes were grouped into two categories, supports for successful implementation of early intervention services and barriers to successful implementation of early intervention services in the Commonwealth of Pennsylvania.

Supports for successful implementation of early intervention services. Each of the interview participants mentioned areas which were either currently implemented, or they wished would be implemented to improve the process of early intervention

service delivery. These supports included training, communication, collaboration, and coordinated service delivery through a service coordinator.

Mary's Intermediate Unit provides training for the early childhood educators by the early intervention consultants during times when the children are napping. They have received training on instructional strategies, FAPE (Free Appropriate Public Education), the role of paraprofessionals, and consultants in the classroom to name a few. As an early intervention administrator, Lois surveys the early childhood educators in her schools to determine their professional development needs. She then coordinates professional development for all of the early intervention staff and early childhood staff together at least three times a year. She provided a recent example with a new OCDEL initiative,

> even though it's an EI initiative (Positive Behavior Support Restraint) it really spilled over a lot into the early childhood classrooms because we have so many kids in there. So, we had our focus groups talk about how we wanted to actually roll it out to our people because there is a lot of reporting. We had to think about how to get everybody on board and then we have to make sure that it actually happens.

Gail felt that it is this educational background, this level of training that makes a difference between whether or not an early childhood educator feels comfortable advocating for children in their classrooms who may have developmental delays.

All of the participants mentioned the importance of communication between the families, early childhood educators, and early intervention providers. Jane has her early intervention providers use a checklist to make sure that they provide families with all of

the resources that are available to communicate the services available through early intervention. She stated that "we kind of do that backup that is not required by the state but we do it as an internal measure" to improve communication. Lois has each of her early childhood educators and early intervention providers complete satisfaction surveys periodically "just to see how we are doing and you know we always get something from the surveys from the EC staff that say we want more information on kids with autism or something like that. It is like an ever changing, revolving door that communication is really, really key to making sure that we are addressing all of the issues." Because Lois has 120 staff members she makes sure that they are really "tight on their communication and consistent in what they are telling staff."

Lois identifies that collaboration between early intervention staff and early childhood educators is the key for successful implementation.

> Because they are in the classroom (early intervention providers), they, and this is probably the biggest piece, they develop relationships with the EC teacher or the community preschool and they are the go to person even if they have to refer them to someone else. They have that touchpoint. That is really how we are able to maintain these kids so well in the classroom. That they are included and they stay included rather than being kicked out as so many kids are from their preschool program. Program relationships.

As an early childhood educator, Helen felt that what set her apart from educators in other early childhood programs was that she understood the system from her work in the Birth to Three program. She feels that "It helps that connection so we have the same language, we talk the same terms. I understand the process and the loopholes."

Jane and Lois, early intervention providers, felt that their service delivery is greatly improved since they have their own early intervention staff who provide services. They do not have to contract out to providers for OT, PT, speech and developmental services like many other Intermediate Units. They supervise all of their staff directly, and are then able to have better communication since all members of the team are present when a staff meeting is called. This coordination of service delivery is what they feel makes a difference in the quality of their early intervention service delivery.

Barriers to successful implementation. As the responses of the interview participants were coded, themes emerged around barriers to early intervention implementation. These barriers included parent concerns, service coordination, technology, and training.

The families shared their feelings after finding out that their child might have developmental delays or a disability. Working through these feelings initially set up a barrier to proceed through the early intervention process. Carly expressed what it felt like to be a parent receiving the news that their child might not be developing typically:

> That whole period was just a little traumatic for us. Because we just never thought that we would have to go through anything like that. As a parent going through the process, it was terrible. I just knew in the back of my head that something was wrong. I was his biggest advocate. It is just so scary. It is very overwhelming and you throw in a family who maybe it's a single parent, who has other children, and is trying to navigate just paying the bills every day, this and that, and it can absolutely consume you very, very quickly. Almost like a

tsunami. I don't know what the divorce rate is, but it is very high for families who have children with disabilities.

These same fears were observed by the rest of the family participants and the early childhood educators. Evelyn spoke of families feeling inferior as if they had done something wrong. Franny shared parents' fears that their child would be labeled. Gail spoke of parents feeling intimidated by the whole process. Ben expressed the following as a family member who went through the process. One of the most difficult parts for him was the idea of service coordination.

Ben expressed frustration because,

> I was never sure who was actually in charge or who I should talk to. And, I don't think they were talking to each other either the staff within the I.U. My sense is that they didn't really work as a team. They knew each other, but they were all doing their separate stuff. They weren't really working as a team and, when I had to talk about things it was just, I felt like what I was dealing with was a speech therapist, an occupational therapist, and whoever else was on, developmental. I felt like I was dealing with each one of them individually. And I wasn't really sure what was holding up the structure of it except that the funds were coming from somewhere.

The early childhood educator participants also felt that the lack of a service coordinator for families with children in the 3 to 5 early intervention program was a barrier. The families and early childhood educators need to have someone that will help them understand the process, to coordinate all of the services by communicating with the families, early childhood educators, and the early intervention providers. As Gail said,

"it has to be an overwhelming feeling to know that your child needs some things but you don't know how to get them for them." The Birth to Three program provides service coordinators assigned to each family to help them navigate the process and coordinate delivery of services. This does not exist for children 3 -5 years old and their families who participate in early intervention services.

Although technology was put in place to try to streamline the reporting process for early intervention, according to the early intervention providers and the early childhood educators it has also created some barriers to effective implementation. Karen, an early intervention provider, shared the frustrations of many of the early intervention providers who work with the online reporting system PELICAN (Pennsylvania's Enterprise to Link Information for Children Across Networks) (PDE, 2010) when she said,

> Nobody seems to have a really great handle on exactly what it is, is you are supposed to be doing in the system and this is our third system since I've been here. I know my supervisors could not get on this program and do an IEP. You can take 10 IEPs by ten people and I can guarantee you there would not be one that was correct and there would not be one that was the same. Shouldn't it all be the same? I think I would go to the supervisors of the I.U.s and say give me three people and let's get together in Harrisburg and talk about this. Why isn't this working? Nobody is asking why it isn't working.

Early intervention providers feel that they are being asked to service more children, complete more paperwork, and at the same time receive reduced funding to implement the early intervention program. What Jane and Lois are noticing is that over

the past few years the legislature of the Commonwealth of Pennsylvania has not increased or decreased the spending for early intervention in Pennsylvania. This means that although costs are increasing, funding is not keeping pace. So, therefore programs are required to stretch their dollars more and more to meet the needs of children in early intervention. As Lois stated, "the kids aren't going away, so we still need to serve them, but we have to do it with less and less money." The early childhood educators believe that this reduction in funding has influenced the number of children who currently qualify for services in early intervention, and reduced the possibility of collaborative training opportunities between early childhood educators and early intervention staff. As Jane stated, for early intervention implementation to be effective, "we can't keep taking away. We know that if you look at statistics, we know that by the time a child is 7 that they have had some of their greatest developmental experiences and growth."

Research Question Two

After analyzing the descriptions of families, early childhood educators, and early intervention providers as they experienced early intervention implementation in the Commonwealth of Pennsylvania, the researcher answered research question number two: *How do the experiences of families, early childhood educators, and early intervention service providers compare as they participate in early intervention in various communities throughout the Commonwealth of Pennsylvania?*

The separate focus areas of identification, IEP development, intervention practices, and knowledge including the overall experiences of families, early childhood educators and early intervention providers were analyzed by adding the scores from each of the 17 Likert scale items (Strongly Disagree corresponds to 1, Strongly Agree

corresponds to 4) together for a maximum possible score of 68. A score approaching 68 corresponds to a higher participant group's perception that early intervention services were implemented with fidelity according to the focus areas listed above in accordance with IDEA 2004, Part B and PA Act 212.

A one-way ANOVA was used to compare the overall survey scores of each participant group to determine if the experiences of the families, early childhood educators, and early intervention providers differed. The null hypothesis states that there is no statistical difference between the perceived experiences of families, early childhood educators, and early intervention providers as they participate in early intervention throughout the Commonwealth of Pennsylvania. Due to the large discrepancy in group sizes (family $n = 9$), the assumption of the homogeneity of variances was violated ($p = .034$). Consequently, the Brown-Forsythe robust test of equality of means was used to determine if there was a statistically significant difference between the means of the participant groups. The one-way ANOVA showed that there was a significant difference among the groups, $p<.05$. In order to determine which groups demonstrated a significant difference, the researcher ran the Games-Howell post hoc. The Games-Howell post hoc test is administered when a population is small and the nature of the family contributes to a large variance like a family group. The Games-Howell post hoc test showed that the early childhood educator group and the early intervention provider group showed a significant difference in their belief that early intervention services were implemented with fidelity according to evidence-based practices with $p < .0001$. Therefore, the null hypothesis was rejected. Early intervention providers who participated in the study indicated that they believed that early intervention services were implemented with a

much greater fidelity according to evidence-based practices and state and federal regulations than early childhood educators who completed the survey. The results of the one-way ANOVA and post hoc test are found in Table 17 and Table 18.

Table 17

One-Way ANOVA Comparing Groups' Perceptions of Early Intervention Implementation

	df	Statistic[a]	Sig.
Welch	2	8.88	.003
Brown-Forsythe	2	4.98	.028

a. Asymptotically F distributed.

Table 18

Games-Howell Post Hoc Test Comparing Participant Group Perceptions

Participants		Mean Difference	Sig.
Educator	Provider	-7.92*	.000

*. The mean difference is significant at the 0.05 level.

A one-way ANOVA was used to compare the differences among the groups on each of the separate focus areas of IEP Development, Intervention Practices, and Knowledge of Early Intervention. Each of the focus area comparisons yielded the same results as the overall or combined perception of early intervention implementation. In each separate analysis, the result was the same, a statistically significant difference between the early childhood educators' perception and the early intervention providers' perception that early intervention services were implemented according to evidence-based practice and state regulations.

Research Question Three

A one-way ANOVA and Chi Square test of association were used to analyze the final research question in the study *Is the depth of understanding regarding the delivery of early intervention services or frequency of early intervention services influenced by community size (urban, suburban, rural) within the Commonwealth of Pennsylvania?*

Research question number three asked if community size (urban, suburban, rural) influenced the depth of understanding participants had regarding the delivery of early intervention services. The null hypothesis states that there is no statistical difference between the depth of understanding families, early childhood educators, and early intervention providers have based on their community size or location. A one-way ANOVA was used to compare the overall scores of each participant group based on the 17 Likert scale items to determine if the experiences of the families, early childhood educators, and early intervention providers differed based on their community size and location. The results of the family participants were removed due to their small sample size. The homogeneity of variance was not violated ($p=.250$). The one-way ANOVA showed a significant difference in the depth of understanding among the urban, suburban, and rural group participants' belief that early intervention services were implemented with fidelity according to evidence-based practices with $p < .05$. Therefore, the null hypothesis was rejected. The results on the one-way ANOVA are found in Table 19.

Table 19

One-Way ANOVA Comparing Groups' Perceptions Based on Community Population

	df	Mean Square	F	Sig.
Between Groups	2	551.91	4.42	.013
Within Groups	167	124.90		
Total	169			

The Games-Howell post hoc test was used to identify which groups demonstrated differences in their depth of understanding. Table 20 shares the results of the post hoc test. For each of the statistically significant comparisons, the participants who lived in rural areas more strongly believed that they understood how early intervention services were implemented in their communities and that they were delivered with fidelity as opposed to the beliefs of the urban and suburban participants.

Table 20

Games-Howell Post Hoc Test Comparing Groups by Community Population

Participant Population		Mean Difference	Sig.
Urban	Rural	-5.96*	.036
Suburban	Rural	-5.56*	.010

*. The mean difference is significant at the 0.05 level.

The second part of research question 3 asked *Is the frequency of early intervention services influenced by community size (urban, suburban, rural) within the Commonwealth of Pennsylvania?* The frequency of services was determined by using the responses of survey questions 12 and 13 for the early childhood educators, and survey questions 10 and 11 for the early intervention providers. The community size of participants was determined by using the responses of survey question number 7 for the

early childhood educators, and survey question number 5 for the early intervention providers.

The chi square test of independence was used to determine if there was an association between population groups and the frequency of early intervention services. A Phi and Cramer's V was used to determine the strength of the association. The results of this analysis are reported in Tables 21 and 22.

Table 21

Chi Square Test of Association Between Population and Frequency of Services

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.340[a]	2	.844
Likelihood Ratio	.336	2	.845
Linear-by-Linear Association	.099	1	.753
N of valid cases	194		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.82.

Table 22

Phi and Cramer's V for Chi Square Test of Association -Populations and Frequency

		Value	Approx. Sig
Nominal by Nominal	Phi	.042	.844
	Cramer's V	.042	.844
N of Valid Cases		194	

A chi-square test for independence indicated no significant association between population (urban, suburban, rural) and frequency of services, χ^2 (2, 194) = .34, p = .84, *phi* = .04.

Summary

This chapter has been confined to presenting and analyzing the data without drawing conclusions or inferences. Each research question was addressed using descriptive statistics, inferential statistics, and qualitative analysis. The quantitative research provided information from a large number of people that could be analyzed statistically to offer useful information, and the qualitative data provided an opportunity for the individuals in the study to express their own perspectives or experiences (Creswell, 2005).

Research question number 1 was answered using a two-phase sequential mixed-methods design. Phase 1 included having participants complete an online survey. These survey data were analyzed using descriptive statistics to report how participants described their experiences in early intervention implementation around four focus areas outlined in Pennsylvania's Early Intervention Services System Act of 1990 (Act 212) for early intervention implementation: (1) identification, referral, and evaluation, (2) IEP development, (3) intervention practices including instructional strategies, collaboration, and communication, and (4) knowledge of early intervention implementation. These data were reported according to participant group: families, early childhood educators, and early intervention providers. Descriptive statistics were used to report a score for each participant group which measured their overall belief that early intervention services were implemented with fidelity throughout the Commonwealth of Pennsylvania. The means of the scores clustered predominantly around the "agree" category that services were implemented according to evidence-based practices. The online survey led to the selection of the population for phase two of the study, qualitative analysis.

The second phase of the sequential study included one-on-one interviews with representatives of the three participant groups. This provided individuals within these groups with an opportunity to share their experiences in early intervention. The responses of these individuals were reported as themes which were determined through coding. Responses were selected as themes if they were present in at least half of the interview participants' transcripts. The researcher's analysis led to the reporting around four themes: (a) identification, referral, and evaluation, (b) IEP development, (c) instructional strategies, and (d) knowledge of early intervention. Two additional themes emerged through the coding process, supports for successful implementation of early intervention, and barriers to successful implementation of early intervention services.

To answer research question 2, the researcher examined the data to determine if there were any statistically significant differences among the groups. The inferential statistical measure, the ANOVA, was used to determine if there was a statistically significant difference between the experiences reported by the groups. This measure determined that there was a statistically significant difference between the educator group and the early intervention provider group. The early intervention providers indicated the highest belief that early intervention services were implemented according to evidence-based practices. This difference was also evident through the themes that emerged from the interview data. The experiences of the families, early childhood educators, and early intervention providers were significantly different among the groups and within the groups. The statistical difference between the families and the other groups was not significant due to the small sample size of the participant group.

To answer research question 3, the researcher analyzed the data using the inferential statistical measure, the ANOVA, to determine if there was a statistically significant difference between where participants lived (urban, suburban, and rural settings) and their level of understanding of early intervention implementation procedures. The rural population demonstrated the highest level of understanding among the groups. The second part of research question 3 was to determine if the frequency of services in early intervention were influenced by where the participants lived (urban, suburban, and rural settings). The inferential statistical measure, chi-square, was used to determine if there was an association between the setting where the participants lived and their frequency of services. A statistical association was not found between the frequency of services delivered and the setting where participants lived.

CHAPTER V

DISCUSSION

The purpose of this two-phase, sequential mixed-methods research study was to describe and compare the experiences of families, early childhood educators, and early intervention service providers who were engaged in the implementation of early intervention services for children ages 3 to 5 in urban, suburban, and rural communities throughout the Commonwealth of Pennsylvania. Early intervention describes the array of services, programs, supports, and policies established for improving the development of young children, from birth to age eight, who have special needs, and their families (Smith & Rous, 2011). The Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) has identified recommended practices for early intervention/early childhood special education. These recommended practices provided the framework to evaluate the implementation of early intervention services in this research study including the focus areas of (a) identification, referral, and evaluation, (b) IEP development, (c) intervention practices including instructional strategies, collaboration, and communication, and (d) knowledge of early intervention implementation (Sandall et al., 2005).

Odom (2009) found through a validation survey that even though many practitioners knew what the recommended practices were for early intervention or early childhood special education the implementation of these practices was not happening in their programs, and if recommended practices were implemented at all, they were not implemented according to the evidence-based norm. A review of the literature confirmed that research of the actual implementation of early intervention was extremely limited.

The need for research in this area, and the researcher's own experiences in early intervention provided the motivation for conducting this study.

The survey for this study was accessed by 314 participants and completed by 226 participants who lived throughout the Commonwealth of Pennsylvania and were involved in early intervention as (a) family members of children who received early intervention services (n =11), (b) early childhood educators with children in their classrooms who received early intervention services (n=149), and (c) early intervention providers who provided early intervention services to eligible children (n=66). These are the respondents whose data were reported in Chapter IV. The online survey was created by the researcher to determine implementation of early intervention according to evidence-based practices and state regulations. The survey was piloted by excluded representatives of each participant group. The final survey used in the study included suggestions made from the pilot group.

The criteria for the family members included having a child currently participating in early intervention services, or having a child who had participated in early intervention services in the past. This population provided the lowest response rate for the online survey. Two factors may have influenced this low return for the family group. The first is that due to the confidential nature of assessment of child development and subsequent eligibility for early intervention services, the researcher was dependent on early childhood educators and family advocacy groups to forward the survey invitation to families. This loss of a direct connection to the researcher made it difficult to ensure that the appropriate link and the explanation of the purpose of the study were delivered to families. Fifty of the family participants accessed the survey, however thirty-eight

participants could not see the survey questions displayed due to a technical difficulty. This may be due to the possibility that the correct anonymous survey link was not forwarded to the families.

The other factor that may have diminished the rate of return on the family surveys is the feeling that family members have when their children have been diagnosed with a disability. One of the family interview participants shared their thoughts on the initial identification of their child having a developmental delay, "That whole period was just a little traumatic for us. Because we just never thought that we would have to go through anything like that. As a parent going through the process, it was terrible." One of the early childhood educators shared the feelings of the parents that she observed, "You have a parent feeling like they have done something wrong or having them have that inferior feeling." Perhaps these feelings influenced parents' willingness to participate in the research study. The four family members who participated in the interviews were very willing to share their experiences one-on-one, but they all described that same feeling of identification of their child's developmental delay or disability as traumatic and overwhelming.

The early childhood educator participants demonstrated the highest rate of return for the survey and a willingness to participate in the one-on-one interview. Interview participants were selected using purposive sampling to ensure representation across the Commonwealth of Pennsylvania. The majority of these participants would be considered highly qualified early childhood educators based upon their years of experience, level of teaching certification, and leadership responsibilities in their schools. The early childhood educator survey and interview participants worked in schools that were either

accredited by NAEYC, or designated as a Keystone STAR 3 or 4 level provider. These programs were selected due to their commitment to program quality, teacher certification, and developmentally appropriate practice. The researcher was interested in the experiences and knowledge regarding early intervention among the programs with the highest quality rating in the Commonwealth of Pennsylvania. According to their accreditation or certification, these programs are required to implement IEP goals and objectives, and to demonstrate engagement, two-way communication, and partnerships with families and relevant specialists in early intervention (Keystone STARS, 2012; NAEYC, 2013). Forty-one survey participants indicated a desire to participate in a one-on-one interview with the researcher. Purposive sampling was used to select four interviewees who represented various regions throughout the Commonwealth of Pennsylvania.

The early intervention provider participants also demonstrated a high response rate especially since the survey invitation was sent to the 29 Intermediate Unit early intervention directors. The directors were invited to forward the invitation to participate in the research study to their service providers. The survey sample included administrators, speech therapists, occupational therapists, developmental specialists, physical therapists, and early intervention teachers. Ten of the early intervention provider survey participants indicated a desire on the last question of the survey to participate in a one-on-one interview with the researcher. Purposive sampling was used to select participants who represented various regions throughout the Commonwealth of Pennsylvania.

This mixed-methods, two phase sequential study included quantitative and qualitative data collection. After approval was received from the Institutional Review Board of Indiana University of Pennsylvania (Appendix A), the online survey link along with the invitation to participate in the study was sent to each participant group using Qualtrics. One week after the survey was launched, a follow-up reminder e-mail was sent using Qualtrics to encourage participants to forward the e-mail link to families or staff. Two weeks after the initial launch of the survey, a final e-mail of encouragement was sent again using Qualtrics (© Qualtrics Labs, Inc. 2012). The number of respondents increased each time the reminder e-mail was sent out to the participant sample. The survey was officially closed at the end of the four week time period after the initial launch date. The survey data was analyzed using SPSS (© IBM Corporation, 2012). The final question of the survey asked participants to indicate their willingness to participate in a one-on-one interview with the researcher to discuss their experiences in depth at a future date.

The respondents who indicated a willingness to participate in a one-on-one interview were coded by location within the Commonwealth of Pennsylvania and participant group category. Participants were selected for the second phase of the study, the qualitative phase, using purposive sampling to ensure representation of each of the following categories: (a) setting in the study according to population density (urban, suburban, and rural), (b) geographic location in the Commonwealth of Pennsylvania (north, south, east, and west), and (c) participant group category (family member, early childhood educator, and early intervention provider). The participant sample for the qualitative interview portion of the study included 12 participants. The interview

responses were analyzed using *NVivo10* (QSR International, 2012). The conclusions drawn from this study are discussed in the findings.

Findings

The findings of this research study are organized by the research questions which determined the methodology for this study, and the framework of early intervention service implementation which served as the guide. The findings of the first two research questions (1) *How do families, early childhood educators, and early intervention service providers describe their experiences in early intervention in the Commonwealth of Pennsylvania?, and (2) How do the experiences of families, early childhood educators, and early intervention service providers compare as they participate in early intervention in various communities throughout the Commonwealth of Pennsylvania?* were answered within the framework for early intervention service implementation. The framework includes the focus areas of: (a) identification, referral and evaluation; (b) IEP development; (c) intervention practices including instructional strategies, collaboration, and communication; and (d) knowledge of early intervention implementation.

Identification, Referral and Evaluation

Early identification is a crucial step in the process to identify children who may have delays or deficits in one of the five developmental domains. If after an initial screening, evidence indicates that a child may be at risk, then a full evaluation is completed to confirm the delay or disability, and interventions are set in place to prevent or modify the progression of the delay (Shapiro, 2011). The first section of Chapter 14, Title 22 of the Pennsylvania School Code which delineates the regulations which govern the implementation of early intervention services in Pennsylvania outlines the procedure

that each early intervention agency shall take to identify eligible children who reside within the boundaries of each Intermediate Unit within the state. This identification process is known as Child Find (22 Pa. Code §§ 14.152 a-c).

The family survey respondents reported that none of their children were identified as eligible for early intervention services through the Child Find process. The only family member among the interview participants who had heard of Child Find was a family advocacy leader who was aware of Child Find services occurring within his community through community events that he attended, but it was not part of the identification process for his child.

The early childhood educator survey respondents reported that 2% of the children in their classrooms were identified using Child Find. The only early childhood interview participant who had ever heard about Child Find learned about the process in the past few months because she was invited to join the Local Interagency Coordinating Council in her community and asked to serve on the Child Find committee. She was surprised to hear of the process and the amount of funding that was available to provide Child Find services. In her role as an early childhood teacher and director, she had never heard of Child Find as a system for identifying eligible children for early intervention services.

Fifty-two percent of the early intervention provider survey respondents reported their perception that one of the methods of identifying children eligible for early intervention services was through Child Find. Each of the interview participants knew about Child Find activities, but as one early intervention administrator stated even though they worked very hard to promote activities or provide resources in the community, "it is still not getting to where it needs to go. It is not happening the way we would like it to

happen." This discrepancy in the identification of Child Find as a means for identifying children eligible for services among the early childhood educators and the early intervention providers may be due to the fact that the early intervention providers are charged with administering the Child Find process.

This research study found that most children identified as eligible for early intervention services are identified by their early childhood educator. In fact, 40% of the families, 80% of the early childhood educators, and 83% of the early intervention providers identified the preschool as the setting where their children were first identified. Of the four parents interviewed, two of the interview participants were very appreciative of their early childhood educator for recognizing their child's developmental delays. One of the children was identified at birth, and the other child was identified by his mother who then pursued her concerns with her child's pediatrician during the birth to three timeframe.

High quality early childhood programs are required as part of their accreditation to administer developmental screenings within three months of a child's program entry, and then to continuously monitor child development in the five developmental domains using this information to guide teaching practices, and make referrals to appropriate professionals when necessary (NAEYC, 2013). However, early childhood educators in both northern Pennsylvania, and eastern Pennsylvania reported that they were discouraged from contacting their Intermediate Unit with a referral for a child who they suspected may be eligible and would benefit from early intervention services. An exception is made in the eastern Pennsylvania Intermediate Unit for children who participate in a Pre-K Counts classroom. If a child is in a Pre-K Counts classroom, the

early childhood educator may make a referral, but not for any of the other children in her program. These early childhood educators were told that only the parent could make a referral to the Intermediate Unit.

The researcher did not find that same process in the Intermediate Units researched in western Pennsylvania and southern Pennsylvania. In the Intermediate Units researched in western Pennsylvania and southern Pennsylvania, early childhood educators are encouraged to make referrals either directly to early intervention staff who provided services in their preschools, or by using an online referral system which is posted on the Intermediate Unit's website. This is in agreement with the work of Meisel and Shonkoff (1990) who found that coordination and communication between education communities at the local level is particularly critical to the successful implementation of early intervention services.

The families and early intervention providers identified the families as the group who initiated the evaluation process for children to receive early intervention services after a referral had been completed. Early childhood educators felt that they (46%) initiated evaluation of eligible children as well as the parents (41%). The Intermediate Units in western Pennsylvania and southern Pennsylvania typically completed the evaluation within the preschool or early childhood setting. The Intermediate Unit in northern Pennsylvania completed the entire process (screening, evaluation, evaluation report, IEP development, and IEP meeting) within the same day at the Intermediate Unit.

The researcher found that evaluations in Pennsylvania may occur within the early childhood setting, but the child was always pulled into a private room for evaluation. The evaluation did not occur within the classroom setting, even if the early childhood

educators indicated that concerns were evidenced within the classroom setting. Neisworth and Bagnato (2005) found that the use of authentic assessments provided the most reliable information when determining whether or not a child is eligible for early intervention services. Authentic assessments are defined as assessments which are developmentally appropriate, individualized for children and families, reliable, inclusive of multiple measures administered over multiple points in time, and incorporate feedback from all members of the early intervention team. Evidence-based practice identifies authentic assessments as the best measure for a child to demonstrate his/her strengths and weaknesses. Authentic assessments include observing children interacting with familiar people and their environment in ways that are useful and meaningful to them (Pretti-Frontczak, Bagnato, Macy, & Sexton, 2011). Evidence-based practice also recommends that the psychologist who completes the evaluation observes the child in her early education setting as part of the assessment process (Sandall, et al., 2005).

The early childhood educators who were included in the qualitative portion of the study indicated frustration that although they may have initiated the referral for a child to receive early intervention services, and provided support during the evaluation process, once the evaluation is scheduled they were kept out of the loop through the rest of the process including the development of the IEP unless the parent came to them seeking advice.

Individualized Education Plan Development

The researcher found a statistically significant difference among the families, the early childhood educators, and the early intervention providers in their belief that they were invited to participate in IEP development, attend IEP meetings, and receive a

written copy of the IEP. Families and early intervention providers felt that they were active participants in the IEP development process.

Those participants who transitioned from the Birth to Three program into early intervention for 3 to 5 year old children identified their Birth to Three service coordinator as the person who helped them through the process. Family members whose children were identified by their early childhood educator felt that the coordination of the IEP meeting through the preschool setting made the whole process that much easier.

The family members indicated that although some families knew they could invite a teacher or advocate to attend the meeting, they felt that this information was not communicated by the Intermediate Unit to them, therefore, it was not well known. Family members indicated that they received a written copy of the IEP to take with them from the meeting, and they just assumed that the early childhood educators where their children attended preschool would receive a copy as well.

The researcher found that the experiences from the perspective of the early childhood educators were different from the families and early intervention providers regarding IEP development. Teachers in western and southern Pennsylvania communities were invited to participate in IEP meetings, sometimes because parents came to them for advice. The teachers in northern Pennsylvania and eastern Pennsylvania were not invited nor were they notified that an IEP meeting was completed for a child. The exception is again for those children who participate in Pre-K Counts classrooms, or the early childhood programs who require that they receive a copy of a child's IEP. These early childhood programs include this requirement in the parent handbook which parents must sign to demonstrate their compliance. Before this policy

was implemented, these providers were not consistently receiving IEPs for children receiving early intervention services. NAEYC and Keystone STAR 3 and 4 providers are required as part of their accreditation to have a copy of a child's IEP in their file, and to address the goals of the IEP.

The study interview respondents included an early intervention provider from an Intermediate Unit who actively engaged the early childhood educators in the IEP process. This participant from the Intermediate Unit explained the reason for involving the early childhood educators of children receiving early intervention services, "the classroom teachers need to work on those goals as well as the early intervention staff. The early intervention teacher may only be there an hour a week which isn't much time. The expectation is that the EC teacher will reinforce the goals of the child." The other Intermediate Units did not mention including early childhood educators at the IEP meeting. They mentioned the designated LEA (Local Education Agency) representative who is authorized to allocate funds, therapists, the special education teacher, and family members. Evidence-based practice suggests that all professionals who interact with the child and the family work together to develop written instructional plans that specify strategies to be used to ensure that everyone involved is using the strategies correctly (Sandall, et al., 2005).

Intervention Practices Including Instructional Strategies, Collaboration, and Communication

The researcher found that the most appreciated component of early intervention implementation for the families was the use of a communication folder or notebook by the early intervention therapists. The families liked seeing the session notes which

described the strategies being used or the goals addressed during the day. Families especially appreciated those therapists who would take the time to share ideas to practice or implement these strategies in the home. This communication tool was perceived as vital since many of the parents did not have direct contact with the providers. Some of the family members had not met their child's therapist. They had just spoken over the phone, so the session notes were greatly appreciated. Since the services were provided within the early childhood or Intermediate Unit setting, strategies were not modeled to parents.

Although services were provided in the early childhood setting, early childhood educators expressed frustration that they did not receive a copy of the session notes unless they made a copy of the session notes before they were placed in the child's folder or notebook. The early childhood educators also stated that the early intervention providers typically pulled the children into separate classrooms to work with the children. Because of this, the educators were not able to see the strategies the therapist used, nor were the strategies modeled for them. There were a few exceptions to this practice across the state. For example, in an early intervention classroom located within the Intermediate Unit in eastern Pennsylvania, the early intervention consultants modeled strategies for the classroom teachers and even provided training while children were napping. One of the early intervention providers in the study noted that the quality of communication and collaboration between early intervention therapists and early childhood educators was dependent on the relationship they had established. She recognized that some of her therapists were much better at engaging with the early childhood educators than others. Friend and Cook (1996) found that collaboration and communication between education

communities improves when members have a common goal, share responsibility for decision making, share accountability for outcomes, and trust each other.

The families, early childhood educators, and early intervention providers agreed that at this point early intervention services did not connect families with one another for mutual support, and they did not share the research which supports the approaches they use with children receiving early intervention services. Recommended practice includes providing opportunities and resources to strengthen family functioning (Sandall et al., 2005). IDEA (2004) states that Local Education Agencies may provide professional development activities for teachers and school staff to enable such personnel to deliver scientifically based academic instruction and behavioral interventions [34 CFR 300.226 (b)]. One of the early intervention providers who participated in the study provided this training and included all of the early childhood educators and early intervention providers who worked within the classrooms within the boundaries of the Intermediate Unit. These joint trainings included over 400 participants three times a year. This Intermediate Unit felt that it was necessary to have everyone on board and to make sure that research based practices are actually implemented. One of the Intermediate Units in eastern Pennsylvania provided this training in the early childhood classrooms within its building. The four early childhood educators who participated in this study lived outside the boundaries of these two Intermediate Units, and were not invited or included in joint training opportunities with their Intermediate Units.

Knowledge of Early Intervention Implementation

This research study found a statistically significant difference between the families, early childhood educators, and early intervention providers regarding their

knowledge of the early intervention process and the personnel involved with the delivery of early intervention services. The early intervention providers demonstrated a much higher confidence in their knowledge, followed by the early childhood educators, and finally the families.

The survey responses for the families and the early childhood educators were split when asked to identify the early intervention model that the Commonwealth of Pennsylvania uses to describe early intervention implementation with 33% identifying the family centered model and 34% selecting the Do Not Know response. None of the participants in the family or early childhood educator interviews had heard of a model to describe early intervention implementation.

The majority of the early intervention providers who completed the survey selected the transdisciplinary model to describe early intervention implementation. The early intervention provider interview participants each selected a different model to describe early intervention implementation.

The importance of identifying the model is that it describes the focus and the components of early intervention delivery. The family-centered model is characterized by a belief that the family is an integral part of early intervention practice providing the families with all of the resources to make informed decisions about program planning and service delivery. The family-centered model builds professional partnerships that respect individual family situations and desires (Moore, Pérez-Méndez, & Kaczmarek, 2011). The transdisciplinary model involves professionals who do not abandon their discipline but instead blend their specific skills or expertise with other team members to focus on achieving integrated outcomes (Pletcher & Younggren, 2011). An early intervention

provider felt that a transdisciplinary approach was much more accurate because it described how the early intervention providers consulted with each other to determine strategies to use. However, the perception of one of the early childhood educators was different in that she felt that because they were focused on their individual expertise the early intervention providers would "run in, we do our therapy and run out." These early intervention providers would not share feedback or involve the families or early childhood educators in decision making. The Bureau of Early Intervention of the Commonwealth of Pennsylvania describes their model of early intervention implementation as Family-Centered (PDE, 2010).

When participants were asked to share their knowledge of resources to support families who were involved in early intervention their responses focused more on what they did to promote family engagement. The early childhood educators and the early intervention providers shared how they organized activities and opportunities to educate and involve families in early intervention, but family participation was consistently low. One of the early childhood educators felt that their lack of participation was due to "fear and more resistance to going through the process." Although the Intermediate Units provided parent resources at the IEP meeting, few of the participants in this study accessed those resources.

Additional Themes

The existing literature identifies supports and barriers for early intervention implementation at the state level. Supports include the infrastructure which includes the public policies which regulate early intervention, the use of authentic assessments, and professional development which includes all of the professionals who work together to

help children who have special needs. Barriers include assessment tools that are not developmentally appropriate, lack of professional development in effective routine-based training models, consistent statewide monitoring systems, and funding to support these areas of need (Branson & Bingham, 2009; Fowler & McCollum, 2000, Hadden & Fowler, 2000; Neisworth & Bagnato, 2005; Peterson, 1991; Salisbury et al., 2003; Sandall, et al., 2005). The findings of this research study support the current literature and also identify a few additional supports and barriers for evidence-based early intervention implementation.

Supports. Supports for early intervention implementation include providing joint professional development training opportunities for early intervention providers, early childhood educators, and families to ensure that communication, collaboration, and knowledge of evidence-based practices and strategies are shared and implemented. Early intervention providers promote communication between early intervention agencies and early childhood programs when they actively seek feedback to evaluate services. One of the early intervention provider administrators shared how she had her early intervention providers and her early childhood educators complete satisfaction surveys periodically "just to see how we are doing and you know we always get something from the surveys from the EC staff that say we want more information on kids with autism or something like that. It is like an ever changing, revolving door that communication is really, really key to making sure that we are addressing all of the issues. The key is to build program relationships."

The participants in this research study reported that Intermediate Units that have their own staff who report to a central administrator have better communication and

collaboration among intervention staff and early childhood programs. These Intermediate Units set the policy and culture within the Intermediate Unit as opposed to Intermediate Units who contract out services to various agencies outside of their agency. This does not guarantee a high level of collaboration and communication, but it was found to be a support for service delivery.

Barriers. This research study corroborated the findings of previous research studies in that barriers to early intervention implementation included evaluations, training, service coordination and funding. Throughout the Commonwealth of Pennsylvania evaluation procedures varied from Intermediate Unit to Intermediate Unit. These evaluations included assessments which did not follow evidence-based practice, were not administered in natural learning environments, and were not developmentally appropriate. During the interview phase of the study, the four early childhood educators reported that children were taken into a private room with an evaluator who was not familiar to them, to sit at a table to complete tasks with toys taken from test kits. Bagnato, Neisworth, and Munson (1997) found this method of evaluation to be inappropriate when considering young children with special needs.

Survey and interview data indicated that early childhood educators and family members did not feel they were effectively trained to implement and provide consistent early intervention strategies in the home or the classroom. It was reported that early intervention providers did not model strategies or explain the use of strategies that would be beneficial in routines of the children's day in the classroom or at home.

Service coordinators who were so vital in the Birth to Three, Part C program delivery of services did not consistently exist in the implementation of Part B services.

This study found very few educators, providers, or families who had or knew of a service coordinator to help them understand the process, and coordinate service delivery. Early childhood educators shared examples of times when multiple therapists would arrive at the same time to provide services, or arrive when students were engaged in scheduled activities that could not be missed.

Although funding has neither decreased nor increased for early intervention services in the Commonwealth of Pennsylvania over the past few years, the number of children referred for services has increased (Office of Child Development and Early Learning, 2012). The early intervention providers stated that they are required to stretch their dollars more and more to meet the needs of children in early intervention.

The early childhood educators felt that this lack of funding influenced the number of children who are actually found to be eligible for services after an evaluation is completed. All of the early childhood educators who were interviewed identified a marked drop in the number of children who are determined to be eligible for services. Although the eligibility requirements in Title 22, Chapter 14 of the Pennsylvania School Code states that children are eligible for services if they demonstrate a 25% or greater delay in one of the developmental domains, early childhood educators expressed frustration that they have a very difficult time getting services for children with significant social emotional deficits, and that many of their children who they feel really need services in some of the other developmental domains are testing at 80% so they do not qualify (22 PA Code § 14.101). One of the early childhood educators explained that children may have a significant delay in the subdomain of expressive language, but if

they score high enough in the subdomain of receptive language, they are not found to be eligible for services in the domain of language and communication.

Two barriers to early intervention implementation identified in this research study which were not identified in the current literature included technology and parental concerns. Technology is used in early intervention implementation to evaluate the impact of early intervention, to improve data collection, provide a means for analysis, and report outcomes (Maude & DeStefano, 2011). Usually this type of system is perceived as a support for early intervention implementation, but according to study participants currently it is perceived to be a barrier by the early intervention providers who must access the current system in place, Pennsylvania's Enterprise to Link Information for Children Across Networks (PELICAN).

Early intervention providers expressed frustration with trying to access the PELICAN system to submit required reports to the Pennsylvania Department of Education. Early Intervention providers felt that there was a lack of training and accessibility. When they struggled to access the resources and enter data for their caseload, either the system was down, or they were not clear on how to enter the data, and their supervisors did not have the knowledge base to provide support. They reported spending several hours outside of their contracted time to complete paperwork and scan reports.

The early intervention therapists also reported that they were required to use IEP Writer for IEP development. However, the goals that are written for IEPs in IEP Writer are not acceptable to the PELICAN system so they must be reworded to be accepted by PELICAN. These goals are written with a high degree of expected achievement, even

though a child may not be able to access that goal due to the fact that every time a goal is achieved, and is re-written, the PELICAN system requires a new IEP meeting before the goal will be accepted into the system.

The early intervention providers also reported that IEPs were not completed in the same manner across the state or even within their own Intermediate Unit. This becomes a barrier when children move from one Intermediate Unit to another within the state. State law requires that when a child moves, the new early intervention agency implements the current IEP to the extent possible until a new IEP is developed (22 Pa. Code §§ 14.154 g). Early childhood educators report that some therapists spend time at their programs completing this paperwork instead of working directly with the child who is to receive early intervention services.

The families who participated in this study also expressed the second barrier identified, parental concern for their children who were identified as eligible for early intervention services. Parents who participated in this study shared their feelings after finding out that their child might have a developmental delay or disability. Working through these feelings initially set up barriers to proceed through the early intervention process. The parents used words such as overwhelmed, traumatic, scary, and a tsunami. These words were used to describe the process of early intervention implementation for children who were diagnosed with speech delays, autism, and Down Syndrome. The family members shared their feelings and the feelings of parents they have observed as they have gone through the process of accessing services for their children in early intervention. They include feelings of grief, fear, bitterness, guilt, and shame. Each of the family members expressed that they deeply loved their children. Their anguish and

concern for their child was evident on their faces when they shared their experiences. A barrier to service delivery and to research is that when we discuss or evaluate service delivery based on statistics, we forget about the individual children behind the numbers who deserve to have the same outcomes and possibilities as their typically developing peers.

The final research question in this study asked *Is the frequency of early intervention services influenced by community size (urban, suburban, rural) within the Commonwealth of Pennsylvania?* This research study found that the survey respondents who lived in rural settings had a higher level of confidence that early intervention services were implemented with fidelity according to evidence-based practice as opposed to respondents who lived in suburban or urban settings. This same finding did not exist in the qualitative data. The analysis of the quantitative and qualitative data together in this research study found that the true indicator of the quality of implementation and the frequency of early intervention services according to evidence-based practice was dependent on the quality of the Intermediate Unit that was providing early intervention services in a setting. The Intermediate Units that were self-contained with strong leadership provided services with fidelity as opposed to services which contracted out and covered multiple counties because they could more closely monitor the delivery of the early intervention program. Dane and Schneider (1998) found that early intervention implementation was successful when delivered programs matched the intended program, the frequency and strength of program delivery was consistent, and the components of the program were delivered effectively.

Implications of this Study

The focus of this research study was to describe and compare the experiences of families, early childhood educators, and early intervention providers as they participated in early intervention implementation in the Commonwealth of Pennsylvania. The quantitative data collected through the survey and the qualitative data collected using one-on-one interviews provided insights into the implementation of early intervention and how closely implementation aligned with evidence-based practices. The findings of this study have implications for families, early childhood educators, early intervention providers, and policy makers.

Implications for Families

Family members identified early childhood educators as the personnel who initially identified their children with atypical development. It is beneficial for families to maintain the partnership and trust that exists with their child's early childhood educator. Early childhood educators will play a significant role in the development of their child. Families need to communicate with their child's early childhood educator, keeping them in the loop once the evaluation process begins. Families should invite their child's early childhood educator to the IEP meeting, or any other family member or friends who can provide support. Early childhood educators can become a valuable resource and support through this process if a high level of communication exists.

Family members need to continue to advocate for their children through the process of early intervention implementation. As two of the family participants said, they were the ones who just knew something was not right with their child, even though the pediatrician dismissed their concerns. Families need to advocate for their children when

they know that the services being provided are not meeting the needs of their child, or a budget cut impacts the quality of the program setting. One of the family members shared how his child's neighborhood preschool was closed the week before his child was to transition from the Birth to Three program into the preschool program. The services for his child and several others were going to be offered at a new school several miles away, in a community with a much higher crime rate, and with several registered sex offenders living nearby. The parents in this community felt that they did not have a choice. This family member attended the hearing, presented the crime statistics and his opposition to the plan. A new school was found in their community and opened to provide inclusive early intervention services because of the advocacy of this one parent. Bronfenbrenner (1979) found that the knowledge and resources of the family influenced the timeliness of early identification and the delivery of the services available.

Implications for Early Childhood Educators

Early childhood educators were identified as the personnel who most often identified children who might be eligible for early intervention services. Knowledge of evidence-based practices and early intervention regulations and laws is critical for early childhood educators. Early childhood educators need to actively engage with their Intermediate Units if they do not currently have a strong relationship. They need to ask for professional development to understand identification, referral, evaluation, and implementation procedures. Early childhood educators who have a strong understanding of early intervention implementation need to share their knowledge with their colleagues in their communities and professional organizations promoting collaboration among families, teaching staff, and early intervention providers. Early childhood educators must

establish a culture of openness and a willingness to learn from early intervention providers. If advocacy efforts do not work with the local agency which implements the early intervention program, early childhood educators should contact the state agency responsible for early intervention implementation.

Implications for Early Intervention Providers

Early intervention providers are charged with implementing early intervention services in the Commonwealth of Pennsylvania according to the regulations set by the federal government, the state, and evidence-based practice. This research study found qualities of successful early intervention implementation among the study participants. The purpose of early identification is to find children who may have developmental delays or disabilities. Early identification of children with special needs facilitates the evaluation, assessment, diagnosis and delivery of early intervention services which will greatly improve educational outcomes (Shapiro, 2011). Early intervention implementation is effective when Intermediate Units screen all of the children within their boundaries to ensure that children with developmental delays are identified early and that interventions are set in place to prevent or modify progression of the delay. Early intervention implementation is effective when early childhood educators are respected and included throughout the entire process. Early intervention implementation is effective when early childhood educators contribute their insights to the writing of the IEP, attend the IEP meeting, and incorporate the modeled strategies of the IEP in the early childhood classroom, to work on the goals when the early intervention provider is not present. As one participant explained, "The expectation is that the EC teacher will reinforce the goals of the child." Highly effective early intervention implementation

occurs when Intermediate Units provide joint trainings throughout the year to ensure that all of the stakeholders understand the strategies of evidence-based practices and that these practices are implemented with fidelity and consistency. One of the early intervention provider participants in a leadership position communicates regularly with her early childhood educators and early intervention providers using survey instruments to evaluate the current program and quality of communication, or to assess the needs of the staff.

Another implication of this study for early intervention providers is recognition of the perspective of the families through this process. Families often need an advocate or a service coordinator as they work through early intervention implementation as they process their own fears and concerns, and they try to learn a new system with rights and regulations that are foreign to them.

Early intervention providers need training on the new technology. They need to feel that their input is valued and respected. The early intervention providers in this study wanted those in leadership to include them in the decision making process when it comes to completing session notes, and reporting data. They want those in leadership to ask them what is working, and what can be done to improve the system so that they can use their expertise and provide the services that children desperately need without feeling overwhelmed by the paperwork.

Implications for Policy Makers

Bagnato et al. (2009) conducted research on 10,000 children in Pennsylvania ages 3 to 5 and found that children who participated in high quality early childhood programs with early intervention services reduced the need for special education placement as they entered elementary school. The average cost of educating a child in a regular education

classroom is $9,900 per year. The average cost of educating a child in a special education classroom is $16,000 per year. Participation in early intervention reduced the costs of education for districts while promoting positive outcomes for children in communities throughout Pennsylvania. For every dollar invested in high-quality preschool programs with early intervention services, a community on the average gains between $6 and $10 in value in the form of reduced costs from incarceration and higher tax revenues from greater earnings later in life (Burd-Sharps & Lewis, 2010).

Policy makers need to recognize that budget cuts in early intervention services can adversely affect the development of individual children. When Intermediate Units are forced to serve a higher number of children on a flat line budget, they either raise the threshold for eligibility, or increase the caseload of staff serving children. Early intervention services for children are not a luxury, and they should not be provided exclusively for children who participate in state programs like Pre-K Counts. IDEA (2004) ensures that all children with disabilities have available to them a free and appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living [34 CFR 300.1(a)] [20 U.S.C. 1400 (d)].

Limitations

As with any research study, there are limitations to this study's findings. The number of survey respondents was small for the family group. The distribution of the survey was dependent on early childhood educators and family advocacy groups forwarding the link to the family participants due to the confidential nature of identifying families who participate in early intervention. Although the survey was accessed by fifty

family members, only eleven family members were able to complete the survey successfully. Because of this small sample size, it would be difficult to generalize the experiences of these family members to all family members within the Commonwealth of Pennsylvania.

Opportunities for Future Research

This study provided an initial evaluation to see if early intervention implementation was implemented according to evidence-based practices throughout the Commonwealth of Pennsylvania according to the experiences of families, early childhood educators, and early intervention providers. Completing a longitudinal study of children who participate in high quality early intervention programs might provide research to support the funding and understanding of the difference access, participation, and support make in the outcomes for children with developmental delays or disabilities.

Many children with disabilities also have services which address the emotional and behavioral needs of the child. These services are managed by a behavioral health agency. Another aspect of early intervention implementation which deserves further study is the communication and collaboration that exists not only between families, early childhood educators, and early intervention providers as this study sought to determine, but also between early intervention services managed by the Pennsylvania Department of Education, Office of Child Development and Early Learning and the Bureau of Children's Behavioral Health Services, Office of Mental Health Program managed by the Department of Public Welfare which regulates behavioral health agencies.

A final area of research might be a qualitative study dedicated to the experiences of family members to provide an opportunity to explore the experiences of a greater sample of families throughout the Commonwealth.

Summary

Participants in this study recognized and appreciated the importance of early intervention services for children with special needs to promote positive outcomes and ensure future school success especially during the formative ages of 3 to 5 years old. Many of the participants were also aware of evidence-based practices which were developed by the Division for Early Childhood Education of the Council for Exceptional Children (Sandall, et al., 2005). However, this study corroborated the findings of Odom (2009) who found that even though practitioners knew what the recommended practices were for early intervention or early childhood special education the implementation of these practices was not happening in their programs. The findings in this study suggest that early intervention implementation varies throughout the state. The level of communication, collaboration, training, quality of service delivery, and use of authentic assessment is dependent upon the quality of the Intermediate Unit that is providing service delivery. In the Commonwealth of Pennsylvania, Intermediate Units differ in the size of their operating budget due the variety of revenue sources for each Intermediate Unit. These differences determine the means of service delivery: whether services are contracted or delivered by Intermediate Unit staff, the level of professional development offered, the level of communication and collaboration between early childhood educators and early intervention providers, and the use of service coordinators to manage service

delivery. Another factor that influenced quality of implementation was participation in state funded programs like Pre-K Counts.

The quality of early intervention services is measured by the quality of access, participation, and support. Intermediate Units that managed their own staff, had adequate resources, and demonstrated high levels of leadership provided a higher quality of service delivery. They provided families, early childhood educators, early intervention providers, and pediatricians with easy access to complete referrals, including the use of an online referral system. They included all of the stakeholders throughout the implementation process. Assessments were conducted in natural learning environments for children 3 to 5 years old, their preschool classrooms. They provided joint training opportunities and modeling for early childhood educators and early intervention providers to increase the quality of participation. These Intermediate Units promoted a high level of communication through the use of surveys to increase targeted support. This high level of support promoted relationships between the families, early childhood educators, and early intervention providers and promoted inclusive environments for children with developmental delays or disabilities. Throughout the Commonwealth of Pennsylvania, participants described how early childhood programs expelled children who had developmental delays or disabilities from programs, or refused to provide inclusive environments because they lacked the knowledge to connect with the supports to help these children be successful. If children with developmental delays or disabilities are to receive special education and related services designed to meet their unique needs and prepare them for further education, as a Commonwealth, we need to ensure that access, participation, and support are the same for each and every child. Smith and Rous

(2011) identified these same elements when they evaluated early intervention programs. They found that high quality early intervention programs are those programs which have successful Child Find and referral services to provide access to services, encourage participation and offer support for providers, family members, and children, and professionals who are qualified to deliver high quality services.

References

Bagnato, S., & Neisworth, J. (1991). *Assessment for early intervention: Best practices for professionals.* New York, NY: Guilford Press.

Bagnato, S., Neisworth, J., & Munson, S. (1997). *LINKing: Assessment and early intervention.* Baltimore, MD: Paul H. Brookes.

Bagnato, S., Salaway, J., & Suen, H. (2009). *Pre-k counts in Pennsylvania for youngsters early school success*. Pittsburgh, PA: Author.

Barnett, W. S. (2008). *Preschool education and its lasting effects: Research and policy implications.* Boulder, CO: Education and the Public Interest Center & Education Policy Research Unit. Retrieved from http://epicpolicy.org/publication/preschool-education

Barnett, W. S., & Masse, L. N. (2007). Comparative benefit-cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review, 26,* 113-125.

Branson, D., & Bingham, A. (2009). Using interagency collaboration to support family-centered transition practices. *Young Exceptional Children, 12*(3), 15-31. doi: 10.1177/1096250609332306

Bredekamp, S. (2011). *Effective practices in early childhood education.* Upper Saddle River, NJ: Pearson.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (Ed.). (2005). *Making human beings human: Bioecological perspectives on human development.* Thousand Oaks, CA: Sage.

Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental process. In W. Damon (Series Ed.). & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (5th ed., pp. 939-991). New York, NY: John Wiley.

Bruder, M. B. (2010). Early childhood intervention: A promise to children and families for their future. *Exceptional Children, 76*(3), 339-355.

Burd-Sharps, S., & Lewis, K. (2010). *The measure of America 2010 – 2011 mapping risks and resilience.* New York: New York University Press.

Campbell, F. A., Pungello, E. P., Burchinal, M., Kainz, K., Pan, Y., Wasik, B. H., …Ramey, C. T. (2012). Adult outcomes as a function of an early childhood educational program: An Abcedarian project follow-up. *Developmental Psychology.* Advance online publication. doi: 10.1037/a0026644

Campbell, P., & Anketell, M. (2007). Suggestions for statewide measurement systems: Pennsylvania's experience. *Topics in Early Childhood Education, 27*(1), 34-48.

Chandler, L., Young, R., & Ulezi, N. (2011). Early childhood special education methods and practices for preschool-aged children and their families. In C. Groark & S. Maude (Eds.), *Early Childhood Intervention* (Vol. 2, pp. 39-75). Santa Barbara, CA: Praeger.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches.* Thousand Oaks, CA: Sage.

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.

Danaher, J. (2011). Eligibility policies and practices for young children under Part B of IDEA. (NECTAC Notes No. 27). Retrieved from http://www.nectac.org/~pdfs/pubs/nnotes27.pdf

Dane, A., & Schneider, B. (1998). Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review, 18*(1), 23-45.

Division for Early Childhood/National Association for the Education of Young Children. (2009). *Early childhood inclusion: A joint position statement of the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC).* Chapel Hill: The University of North Carolina, FPG Child Development Institute.

Denzin, N., & Lincoln, Y. (2008). *Collecting and interpreting qualitative materials* (3rd ed.). Thousand Oaks, CA: Sage.

Dunst, C., Trivette, C., & Hamby, D. (2007). Meta-analysis of family-centered helpgiving practices research. *Mental Retardation and Developmental Disabilities Research Reviews, 13,* 370-378.

Durlak, J., & Dupre, E. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal Community Psychology, 41,* 327-350. doi:10.1007/s10464-008-9165-0

Early Intervention Services Systems Act of 1990, PA Act 212, Chapter 4226, 11 P.S. §§ 875 - 102-875 - 503 (2003).

Education of All Handicapped Children Act, Public Law 94-142, 89 U.S.C. §773 (1975).

Education of the Handicapped Act Amendments of 1986, Public Law 99-457, 100 U.S.C. §1145 (1986).

Ellis, W., & Cramer, S. (1994, September). Learning disabilities: A national responsibility. *Report of the summit on learning disabilities.* Washington, DC: National Center for Learning Disabilities.

Fleming, J., Sawyer, L. B., & Campbell, P. (2011). Early intervention providers' perspectives about implementing participation-based practices. *Topics in Early Childhood Special Education, 30*(4), 233-244. doi:10.1177/0271121410371986

Fowler, S., & McCollum, J. (2000). Supports and barriers to writing an interagency agreement of the preschool transition. *Journal of Early Intervention, 23*(4), 294-307. doi: 10.1177/10538151000230040801

Friend, M., & Cook, L. (1996). *Interactions: Collaboration skills for school professionals* (2nd ed.). New York, NY: Longman.

Gargiulo, R., & Kilgo, J. (2000). *Young children with special needs.* Albany, NY: Delmar.

Grisham-Brown, J., & Pretti-Frontczak, K. (2003). Using planning time to individualize instruction for preschoolers with special needs. *Journal of Early Intervention, 26*(1), 31-46. doi: 10.1177/105381510302600103

Guralnick, M. (2005). Early intervention for children with intellectual disabilities: Current knowledge and future prospects. *Journal of Applied Research in Intellectual Disabilities, 18,* 313-324.

Hadden, D., & Fowler, S. (2000). Interagency agreements. *Young Exceptional Children, 3*(4), 3-7. doi: 10.1177/109625060000300401

Hebbeler, K., Spiker, D., & Kahn, L. (2012). Individuals with Disabilities Education Act's early childhood programs: Powerful vision and pesky details. *Topics in Early Childhood Special Education, 31*(4), 199-207. doi:10.1177/0271121411429077

International Business Machines Corporation. (2012). IBM SPSS Statistics 20. [Computer Software]. Armonk, NY: IBM.

Individuals with Disabilities Education Act of 1997, Public Law 105-17, 111 U.S.C. §37 (1997). Retrieved from http://www2.ed.gov/offices/OSERS/Policy/IDEA/the_law.html

Individuals with Disabilities Education Improvement Act of 2004, Public Law 108-446, 20 U.S.C. §1400 (2004). Retrieved from http://idea.ed.gov/explore/view/p/%2Croot%2Cdynamic%2CTopicalBrief%2C8%2C

Individuals with Disabilities Education Improvement Act of 2004, Public Law 108-446, Statute 612a12*iv*, 118 U.S.C. §2647 (2004).

Johnson, L., Zorn, D., Yung Tam, B., LaMontagne, M., & Johnson, S. (2003). Stakeholders' views of factors that impact successful interagency collaboration. *Exceptional Children, 69*(2), 195-209.

Kaczmarek, L. (2011). Crossing systems in the delivery of services. In C. Groark & L. Kaczmarek (Eds.), *Early childhood intervention* (Vol. 3, pp. 205-240). Santa Barbara, CA: Praeger.

Keystone STARS. (2012). *Keystone stars: Continuous quality improvement for learning programs center. Performance standards for FY 2012-2013.* Retrieved from

http://www.pakeys.org/docs/2012-2013%20Keystone%20STARS%20Performance%20Standards%20for%20Centers.pdf

Kilgo, J. (2006). Overview of transdisciplinary teaming in early intervention/early childhood special education. In J. Kilgo (Ed.), *Transdisciplinary teaming in early intervention/early childhood special education* (pp. 9-15). Olney, MD: Association for Childhood Education International.

Latham, P. S., Latham, P. H., & Mandlawitz, M. (2008). *Special education law.* Boston, MA: Pearson.

Lerner, R. (2005). Urie Bronfenbrenner: Career contributions of the consummate developmental scientist. In U. Bronfenbrenner (Ed.), *Making human beings human: Bioecological perspectives on human development* (pp. ix-xxvi). Thousand Oaks, CA: Sage.

Lerner, R., Dowling, E., & Chaudhuri, J. (2005). Methods of contextual assessment and assessing contextual methods: A developmental systems perspective. In D. Teti (Ed.), *Handbook of research methods in developmental science* (pp.183 – 209). Malden, MA: Blackwell.

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Macy, M., & Hoyt-Gonzales, K. (2007). A linked system approach to early childhood special education eligibility assessment. *Teaching Exceptional Children, 39*(3), 40 - 44.

Maude, S. P., & DeStefano, L. (2011). Program evaluation in early intervention and early childhood special education. In C. Groark & S. Eidelman (Eds.), *Early childhood*

intervention: Shaping the future for children with special needs and their families (Vol. 1, pp. 148 – 171). Santa Barbara, CA: Praeger.

McWilliams, R. A. (2005). Recommended practices in interdisciplinary models. In S. Sandall, M. L. Hemmeter, B. Smith, & M. McLean (Eds.), *DEC recommended practices for early intervention/early childhood special education* (pp. 47-54). Longmont, CO: Sopris West.

Meisels, S., & Shonkoff, J. (2000). Early childhood intervention: A continuing evolution. In S. Meisel & J. Shonkoff (Eds.), *Handbook of early childhood interventions* (2nd ed., pp. 3-31). New York, NY: Cambridge University Press.

Mertler, C., & Charles, C. (2011). *Introduction to educational research* (7th ed.). Boston, MA: Pearson.

Miller, P., & Stayton, V. (2005). Recommended practices in personnel preparation. In S. Sandall, M. L. Hemmeter, B. Smith, & M. McLean (Eds.), *DEC recommended practices for early intervention/early childhood special education* (pp. 77-88). Longmont, CO: Sopris West.

Moore, S., Pérez-Méndez, C., & Kaczmarek, L. (2011). Partnerships with families from diverse cultures. In C. Groark & L. Kaczmarek (Eds.), *Early childhood intervention: Shaping the future for children with special needs and their families* (Vol. 3, pp. 1 – 36). Santa Barbara, CA: Praeger.

NAEYC. (2013). *NAEYC all criteria document.* Retrieved from http://lms.naeyc.org/iCohere/sharedpages/userframe.cfm?t=386708517&CFID=814085&CFTOKEN=60181324

National Federation of the Blind. (1990). New law to impact services to disabled infants, toddlers, and preschoolers. *Future Reflections* Vol. *9*(3), n.p. Retrieved from www.nfb.org/images/nfb/Publications/fr/fr9/Issue3/f090308.html

Neisworth, J. T., & Bagnato, S. J. (2005). DEC recommended practices: Assessment. In S. Sandall, M. L. Hemmeter, B. F. Smith, & M. McLean (Eds.), *DEC recommended practice: A comprehensive guide for practical application in early intervention/early childhood special education* (pp. 45-70). Longmont, CO: Sopris West.

Odom, S., Buysse, V., & Soukakou, E. (2011). Inclusion for young children with disabilities: A quarter century of research perspectives. *Journal of Early Intervention, 33*(4), 344-356. doi:10.1177/1053815111430094

Odom, S. (2009). The tie that binds: Evidence-based practice, implementation, science, and outcomes for children. *Topics in Early Childhood Special Education, 29*(1), 53-61. doi:10.1177/0271121408329171

Office of Child Development and Early Learning. (2012). *Executive budget 2011-2012.* Retrieved from http://www.pakeys.org/uploadedContent/Docs/OCDEL_budget_11-12_final_4_12_11.pdf

Office of Special Education Programs. (2010). *Individuals with Disabilities Act (IDEA) Data, Part B.* Retrieved from https://www.ideadata.org/TABLES34TH/AR_1-2.pdf

Office of Special Education Programs. (n.d.). *History: Twenty-five years of progress in educating children with disabilities through IDEA.* Retrieved from http://www2.ed.gov/policy/speced/leg/idea/history.pdf

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66,* 543-578.

Pennsylvania Bureau of Children's Behavioral Health Services. (2012). *Pennsylvania child and adolescent service system program principles.* Retrieved from http://www.parecovery.org/documents/CASSP_Introduction.pdf

Pennsylvania Bureau of Special Education. (2012). *Pennsylvania part B annual performance report for FFY 2010* (OMB No: 1820-0624). Retrieved from http://www.portal.state.pa.us/portal/server.pt/community/early_intervention/8710/osep_reporting/590305

Pennsylvania Department of Education. (2009). *Individuals with Disabilities Education Act Part B UNDER 34 CFR §§300.101--300.176 state plan 2009.* Retrieved from http://pattan.net-website.s3.amazonaws.com/images/file/2012/01/16/2009IDEA-BPoliciesAndProcedures.pdf

Pennsylvania Department of Education. (2010). *A family's introduction to early intervention in Pennsylvania.* Retrieved from http://www.portal.state.pa.us/portal/server.pt/community/early_intervention/8710

Pennsylvania Department of Education. (n.d.). *Pennsylvania's approach to the delivery of early intervention services.* Retrieved from http://www.portal.state.pa.us/portal/server.pt/community/early_intervention/8710

Pennsylvania School Code. (2012). Title 22, Chapter 14, P.S. § § 14.103-14.162. Retrieved from http://www.pacode.com/secure/data/022/chapter14/chap14toc.html

Peterson, N. (1991). Interagency collaboration under part H: The key to comprehensive, multidisciplinary, coordinated infant/toddler intervention services. *Journal of Early Intervention, 15*(1), 89-105.

Pierangelo, R., & Guiliani, G. (2009). *Assessment in special education: A practical approach.* Upper Saddle River, NJ: Pearson.

Pletcher, L. C., & Younggren, N. (2011). Early intervention – IDEA Part C: Service delivery approaches and practices. In C. Groark & S. Maude (Eds.), *Early childhood intervention: Shaping the future for children with special needs and their families* (Vol. 2, pp. 1-37). Santa Barbara, CA: Praeger.

Pretti-Frontczak, K., Bagnato, S., Macy, M., & Sexton, D. (2011). Data-driven decision making to plan programs and promote performance. In C. Groark & L. Kaczmarek (Eds.), *Early childhood intervention: Shaping the future for children with special needs and their families* (Vol. 3, pp. 55-80). Santa Barbara, CA: Praeger.

Pretti-Frontczak, K. (2002). Using curriculum-based measures to promote a linked system approach. *Assessment for Effective Intervention*, *27*(4), 15-21. doi: 10.1177/073724770202700403

Public Law 101-476, Individuals with Disabilities Education Act, 104 U.S.C. §1103 (1990).

QSR International. (2012). *NVivo 10*. [Computer Software]. Victoria, Australia: Sage.

Quesenberry, A., & Clark, P. (2011). Services for children with special needs in head start and early head start. In S. Maude & C. Groark (Eds.), *Early childhood intervention: Shaping the future for children with special needs and their families* (Vol. 2, pp. 77-107). Santa Barbara, CA: Praeger.

Qualtrics Labs, Inc. (2012). [Computer Software]. Provo, UT: Qualtrics.

Rainforth, B., York, J., & Macdonald, C. (1992). *Collaborative teams for students with severe disabilities: Integrating therapy and educational services.* Baltimore, MD: Brookes.

Rous, B., & Hallam, R. (2006). *Tools for transition in early childhood: A step-by-step guide for agencies, teachers and families.* Baltimore, MD: Brookes.

Rous, B., Hallam, R., Harbin, G., McCormick, K., & Jung, L. (2007). The transition process for young children with disabilities: A conceptual framework. *Infants and Young Children, 20,* 135-148.

Rous, B., & Smith, B. (2011). Key national and state policy implementation issues. In S. Eidelman & C. Groark (Eds.), *Early childhood intervention: Shaping the future for children with special needs and their families,* (Vol. 1, pp. 19-36). Santa Barbara, CA: Praeger.

Rumrill, P., & Cook, B. (2001). *Research in special education: Designs, methods, and applications.* Springfield, IL: Charles C. Thomas.

Salisbury, C., Crawford, W., Marlowe, D., & Husband, P. (2003). Integrating education and human service plans: Interagency planning and support project. *Journal of Early Intervention, 26*(1), 59-75.

Sandall, S. R., Hemmeter, M. L., Smith, B. J., & McLean, M. E. (2005). *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education.* Longmont, CO: Sopris West.

Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C., & Nores, M. (2005). Lifetime effects: The High/Scope Perry preschool study through age 40 [Monograph]. Retrieved from http://www.highscope.org/file/Research/PerryProject/specialsummary_rev2011_02_2.pdf

Scull, J., & Winkler, A. (2011). *Shifting trends in special education.* Retrieved from: http://www.edexcellence.net/publications/shifting-trends-in-special.html

Shapiro, B. (2011). Reflections on early identification. In C. Groark & S. Eidelman (Eds.), *Early childhood intervention* (Vol. 1, pp. 71-94). Santa Barbara, CA: Praeger.

Short, R., Simeonsson, R., & Huntington, G. (1990). Early intervention: Implications of public law 99-457 for professional child psychology. *Professional Psychology: Research and Practice, 21*(2), 88-93.

Smith, B., & Rous, B. (2011). Historical perspectives. In S. Eidelman & C. Groark (Eds.), *Early childhood intervention: Shaping the future for children with special needs and their families,* (Vol. 1, pp. 1-17). Santa Barbara, CA: Praeger.

Trivette, C., Dunst, C., Hamby, D., & Meter, D. (2012). *Relationship between early childhood practitioner beliefs and the adoption of innovative and recommended practices.* (Research Brief Vol. 6, 1). Tots-n-Tech Institute. Retrieved from http://tnt.asu.edu

United States Department of Education. (2010). *Digest of Education*. Retrieved from http://nces.ed.gov/pubs2011/2011015.pdf

Vakil, S., Welton, E., O'Connor, B., & Kline, L. (2009). Inclusion means everyone! The role of the early childhood educator when including young children with autism in the classroom. *Early Childhood Education Journal, 36*, 321-326. doi: 10.1007/s10643-008-0289-5

Walker, D. (2011). Evidence-based practice in early childhood intervention. In L. Kaczmarek & C. Groark (Eds.), *Early childhood intervention: Shaping the future for children with special needs and their families* (Vol. 3, pp. 147-167). Santa Barbara, CA: Praeger.

Warren, S. F., & Walker, D. (2005). Fostering early communication and language development. In D. M. Teti (Ed.), *Handbook of research methods in developmental science* (pp. 249-270). Malden, MA: Blackwell.

APPENDICES

APPENDIX A
Institutional Review Board Approval

Indiana University of Pennsylvania
www.iup.edu

Institutional Review Board for the
Protection of Human Subjects
School of Graduate Studies and Research
Stright Hall, Room 113
210 South Tenth Street
Indiana, Pennsylvania 15705-1048

P 724-357-7730
F 724-357-2715
irb-research@iup.edu
www.iup.edu/irb

January 22, 2013

Janet A. Mattern
162 Ross Mt. Park Road
Ligonier, PA 15658

Dear Ms. Mattern:

Your proposed research project, "A Mixed-Methods Study of Early Intervention Implementation in Commonwealth of Pennsylvania," (Log No. 12-275) has been reviewed by the IRB and is approved as an expedited review for the period of January 20, 2013 to January 20, 2014.

It is also important for you to note that IUP adheres strictly to Federal Policy that requires you to notify the IRB promptly regarding:

1. any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented),
2. any events that affect the safety or well-being of subjects, and
3. any modifications of your study or other responses that are necessitated by any events reported in (2).

Should you need to continue your research beyond January 20, 2014 you will need to file additional information for continuing review. Please contact the IRB office at (724) 357-7730 or come to Room 113, Stright Hall for further information.

Although your human subjects review process is complete, the School of Graduate Studies and Research requires submission and approval of a Research Topic Approval Form (RTAF) before you can begin your research. If you have not yet submitted your RTAF, the form can be found at http://www.iup.edu/page.aspx?id=91683 .

This letter indicates the IRB's approval of your protocol. IRB approval does not supersede or obviate compliance with any other University policies, including, but not limited to, policies regarding program enrollment, topic approval, and conduct of university-affiliated activities.

I wish you success as you pursue this important endeavor.

Sincerely,

John A. Mills, Ph.D., ABPP
Chairperson, Institutional Review Board for the Protection of Human Subjects
Professor of Psychology

JAM:jeb

xc: Dr. Mary Anne Hannibal, Dissertation Advisor
Ms. Brenda Boal, Secretary

APPENDIX B
Cover Letter to Early Childhood Educators

Indiana University of Pennsylvania

PROFESSIONAL STUDIES IN EDUCATION

Davis Hall, Room 303
570 S. Eleventh Street
Indiana, PA 15705-1087

724-357-2400
Internet: *http://www.iup.edu*

Dear Fellow Early Childhood Program Director,

I am currently writing a dissertation on early intervention implementation in partial fulfillment of the requirements for the Doctor of Education degree in Curriculum and Instruction at Indiana University of Pennsylvania. The title of my study is "A mixed-methods study of early intervention implementation in the Commonwealth of Pennsylvania." I am inviting you to participate in this study in an effort to gain a greater understanding of your experiences with early intervention services provided in your school. At the bottom of this cover letter you have been provided with an anonymous link to an online survey instrument being used for this study. This survey will take approximately ten minutes of your time.

As a director of a NAEYC accredited, or Keystone Stars 3 or 4 level provider, your school has been recognized as a high quality early childhood program. Your experiences as director of this school provide authentic insight on the quality and consistency of services provided by early intervention for children with special needs in your classrooms.

The purpose of this study is to describe and compare the experiences of families, early childhood educators, and early intervention service providers who are engaged or involved in the delivery of early intervention services for children ages 3 to 5. I would greatly appreciate your assistance in reaching as many early childhood teachers and families who are affected by the quality of the implementation of early intervention services. I have attached a letter to this e-mail for families along with a survey link for them to complete a family survey. If you could forward the e-mail link at the bottom of this page to your teaching staff, and then forward the family letter with a specific family survey link to your families, it would ensure that we provide as many people as possible with an opportunity to share their early intervention stories.

As a director myself, I understand how busy a director's day can be. I also know how much I would appreciate an opportunity to share my experiences in an area that impacts so many of our children and schools as early intervention for children with special needs.

Of course, you are in no way obligated to complete the survey. I ask that you fill out the survey completely. I can assure you that this survey will only be used for data collection purposes for my study and may be used for future professional publications and presentations. Your responses will be held in complete anonymity; you will not be identified by name or other identifiers. If you elect to take the on-line survey and at any point choose to no longer participate in this study, you may end your participation by simply closing your browser. There will be no compensation for participating in this study.

I hope that you will consider completing the survey and sharing the survey link with your teaching staff and families. Your expertise and professional experiences will contribute greatly to determining the quality and consistency of early intervention services provided to our most vulnerable children.

Thank you,

Primary Researcher:
Janet A. Mattern, Doctoral Candidate
303 Davis Hall
Indiana University of Pennsylvania
Indiana, PA 15705
724-238-6569
j.a.mattern@iup.edu

Project Director:
Dr. Mary Anne Hannibal
137 Stouffer Hall
Indiana University of Pennsylvania
Indiana, PA 15705
724-357-7927
hannibal@iup.edu

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

APPENDIX C
Cover Letter to Early Intervention Providers

Indiana University of Pennsylvania

PROFESSIONAL STUDIES IN EDUCATION

Davis Hall, Room 303
570 S. Eleventh Street
Indiana, PA 15705-1087

724-357-2400
Internet: *http://www.iup.edu*

Dear Early Intervention Program Supervisor,

I am currently writing a dissertation on early intervention implementation in partial fulfillment of the requirements for the Doctor of Education degree in Curriculum and Instruction at Indiana University of Pennsylvania. The title of my study is "A mixed-methods study of early intervention implementation in the Commonwealth of Pennsylvania." I am inviting you to participate in this study in an effort to gain a greater understanding of your experiences as a provider of early intervention services. At the bottom of this cover letter you have been provided with an anonymous online survey link that will take you to the survey instrument being used for this study. This survey will take approximately ten minutes of your time.

Your experiences as an early intervention program supervisor provide authentic insight on the quality and consistency of services provided by early intervention for children with special needs throughout the counties serviced by your Intermediate Unit.

The purpose of this study is to describe and compare the experiences of families, early childhood educators, and early intervention service providers who are engaged or involved in the delivery of early intervention services for children ages 3 to 5. I would greatly appreciate your assistance in reaching as many early intervention service providers as possible who are engaged in the delivery of high quality early intervention services. If you could forward the e-mail link at the bottom of this page to your early intervention therapists inviting them to complete the survey, it would ensure that the study results include a large representation of therapists' responses.

As a director myself, I understand how busy a supervisor's day can be. I also know how much I would appreciate an opportunity to share my experiences in an area that impacts so many of our children and schools as early intervention for children with special needs.

Of course, you are in no way obligated to complete the survey. I ask that you fill out the survey completely. I can assure you that this survey will only be used for data collection purposes for my study and may be used for future professional publications and presentations. Your responses will be held in complete anonymity; you will not be identified by name or other identifiers. If you elect to take the online survey and at any

point choose to no longer participate in this study, you may end your participation by simply closing your browser. There will be no compensation for participating in this study.

I hope that you will consider completing the survey and sharing the survey link with your early intervention staff. Your expertise and professional experiences will contribute greatly to determining the quality and consistency of early intervention services provided to our most vulnerable children.

Thank you,

Primary Researcher:
Mrs. Janet A. Mattern, Doctoral Candidate
303 Davis Hall
Indiana University of Pennsylvania
Indiana, PA 15705
724-238-6569
j.a.mattern@iup.edu

Project Director:
Dr. Mary Anne Hannibal
137 Stouffer Hall
Indiana University of Pennsylvania
Indiana, PA 15705
724-357-7927
hannibal@iup.edu

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

APPENDIX D
Cover Letter to Families

Indiana University of Pennsylvania

PROFESSIONAL STUDIES IN EDUCATION

Davis Hall, Room 303
570 S. Eleventh Street
Indiana, PA 15705-1087

724-357-2400
Internet: *http://www.iup.edu*

Dear Family,

I am currently writing a dissertation on early intervention implementation in partial fulfillment of the requirements for the Doctor of Education degree in Curriculum and Instruction at Indiana University of Pennsylvania. The title of my study is "A mixed-methods study of early intervention implementation in the Commonwealth of Pennsylvania." I am inviting you to participate in this study in an effort to gain a greater understanding of your experiences with early intervention services provided for your child. At the bottom of this cover letter you have been provided with an anonymous online survey link that will take you to the survey instrument being used for this study. This survey will take approximately ten minutes of your time.

Your experiences as a parent of a child receiving early intervention services provides the most important insight on the quality and consistency of services provided. I would like to provide as many parents engaged with early intervention as possible with an opportunity to share their stories about their experiences.

The purpose of this study is to describe and compare the experiences of families, early childhood educators, and early intervention service providers who are engaged or involved in the delivery of early intervention services for children ages 3 to 5 in the Commonwealth of Pennsylvania.

As a parent myself, I understand how busy a parent's day can be. I also know how much I would appreciate an opportunity to share my experiences in an area where the quality of the program delivery is critical to provide children with every opportunity to reach their full potential.

Of course, you are in no way obligated to complete the survey. I ask that you fill out the survey completely. I can assure you that this survey will only be used for data collection purposes for my study and may be used for future professional publications and presentations. Your responses will be held in complete anonymity; you will not be identified by name or other identifiers. If you elect to take the on-line survey and at any point choose to no longer participate in this study, you may end your participation by

simply closing your browser. There will be no compensation for participating in this study.

I hope that you will consider completing the survey and sharing the survey link. Your expertise and experiences will contribute greatly to determining the quality and consistency of early intervention services provided to our children.

Thank you,

Primary Researcher:
Mrs. Janet A. Mattern, Doctoral Candidate
303 Davis Hall
Indiana University of Pennsylvania
Indiana, PA 15705
724-238-6569
j.a.mattern@iup.edu

Project Director:
Dr. Mary Anne Hannibal
137 Stouffer Hall
Indiana University of Pennsylvania
Indiana, PA 15705
724-357-7927
hannibal@iup.edu

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

APPENDIX E

Early Childhood Educator Survey

Thank you for taking the time to complete this survey. Your input provides a meaningful source of information on the implementation of early intervention services for children with special needs in the Commonwealth of Pennsylvania. Your responses will help guide efforts to improve services and results for children and families. In responding to each statement, think about your experiences with children who receive early intervention services.

Thank you for your participation.

1. What is your current position at this Early Childhood program?
    - Early Childhood Director
    - Early Childhood Teacher
    - Early Childhood Teacher's Aide
2. What is your educational certification?
    - B. S. Elementary Education
    - B.S. Early Childhood Education
    - M. Ed. Elementary/Early Childhood Education
    - Other _____
3. How long have you worked in your current teaching position?
    - Less than 1 year
    - 1 to 5 years
    - More than 5 years
4. Are you invited to participate in IEP/IFSP (Individualized Education Plan/Individualized Family Service Plan) team meetings for the children in your classroom who receive early intervention services?
    - Yes
    - No
5. Did you receive training on the elements of the IEP/IFSP?
    - Yes
    - No

    Display If response is Yes

    5a. Where did you receive your training?
        - University/College
        - Professional Development/In-service
        - Early Intervention Provider
6. Which service model describes the system of delivery for early intervention services in your setting?
    - Family Centered Model
    - Transdisciplinary Model

- Therapeutic Model
- Other ☐
- Do not know

7. Which population describes the type of community that provides the setting for your school?
    - Urban (population over 50,000)
    - Suburban (population between 50,000 and 2,500)
    - Rural (population less than 2,500)
8. The preschool where children receive early intervention services is accredited by or recognized as which of the following? (Select all that apply.)
    - NAEYC accredited school
    - Keystone Stars Level 3 Provider
    - Keystone Stars Level 4 Provider
    - Do not know
9. How were the children who receive early intervention services in your school identified? (Select all that apply.)
    - Parent
    - Early Childhood Educator
    - Medical Provider
    - Early Intervention Provider
    - Child Find
    - Other ☐
10. Who initiates the evaluation of your children receiving early intervention services?
    - Parent
    - Early Childhood Educator
    - Early Intervention Provider
11. How did you learn about the procedures for implementation of early intervention services for children with special needs?
    - Early Childhood Educator
    - Medical Professional
    - Early Intervention Provider
    - Other ☐
12. How often do children receive early intervention services?
    - Never
    - Less than once a month
    - Once a month
    - 2 -3 times a month
    - Once a week
    - 2 – 3 times a week
    - Daily

13. How long do the services that your children receive in early intervention last?
    - ½ hour
    - 1 hour
    - More than 1 hour
14. For each statement below, please select one of the following response choices: strongly disagree, disagree, agree, or strongly disagree.

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
I am invited to participate in IEP/IFSP (Individualized Education Plan/Individualized Family Service Plan) team meetings for the child/children who receive early intervention services.				
I feel that I am an equal partner in the decision making required to plan the children's early intervention education.				
My children receive early intervention services with children without disabilities to the maximum extent possible.				
I received a written copy of the IEP/IFSP for my children receiving early intervention services.				
The early intervention program involves parents in evaluations of whether early intervention strategies are effective.				
The IEP team from the Intermediate Unit seeks my input on goal development and objectives for my children who receive early intervention services.				
The early intervention program involves teachers in evaluations of whether early intervention strategies are effective.				
The intervention specialists from the Intermediate Unit communicate the instructional strategies they implement to promote successful outcomes to me so that I might also use these strategies in my classroom.				
Early intervention services have been provided to my children in a timely manner.				
The Intermediate Unit specialists consult with me, seeking my input for successful implementation of services.				
The early intervention specialists provide me with strategies to deal with my child/children with special needs' behavior.				
Providers of early intervention give me information about the research that supports the approaches they use to help my child learn.				
If I have a problem/concern with an Intermediate Unit specialist, I feel comfortable sharing my concerns with them.				
Early intervention providers explain what options parents have if they disagree with a decision made by the early intervention program.				
Early Intervention providers connect families with one another for mutual support.				
I feel that I understand how the early intervention services system works.				
I understand the roles of the various individuals who provide early intervention services for my children with special needs.				

15. Would you be willing to participate in a one on one interview scheduled at a future date to provide a more in depth understanding of your experiences with early intervention in the Commonwealth of Pennsylvania? This interview would be scheduled at a location

and time convenient for you. It would take approximately 30 minutes. If yes, could you please provide an e-mail for contact information.

- Yes [ ]
- No

APPENDIX F

Early Intervention Provider Survey

Thank you for taking the time to complete this survey. Your input provides a meaningful source of information on the implementation of early intervention services for children with special needs in the Commonwealth of Pennsylvania. Your responses will help guide efforts to improve services and results for children and families. In responding to each statement, think about your experiences with children who receive early intervention services.

Thank you for your participation.

1. What is your current position at Early Intervention?
    - Early Intervention Administrator
    - Occupational Therapist
    - Physical Therapist
    - Speech and Language Pathologist
    - Other ☐
2. What is your educational certification?
    - B. S. Special Education
    - Licensed Speech and Language Pathologist
    - M. Ed. Special Education/Related Field
    - Licensed Occupational Therapist
    - Licensed Physical Therapist
    - Other _____
3. How long have you worked in your current teaching position?
    - Less than 1 year
    - 1 to 5 years
    - More than 5 years
4. Which service model describes the system of delivery for early intervention services in your setting?
    - Family Centered Model
    - Transdisciplinary Model
    - Therapeutic Model
    - Other ☐
    - Do not know
5. Which population describes the type of community that provides the setting for your school?
    - Urban (population over 50,000)
    - Suburban (population between 50,000 and 2,500)
    - Rural (population less than 2,500)

6. The preschool where children receive your early intervention services is accredited by or recognized by which of the following? (Select all that apply.)
    - NAEYC accredited school
    - Keystone Stars Level 3 Provider
    - Keystone Stars Level 4 Provider
    - Do not know
7. How are the children who receive early intervention services identified? (Select all that apply.)
    - Parent
    - Early Childhood Educator
    - Medical Provider
    - Early Intervention Provider
    - Child Find
    - Other ☐
8. Who initiates the evaluation of young children receiving early intervention services?
    - Parent
    - Early Childhood Educator
    - Early Intervention Provider
9. How do families learn about the procedures for implementation of early intervention services for children with special needs?
    - Early Childhood Educator
    - Medical Professional
    - Early Intervention Provider
    - Other ☐
10. How often do children receive early intervention services?
    - Never
    - Less than once a month
    - Once a month
    - 2 -3 times a month
    - Once a week
    - 2 – 3 times a week
    - Daily
11. How long do the services that your children receive in early intervention last?
    - ½ hour
    - 1 hour
    - More than 1 hour

12. For each statement below, please select one of the following response choices: strongly disagree, disagree, agree, or strongly disagree.

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
I am invited to participate in IEP/IFSP (Individualized Education Plans/Individualized Family Service Plan) team meetings for the children who receive early intervention services.				
I feel that I am an equal partner in the decision making required to plan the children's early intervention education.				
Children receive early intervention services with children without disabilities to the maximum extent possible.				
I received a written copy of the IEP/IFSP for the children I serve receiving early intervention services.				
The early intervention program involves families in evaluations of whether early intervention strategies are effective.				
The IEP team from the Intermediate Unit seeks my input on goal development and objectives for my children who receive early intervention services.				
The early intervention program involves teachers in evaluations of whether early intervention strategies are effective.				
The intervention specialists from the Intermediate Unit communicate the instructional strategies they implement to promote successful outcomes so that families/teachers might also use these strategies in their classroom/home.				
Early intervention services have been provided to the children I serve in a timely manner.				
As an Intermediate Unit provider, I consult with teachers and families, seeking input for successful implementation of services.				
As an early intervention provider I provide families and teachers with strategies to deal with children with special needs' behavior.				
As an early intervention provider, I give information to teachers and families about the research that supports the approaches I use to help children learn.				
If I have a problem/concern with a teacher or family member, I feel comfortable sharing my concerns with them.				
As an early intervention provider, I explain what options parents have if they disagree with a decision made by the early intervention program.				
As an early Intervention provider, I connect families with one another for mutual support.				
I feel that I understand how the early intervention services system works.				
I understand the roles of the various individuals who provide early intervention services for children with special needs.				

13. Would you be willing to participate in a one on one interview scheduled at a future date to provide a more in depth understanding of your experiences with early intervention in the Commonwealth of Pennsylvania? This interview would be scheduled at a location and time convenient for you. It would take approximately 30 minutes. If yes, could you please provide an e-mail for contact information.

- Yes
- No

APPENDIX G

Family Survey

Thank you for taking the time to complete this survey. Your input provides a meaningful source of information on the implementation of early intervention services for children with special needs in the Commonwealth of Pennsylvania. Your responses will help guide efforts to improve services and results for children and families. In responding to each statement, think about your experiences with children who receive early intervention services.

Thank you for your participation.

1. What is the age of your child who receives early intervention services in years?
    - 3 years old
    - 4 years old
    - 5 years old
2. What was your child's age when first referred to early intervention?
    - Birth to 3
    - 3 years old
    - 4 years old
    - 5 years old
3. What is your child's primary exceptionality/disability? (Select one only)
    - Autism
    - Deaf-Blindness
    - Deafness
    - Developmental Delay
    - Emotional Disturbance
    - Hearing Impairment
    - Intellectual Disability
    - Multiple Disabilities
    - Orthopedic Impairment
    - Other Health Impairment
    - Specific Learning Disability
    - Speech or Language Impairment
    - Visual Impairment Including Blindness
    - Traumatic Brain Injury
4. Which service model describes the system of delivery for early intervention services in your setting?
    - Family Centered Model
    - Transdisciplinary Model
    - Therapeutic Model
    - Other ☐

- Do not know

5. Which population describes the type of community that provides the setting for your child's school?
    - Urban (population over 50,000)
    - Suburban (population between 50,000 and 2,500)
    - Rural (population less than 2,500)
6. The preschool where your child receives early intervention services is accredited by or recognized as which of the following? (Select all that apply.)
    - NAEYC accredited school
    - Keystone Stars Level 3 Provider
    - Keystone Stars Level 4 Provider
    - Do not know
7. How was your child who receives early intervention services identified? (Select all that apply.)
    - Parent
    - Early Childhood Educator
    - Medical Provider
    - Early Intervention Provider
    - Child Find
    - Other ☐
8. Who initiated the evaluation of your child receiving early intervention services?
    - Parent
    - Early Childhood Educator
    - Early Intervention Provider
9. How did you learn about the procedures for implementation of early intervention services for children with special needs?
    - Early Childhood Educator
    - Medical Professional
    - Early Intervention Provider
    - Other ☐
10. How often does your child receive early intervention services?
    - Never
    - Less than once a month
    - Once a month
    - 2 -3 times a month
    - Once a week
    - 2 – 3 times a week
    - Daily
11. How long do the services that your child receives in early intervention last?
    - ½ hour

- 1 hour
- More than 1 hour

12. For each statement below, please select one of the following response choices: strongly disagree, disagree, agree, or strongly disagree.

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
I am invited to participate in IEP/IFSP (Individualized Education Plans/Individualized Family Service Plan) team meetings for my child who receives early intervention services.				
I feel that I am an equal partner in the decision making required to plan my child's early intervention education.				
My child receives early intervention services with children without disabilities to the maximum extent possible.				
I received a written copy of the IEP/IFSP for my child receiving early intervention services.				
The early intervention program involves parents in evaluations of whether early intervention strategies are effective.				
The IEP team from the Intermediate Unit seeks my input on goal development and objectives for my child who receives early intervention services.				
The early intervention program involves teachers in evaluations of whether early intervention strategies are effective.				
The intervention specialists from the Intermediate Unit communicate the instructional strategies they implement to promote successful outcomes to me so that I might also use these strategies in my home.				
Early intervention services have been provided to my child in a timely manner.				
The Intermediate Unit specialists consult with me, seeking my input for successful implementation of services.				
The early intervention specialists provide me with strategies to deal with my child's behavior.				
Providers of early intervention give me information about the research that supports the approaches they use to help my child learn.				
If I have a problem/concern with an Intermediate Unit specialist, I feel comfortable sharing my concerns with them.				
Early intervention providers explain what options parents have if they disagree with a decision made by the early intervention program.				
Early Intervention providers connect families with one another for mutual support.				
I feel that I understand how the early intervention services system works.				
I understand the roles of the various individuals who provide early intervention services for my child with special needs.				
I understand what due process is in relation to my child's early intervention services.				

14. Would you be willing to participate in a one on one interview scheduled at a future date to provide a more in depth understanding of your experiences with early intervention in the Commonwealth of Pennsylvania? This interview would be scheduled at a location and time convenient for you. It would take approximately 30 minutes. If yes, could you please provide an e-mail for contact information?

- Yes
- No

APPENDIX H
Cover Letter for Interview

Indiana University of Pennsylvania
PROFESSIONAL STUDIES IN EDUCATION

Davis Hall, Room 303
570 S. Eleventh Street
Indiana, PA 15705-1087

724-357-2400
Internet: *http://www.iup.edu*

Dear ,

You are invited to participate in a study of early intervention implementation. The study is titled "A mixed-methods study of early intervention implementation in the Commonwealth of Pennsylvania." I am inviting you to participate in the interview portion of this study in order for you to provide a more in-depth description of your experiences in early intervention as indicated by your response on the previously submitted survey. The purpose of this study is to describe the experiences of families, early childhood educators, and early intervention service providers who are engaged or involved in the delivery of early intervention services for children ages 3 to 5 in the Commonwealth of Pennsylvania.

As a participant in the study, you will be asked to devote approximately 30 minutes to a one-on-one interview scheduled at your convenience. The interview consists of nine questions that will be provided to you well in advance via e-mail. Interviews will be conducted at a mutually agreed upon location and audio recorded. In order for you to speak candidly, your identity will remain confidential and participants will be referred to by category/number (e.g., Parent 1, Teacher 2, etc.). Findings from this study may be published in a scholarly publication in the future.

Should you agree to participate in the study, you may withdraw at any time by contacting the principal researcher via e-mail (j.a.mattern@iup.edu). Any data collected from you would then be destroyed.

I hope that you will consider sharing a more in-depth description of your experiences in early intervention. Within the next week, I will contact you to answer any questions and determine if you are willing to participate in this study.

Thank you for your consideration.

Primary Researcher:
Janet A. Mattern, Doctoral Candidate
303 Davis Hall
Indiana University of Pennsylvania
Indiana, PA 15705
724-238-6569
j.a.mattern@iup.edu

Project Director:
Dr. Mary Anne Hannibal
137 Stouffer Hall
Indiana University of Pennsylvania
Indiana, PA 15705
724-357-7927
hannibal@iup.edu

APPENDIX I
Early Childhood Educator Interview Protocol

1. Could you tell me a little bit about yourself? Where are you from? How many years have you taught preschool?
2. How did you first learn about early intervention services for children in your classroom?
3. What role did the Child Find system play in identifying children in need of early intervention?
4. How would you describe the referral or evaluation process you experienced with the children who receive early intervention services in your school?
5. How would you describe IEP meetings for children who receive early intervention services in your school?
    g. How were you notified about children's IEP meetings?
    h. Who was in attendance at the IEP meetings?
    i. Were the parents informed that they were allowed to invite anyone they wanted to attend the IEP meeting, for example a friend or advocate?
    j. Were the elements of the IEP explained to you? For example, the children's present levels of performance as determined by the evaluations conducted by the multidisciplinary team, areas of strength, areas of weakness, learning goals and objectives.
    k. Did you receive a written copy of the IEP when you left the IEP meeting?
    l. Did the early intervention provider who coordinated the IEP meeting explain due process to the parents?
6. Describe the strategies that the early intervention service providers use when working with children in your school. Are these strategies communicated to you so you can incorporate and understand the strategies? Are you able to use these strategies as you provide instruction in the classroom with your children identified with special needs?
7. How does the early intervention service provider incorporate the goals and strategies being used with children into the routines of your day?
8. How would you describe the early intervention model that is used to provide services for children in your school?
9. How often do children receive intervention services? What determines the duration of services? Is this amount of time consistent?
10. How do you feel that early intervention could support you as you experience the implementation of early intervention services? Would connecting with other families who are going through early intervention with their children be of benefit to you?
11. Is there anything that you would like to add about your experiences in early intervention? What do you perceive to be the current difficulties with early intervention implementation in the state of Pennsylvania?

APPENDIX J

Early Intervention Provider Interview Protocol

1. Could you tell me a little bit about yourself? Where are you from? How many years have you worked in early intervention?
2. How did you first learn about early intervention services for children?
3. What role did the Child Find system play in identifying the children that you provide services for in early intervention?
4. How would you describe the referral or evaluation process for early intervention services?
5. How would you describe IEP meetings for children in early intervention?
    a. How do the parents and teachers of children learn about the IEP meeting?
    b. Who was in attendance at the IEP meetings?
    c. Do you inform the parents of children in early intervention that they are allowed to invite anyone they would like to attend the IEP meeting, for example a friend or advocate?
    d. Do you explain the elements of the IEP explained to families? For example, the child's present level of performance, areas of strength, areas of weakness, learning goals and objectives.
    e. Do you give families and preschool teachers a written copy of the IEP when you leave the IEP meeting?
    f. Do you explain due process to the parents at the IEP meeting?
6. Describe the strategies that you use when working with children and then communicate to parents and preschool teachers.
7. How do you incorporate the goals and strategies being used with children into the routines of their day?
8. How would you describe the early intervention model that is used to provide services for children in early intervention?
9. How often do children receive intervention services? How is the duration of services determined?
    a) How long do these early intervention services last?
10. How do you feel that early intervention could support you as you experience the implementation of early intervention services? Would connecting with other families who are going through early intervention with their children be of benefit to you?
11. Is there anything that you would like to add about your experiences in early intervention? What do you perceive to be the current difficulties with early intervention implementation in the state of Pennsylvania?

APPENDIX K
Family Interview Protocol

1. Could you tell me a little bit about yourself? Where are you from? How many children do you have?
2. How did you first learn about early intervention services for your child?
3. What role did the Child Find system play in your participation in early intervention?
4. How would you describe the referral or evaluation process you experienced with your child?
5. How would you describe your child's IEP meeting?
    a. How were you notified about your child's IEP?
    b. Who was in attendance at your IEP meeting?
    c. Were you informed that you were allowed to invite anyone that you wanted to attend the IEP meeting, for example a friend or advocate?
    d. Were the elements of the IEP explained to you? For example, your child's present level of performance, areas of strength, areas of weakness, learning goals and objectives.
    e. Did you receive a written copy of the IEP when you left the IEP meeting?
    f. Did the early intervention provider who coordinated your IEP meeting explain due process to you?
6. Describe the strategies that the early intervention service provider uses when working with your child and then communicates to you and your child's preschool teacher.
7. How does the early intervention service provider incorporate the goals and strategies being used with your child into the routines of your day?
8. How would you describe the early intervention model that is used to provide services for your child?
9. How often does your child receive intervention services?
    a. How long do these early intervention services last?
10. How do you feel that early intervention could support you as you experience the implementation of early intervention services? Would connecting with other families who are going through early intervention with their children be of benefit to you?
11. Is there anything that you would like to add about your experiences in early intervention? What do you perceive to be the current difficulties with early intervention implementation in the state of Pennsylvania?

APPENDIX L
Interviewee Voluntary Consent Form

Indiana University of Pennsylvania
PROFESSIONAL STUDIES IN EDUCATION

Davis Hall, Room 303
570 S. Eleventh Street
Indiana, PA 15705-1087

724-357-2400
Internet: *http://www.iup.edu*

INTERVIEWEE VOLUNTARY CONSENT FORM:

I have read and understand the information on this form and I consent to volunteer to be a participant in this study on early intervention implementation. I understand that my participation will involve attending a one-on-one interview [INSERT DATE, TIME LOCATION] consisting of nine questions and lasting approximately 30 minutes. I further understand that: (1) a copy of the questions is attached, (2) every precaution will be taken to ensure that my responses remain confidential, (3) I have the right to withdraw at any time, and (4) although the interview will be both audio recorded, the only person who will listen to the recordings is the researcher in order to type a transcript of the session verbatim. I will receive a transcription of the interview to review and add comments or clarification to ensure that the transcript accurately reflects my experiences. The insights gained from this interview may be used to provide in depth descriptions of experiences in early intervention in the dissertation and future scholarly publications. I understand that the transcripts will be coded to provide anonymity for my responses, and my identity will be kept strictly confidential. If I choose to withdraw from the study, all transcripts and digital recordings will be destroyed. On the day of the interview, I will make every effort to arrive promptly and will receive two copies of this Informed Consent Form; one to keep in my possession, and the other to be placed in a sealed envelope.

Name (PLEASE PRINT): _____

Signature: _____ Date: _____

Phone number or location where you can be reached: _____

Best days and times to reach you: _____

Email: _____

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, have answered any questions that have been raised, and have witnessed the above signature.

_____ _____
Date Investigator's Signature

Primary Researcher:
Janet A. Mattern, Doctoral Candidate
303 Davis Hall

Project Director:
Dr. Mary Anne Hannibal
137 Stouffer Hall

Indiana University of Pennsylvania
Indiana, PA 15705
724-238-6569
j.a.mattern@iup.edu

Indiana University of Pennsylvania
Indiana, PA 15705
724-357-7927
hannibal@iup.edu

APPENDIX M

Comparison of Personnel Initiating Identification, Referral and Evaluation in Early Intervention

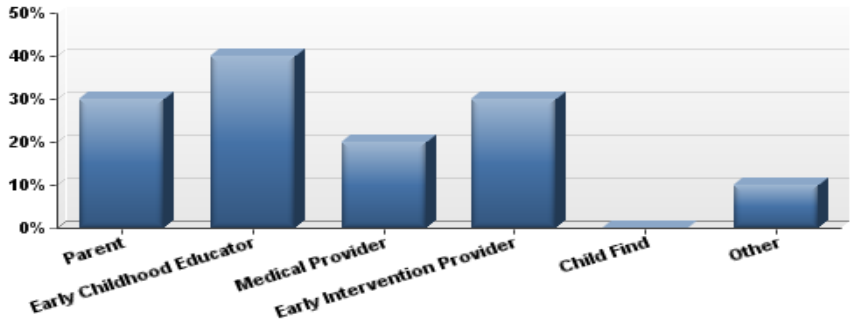

Figure 4. Personnel who identified children with atypical development (selected by families).

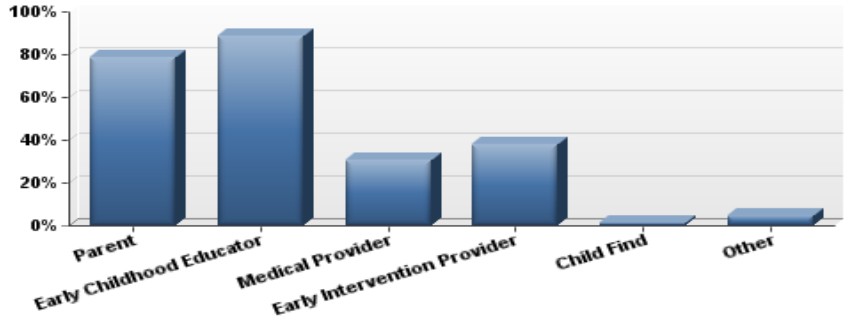

Figure 7. Personnel who identified children with atypical development (selected by early childhood educators).

Figure 10. Personnel who identified children with atypical development (selected by early intervention providers).

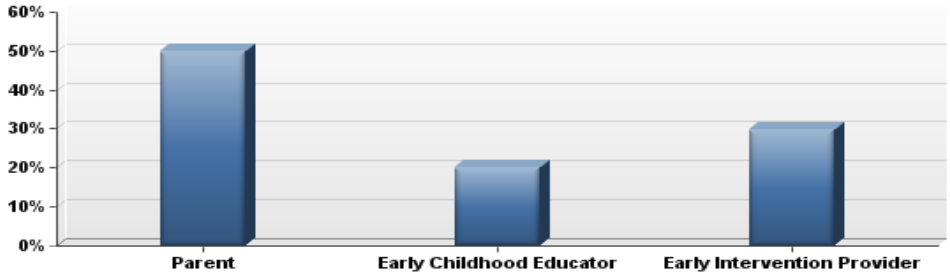

Figure 5. Personnel who initiated the evaluation of children (selected by families).

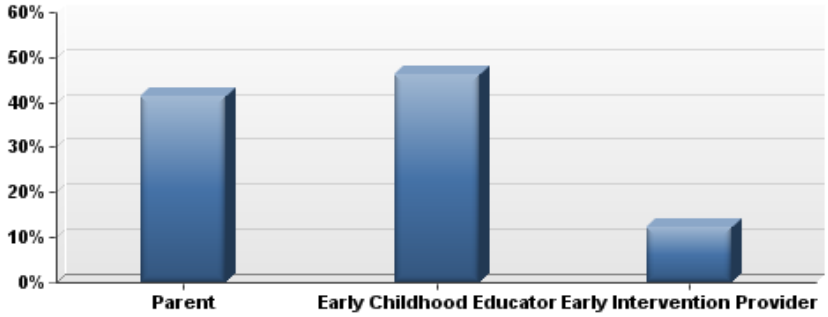

Figure 8. Personnel who initiated the evaluation of children (selected by early childhood educators).

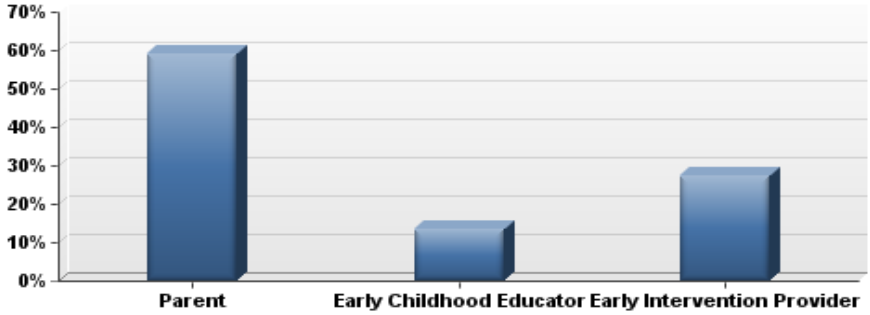

Figure 11. Personnel who initiated the evaluation of children (selected by early intervention providers).

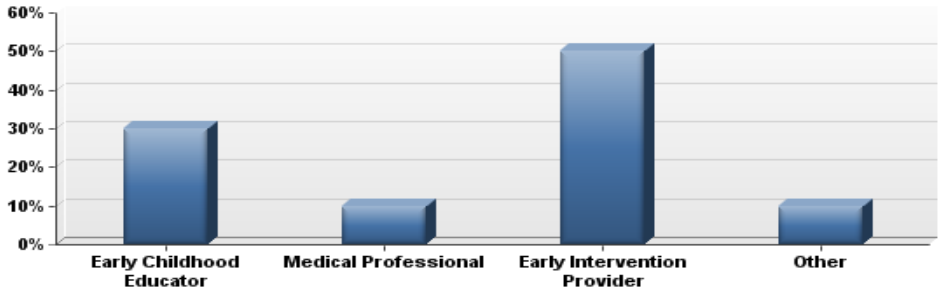

Figure 6. Personnel identified as helping families learn about implementation (selected by families).

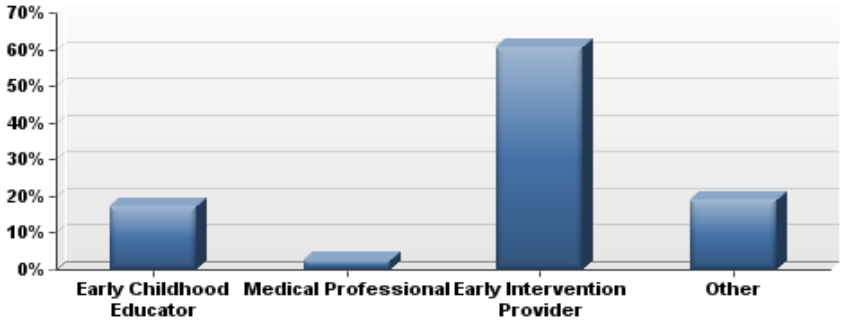

Figure 9. Personnel identified as helping families learn about implementation (selected by early childhood educators).

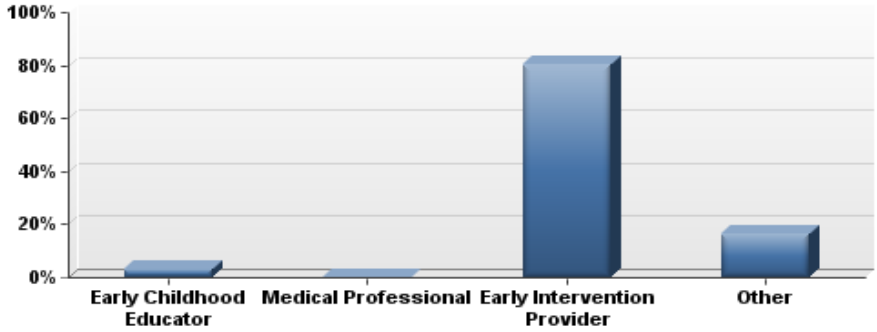

Figure 12. Personnel identified as helping families learn about implementation (selected by early intervention providers).