

POLICY, PRACTICE AND REVIEW: EVIDENCE BASED PRACTICES IN AUTISM
SPECTRUM DISORDERS

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By

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Frequently Used Acronyms

ABA	Applied Behavior Analysis
ARRA	American Recovery and Reinvestment Act of 2009
ASD	Autism Spectrum Disorder
CDC	Centers for Disease Control and Prevention
EBP	Evidence Based Practice
EHA	Education for All Handicapped Children Act
IDEA	Individuals with Disabilities Education Act of 2004
NCATE	National Council for Accreditation of Teacher Education
NCLB	No Child Left Behind Act of 2001
OSEP	Office of Special Education Programs
OSERS	Office of Special Education and Rehabilitative Services
PECS	Picture Exchange Communication System
PDD	Pervasive Developmental Disorders
SIRI	Regional Programme on Education Statistics
TEACCH	Treatment and Education of Autistic and other Communication-related Handicapped Children
UNESCO	United Nations Education, Scientific and Cultural Organization

CHAPTER I

INTRODUCTION

Dr. Betsy H. Botts from the University of West Florida relates a personal experience exemplifying the challenges facing children and families of children with Autism Spectrum Disorders (ASD). She tells of the first encounter she had in 1984 with the pediatric neurologist who officially diagnosed her son Jonathan with Pervasive Developmental Delay-Not Otherwise Specified, a disorder classified within the autism spectrum. The physician said to her if this were the agrarian society of 150 years ago, the child would be the “big dumb lug” whom everyone in the town would look out after, but no one would take the time to teach. To the anxious mother, the physician then said the good news is it is the 20th century so she could be thankful there are agencies to do that (Botts, 2008). The broken-hearted mother left in tears wondering what kind of life awaited her and her young son.

The story of Jonathan and Betsy is an example of the huge strides academia, medicine and society have made in regards to ASD. American society no longer disregards these children as unteachable or as lost causes. As the incidence of diagnoses of ASD increases, education systems adapt to meet the changing need. From a global perspective, it is evident the occurrence of diagnoses of autism spectrum disorders is on the rise. The World Health Organization does not maintain global statistics on the prevalence of ASD; however, its 2007 *Global Burden of Disease* report on mental and neurological disorders highlighted the critical situation the world faces with a growing population including those with autism. The Autism Society of America (2010) indicates

ASD is the fastest growing neurobiological condition in the world and although there is a lack of prevalence data on autism worldwide, there are emerging trend numbers suggesting tens of millions of children and adults have ASD.

Statement and Relevance of the Problem

Statistics from the U.S. Centers for Disease Control and Prevention (CDC) (2005) indicate autism effects between 2 and 6 per 1,000 individuals with four times as many diagnoses for males as for females. The CDC estimates there are currently 500,000 individuals between the ages of 0 and 21 with ASD residing in the United States. The CDC also estimates another 24,000 children born each year will eventually be diagnosed with ASD. When combining individuals from all levels of intellectual functioning who share the triad of impairments for diagnosis set forth by the Fourth Edition of the Diagnostic and Statistical Manual of Mental Disorders, Text Revision (American Psychiatric Association, 2000), Wing (1996) estimates the prevalence to be as high as 9.1 per 1,000 children under age 16. Prompted by concerns over the validity of the rapid increase in diagnosis of ASD, the Medical Investigation of Neurodevelopmental Disorders Institute confirmed the increase in the state of California, representative of the nationwide increase, was not attributable to changes in diagnostic criteria or related to past underdiagnosis coupled with present overdiagnosis (Byrd, 2002), indicating the incidence of the disorder is on the rise in the United States.

The global incidence of autism is on the rise as well; however, exact figures are not universally available. As previously stated, the emerging trend numbers suggest tens of millions of children and adults have ASD: China has a prevalence rate of 1.1 in 1000 children, India estimates 1 in 250, the United Kingdom reports a rate of 1 in 100, and

Mexico estimates 2-6 in 1000 Of key concern over the rising incidence of individuals with ASD is the cost of treatment. By 2010, estimates of the cost of caring for the estimated 1.75 million Americans with ASD will reach 90 billion USD per year. In developing countries such as India where current estimates total over 2 million, these costs could cripple a nation's health and education budgets within a few years (Autism Society of America, 2003).

Purpose of the Study

The purpose of this study is to explore the research to practice gap between the empirical data of academic research and the practitioner's knowledge of evidence based educational treatment techniques for individuals with ASD. Techniques can be considered evidence based if the practices have a confirmed level of success in treating or managing ASD accompanied by empirical data. In the United States, there is a need to correctly identify and implement evidence-based practices in order to comply with the requirements set forth in Public Law 107-110, the *No Child Left Behind Act of 2001* (2001).

In any country there is the ethical responsibility to deliver the best education possible to children with developmental disabilities. The educational needs of those with disabilities have been historically overlooked by local schools; therefore, a need arose for a national policy to address the needs of these individuals (No Child, 2001). This project will begin by outlining the comparative history of how public policy has been crafted in the United States of America and Argentina to meet the challenges facing children with disabilities through program implementation and educational reform.

Many treatments with little or no empirical evidence exist for ASD. In rural areas of Argentina, it was hypothesized that educators of children with ASD lack access to technology whereby they could utilize online professional and academic resources to have the most up-to-date information on best management practices in order to teach their students and guide parents toward resources proven to be valid and beneficial. This project will explore the link between access to a professional library and knowledge of evidence based practices (EBP) in Argentina. It will present information indicating further measures are necessary to provide educators, therapists, and support staff access to reliable information. It will assume the hypothesis the greater an education professional's access to information (via Internet access to online professional resources or a physical library facility), the greater the ability to judge evidence-based practices in management techniques of ASD.

In this study, the researcher examined the relationships among the variables of access to a professional library (via Internet access or physical facility), knowledge of EBP and years teaching experience.

Research Questions

This study engages the following research questions:

1. Do teachers of students with ASD in a rural province of Argentina have access to evidence based studies of teaching methods via an online professional library or a physical facility housing a professional library?
2. Can teachers of students with ASD in a rural province of Argentina distinguish between evidence based teaching methods and those without a research base?

3. Is there a correlation between distance to a physical facility with a professional library and the ability to judge EBP?
4. Is there a significant difference in the mean of the ability to judge EBP and the mean of years of teaching experience?

The research questions examine descriptive characteristics, correlations and analysis of means among the variables.

Significance of the Study

This study will contribute to the knowledge base of the Argentine Ministry of Education and the United Nations Educational, Scientific and Cultural Organization (UNESCO) by providing information on teacher access to technology and knowledge of evidence based practices in the management of ASD.

UNESCO developed the *Regional Programme on Education Statistics* (SIRI, by its Spanish acronym) in 1984 as a network for educators to disseminate high quality practices and standards, and foster the exchange of innovative experiences throughout Latin America and the Caribbean (UNESCO, 2008). In 2008, SIRI approved the implementation of a regional information system on special needs education in response to the need for complementing the scant information available at the regional level relative to special needs students. In the absence of these data, teachers and administrators cannot formulate or develop educational policies that would implement EBP and estimating the additional resources required to address these needs comprehensively becomes an unpredictable proposition (UNESCO Santiago, 2008). By implementing this system, UNESCO assumes greater access to information will achieve

more knowledge of special education teaching techniques. This study will explore the connection between access to information and the ability to judge EBP in ASD.

Definition of Terms

In order to accurately align this project with the wealth of literature on Autism Spectrum Disorders and the management of those disorders, it is essential to begin by clarifying the definitions of key terms that will be used throughout.

Autism Spectrum Disorder (ASD). ASD is the currently preferred label for a group of neurodevelopmental disorders included under the category of Pervasive Developmental Disorders in the Fourth Edition of the Diagnostic and Statistical Manual of Mental Disorders, Text Revision (American Psychiatric Association, 2000). PDD includes Autistic Disorder, Asperger's Disorder, Rett's Disorder, Childhood Disintegrative Disorder and Pervasive Developmental Disorders-Not Otherwise Specified. Diagnostic criteria of ASD include (a) impairments in social interaction and communication, (b) the presence of repetitive and stereotyped behavior patterns, and (c) onset before age 3.

Evidence Based Practices (EBP). Commonly referred to as scientifically based research or practices with a confirmed level of success in treating or managing ASD accompanied by empirical data. For the purposes of this project, any reference to practices as *valid* or *proven* will be referring to those that meet the requirements of EBP as defined in the *No Child Left Behind Act of 2001* (2001).

Access to an Online Professional Library. Access to an online professional library is understood to mean regular, convenient availability to necessary computing hardware to access the Internet wherein a professional library would be available. Also,

understood in the concept of access is the knowledge of how to operate the computer and navigate the Internet in an adequate manner.

Public Policy. Public policies are the central rules that govern the interactions of the individuals and social organizations that make up civil society (Pierson, 2006). The term denotes a declared State objective relating to the health, morals and well being of the citizenry ("Public Policy"). It includes the social policy areas of health care, human services, criminal justice, inequality, education and labor. For the purpose of this project, public policy will refer to education policies.

Basic Assumptions

1. The instruments used will adequately provide data for the statistical analyses.
2. Participants will be honest in their responses.
3. Participants understand the concepts questioned by the instruments.

Summary

There exists a divide between the research and practice of education techniques for individuals with ASD. Educators have the ethical responsibility to deliver the best education possible to children with developmental disabilities. This project will explore the link between access to a professional library and knowledge of EBP in rural Argentina. It will present information indicating further measures are necessary to formulate or develop educational policies that would implement EBP by providing educators, therapists, and support staff access to reliable information. It will assume the hypothesis the greater an education professional's access to information (via Internet

access to online professional resources or a physical library facility), the greater the ability to judge EBP in management techniques of ASD.

CHAPTER II

REVIEW OF THE LITERATURE

This literature review will examine the definition and current situation of Autism Spectrum Disorders (ASD), public education policies related to disability education in the United States and Argentina, and teacher education in the United States and Argentina. It will then discuss two of the variables in the study: (a) access to an online professional library, and (b) knowledge of evidence based practices.

Autism Spectrum Disorders

Autism Spectrum Disorder refers to lifelong developmental disorders characterized by a pattern of behaviors with three central features—impairments in socialization, atypical verbal and nonverbal communication, and restricted patterns of interest and stereotyped actions (California Department of Developmental Services, 2002). Since autism was added as a special education exceptionality in 1991, it has become the sixth most commonly classified disability in the U.S. ASD statistics suggest autism spectrum disorder is the second most common developmental disability.

According to the U.S. Center for Disease Control (2010), autism is a “spectrum disorder,” meaning ASDs affect each person in different ways, and can range from very mild to severe, thus making management unique and difficult. ASD symptoms begin before the age of 3 and last throughout a person's life, although the symptoms may improve over time. Some children with an ASD show signs of future problems within the first few months of life. In others, symptoms might not show up until 2 years or later. Some children with an ASD seem to develop normally until around 18 to 24 months of

age and then they stop gaining new skills, or they lose the skills they once had. Therefore, since improvements can be made it is essential to correctly implement educative practices to the maximum benefit of the student and family.

Diagnosis and Treatment

Medical diagnosis of ASD is generally made before the age of 3 in children who display the aforementioned characteristics. Early-detection and accurate diagnosis is crucial to the treatment of ASDs. This project will not delve into the medical act of diagnosis but will instead focus specifically on childhood treatment and management of ASD from the education perspective.

There are 4 basic types of treatments:

1. Behavior and Communication Approaches
2. Dietary Approaches
3. Medication
4. Complementary and Alternative Medicine

Within these types of treatments, behavior and communication approaches supply the most practices with empirical data for efficacy thus will be the category examined in this project. According to the CDC (2010), behavior and communication approaches help children with ASDs by providing structure, direction, and organization for the child in addition to family participation. Within this category are the practices of Applied Behavior Analysis (ABA), Treatment and Education of Autistic and Communication-Related Handicapped Children (TEAACH), and The Picture Exchange Communication System (PECS), all of which will be expounded upon in later sections.

Since no single best treatment for all children with ASDs has been identified, the augmentation of the number and types of treatments presents a problem for educators and parents.

Public Policy

Public or social policies are the rules and standards by which scarce public resources are allocated to almost unlimited needs (Gallagher, 1994). Policymakers undertake the task of scripting policies to legislate the way a society will operate to best ensure human welfare. The term “social policy” encompasses the social issues within the public policy realm and includes the areas of health care, human services, criminal justice, inequality, education and labor. In the article *Public Policies as Institutions*, Paul Pierson asserts public policies are the central rules governing the interactions of the individuals and social organizations that make up civil society (Pierson, 2006).

Public schools are the social organizations that exist in order to support the institution of public education and the resulting relevant public policies. Schools are in an ever-changing, constant state of reform in order to meet the demands of each new generation and the goal of public policy is to implement those reforms and meet those demands. Simply stated, education policy is the set of laws and rules governing the education system. Many methodologies and ideological theories of *best* exist with regard to primary and secondary educational practices; therefore, education policies must be inclusive and wide-encompassing so the best can be sought for all. Within these policies, provisions must be made for individuals in the minority—including but not limited to those with handicaps, disabilities and exceptionalities. This portion of the literature review will take a comparative look at federal education policies in the United States and

Argentina, focusing on policies designed for children with disabilities and will analyze the key components in current policies—in particular the *Individuals with Disabilities Education Act of 2004* (IDEA) in the United States of America and *Ley 24.901 Basic Benefit System in Comprehensive Qualification and Rehabilitation for Person with Disabilities* in Argentina.

Public Policy Analysis

The formal cycle of public policy analysis begins with addressing the problem, looking at policy design, then examining implementation and evaluation. In crafting education policy to disburse public resources, a policy must be written such that it affords legal clarity by answering four major questions:

1. Who is eligible to receive the resources or services?
2. Who will provide and deliver the services?
3. What is the nature or scope of the services?
4. What are the environment and procedures under which the services will be delivered? (National Research Council, 2001)

In order to compare public policies, they must be analyzed according to a set of specified goals in relationship to a given problem. For children with disabilities, the challenge was prior to the enactment of Public Law 94-142, the *Education for All Handicapped Children Act of 1975* (EHA) (1975), the educational needs of millions of children in the United States were not being fully met because (a) they did not receive appropriate educational services; (b) the children were excluded entirely from the public school system and from being educated with their peers; (c) undiagnosed disabilities prevented the children from having a successful educational experience; or (d) a lack of

adequate resources within the public school system forced families to find services outside the public school system (Education Laws, 2004). Simply stated, the educational needs of those with disabilities were overlooked by local schools; therefore, a need arose for a national policy to address the needs of these individuals. This portion of the study will compare the American and Argentine disability education policies in light of how they provide for the following stated goals:

1. To provide universal public education opportunities for all children with disabilities.
2. To train educators and support staff in the most current, evidence-based practices for children with disabilities

United States of America

Public education serves as a place in which to reproduce American culture, ideologies, and democratic values in order to make the *American dream* appealing and viable for future generations (Hochschild & Scovronik, 2003). Americans want the key principles of the Federal Constitution and the key values of democracy to be reproduced in their children via the public school system, as well as create the conditions that make the American dream appealing. In reproducing the American dream, teachers encourage students to work and study hard, get involved in something they enjoy doing, nurture their abilities, and out of that effort, children can achieve their dreams. Historically, the American dream has been envisioned as providing succeeding generations the ability to experience a life better and richer and fuller than previous generations, with opportunity for each according to ability or achievement (Adams, 1931). Also, employment and independence are important pieces of the American dream. However, for much of

history the American dream was not available to those with disabilities because they lacked adequate educational opportunities.

Funding Education.

Education is an important American social policy; one can see this in the amount of resources comprising the institution. Teachers, administrators, facilities, transportation, and organizational strategists combine to form the basis of what we know today as the system of public education. The institution receives the vast majority of each state's budget as well as a significant portion of the federal budget each year to create free, equal educational opportunities for each child in America. In order to create equal opportunities, a portion of the federal budget and much of each individual state budget go toward funding systems of education. For example, the state of Florida budget allotment for education is approximately \$21 billion or 31.9% of the entire state budget (State of Florida, 2010), while California spends between 52-55% of the state budget for K-12 public education (California Department of Finance, 2009).

A key element in the pursuit of educational equality is the issue of resources and the quality of resources depends in large part on the availability of funds. Public education funding is complex. The authority to establish and regulate a public education system is a power diffused to each state; therefore, each state taxes its citizens to fund its own public school system. According to the Budget Office of the U.S. Department of Education (2010), education in America is primarily a State and local responsibility, and the federal budget allotment is only a small part of both total national education spending and the overall federal budget. Of the nearly \$1 trillion spent on education nationwide,

only about 9% will come from the Federal government. Therefore, the remaining 91% for educational spending comes from local, state, and private funds (U.S. Department of Education, 2010). The federal, state, and local revenue contributions for public education at the primary and secondary levels for 2006–07 are estimated at \$47.0 billion, \$252.5 billion, and \$230.9 billion, respectively, totaling \$530.3 billion (National Education Association, 2007). The healthier the economy of a state or city, then more revenue is generated, equaling higher funding for the public schools. In essence, the richer states can provide more funding. State sales taxes and local property taxes are popular ways to fund systems of public education. Property taxes can cause great disparity in the amount of funding available to each school. Wealthy neighborhoods will have better funded schools than lower-valued neighborhoods.

During his first term from 2000-2004, Republican President George W. Bush increased federal spending on education and in return expected greater accountability from state educational systems. Public Law 107-110, the *No Child Left Behind Act of 2001* (2001) (NCLB), imposed stricter measures of accountability on states, school districts, and schools while providing parents with greater flexibility to choose which school their child attends (No Child, 2001). In 2001, the federal budget for education was \$42.2 billion and increased to \$54.4 billion in 2007 (U.S. Department of Education, 2010). In order for the states, districts, and schools to now receive these funds, they must perform annual state-standardized tests to see how their educational achievements compare with others. Schools are required to meet standards of adequate yearly progress (AYP), moving toward 100% of students demonstrating proficiency. If a school fails to achieve its target for two consecutive years, then it is designated as a school in need of

improvement. Continued failure of a school to attain AYP targets beyond two years can result in more severe consequences, to include restructuring or changes in governance (Kahl, 2003).

Educational Reform.

The U.S. underwent wide-spread educational reforms in the 1970's, those related to desegregation, women's rights, the handicapped and non-native English speakers, requiring the intervention of the federal government. As aforementioned, children with disabilities were historically denied access to educational opportunities. For example, in 1970 most schools educated only one in five children with disabilities, and many states had laws excluding certain students, those children who were deaf, blind, emotionally disturbed or mentally retarded, from its schools (Education Laws, 2004). The federal government assumed the cause, instead of being handled on a state-by-state basis, and made a national policy recognizing disabled persons as full citizens with equal rights to educational opportunity. With the implementation of the EHA in 1975, the United States Congress declared the following:

Disability is a natural part of the human experience and in no way diminishes the right of individuals to participate in or contribute to society. Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities (Education Laws, 2004, p. 3).

By making this declaration, the EHA set the groundwork for building an infrastructure of programs and laws ensuring access to education for those with disabilities.

The EHA evolved into the *Individuals with Disabilities Education Act* in 1990 and was intended to support states and localities in protecting the rights of, meeting the individual needs of, and improving the results for infants, toddlers, children and youths with disabilities and their families. The implementation of the IDEA had been impeded by low expectations, and an insufficient focus on applying replicable research on proven methods of teaching and learning for children with disabilities (Education Laws, 2004). In attempts to combat those shortfalls, it was amended in 1997 and again in 2004 to meet the standards of NCLB. The amended *Individuals with Disabilities Education Improvement Act of 2004* (Public Law 108-446) will be referenced henceforth. The IDEA is managed within the U.S. Department of Education in the Office of Special Education and Rehabilitative Services (OSERS). The OSERS oversee concerns related to special education, vocational rehabilitation, and research. Within OSERS, the IDEA is specifically managed by the Office of Special Education Programs (OSEP).

Today, the IDEA impacts approximately 6.8 million infants, toddlers, children and youth by providing early diagnosis, special education and related services fitted to meet their individual needs (Education Laws, 2004). The Act was signed into law in December 2004 and ensures states are held accountable to setting goals for the performance of children with special needs, as they do with those in a normal classroom. Students with disabilities are able to attend their neighborhood schools and have adequate services available to them on site. When meeting specified criteria, severely disabled children may be best educated in specialized centers that are better suited to meet their specific needs than a public school.

In general, the IDEA authorizes formula grants to states, and discretionary grants to institutions of higher education and other non-profit organizations to support research, demonstrations, technical assistance and dissemination, technology and personnel development and parent-training and information centers (U.S. Department of Education, 2007). With regard to ASD, the IDEA specifically includes children with autism within its broader definition of disability. Added by the amendments of the IDEA in 1997, the term *child with a disability* is defined as a child (a) with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and (b) who, by reason thereof, needs special education and related services (National Research Council, 2001). Autism is then particularly defined under Federal Law 34 C.F.R. 300.7 (2005) as a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences (National Research Council, 2001).

Current Situation for the IDEA.

Regarding the importance of education for those with disabilities, in 2009 the U.S. Secretary of Education Arne Duncan states:

President Obama and I recognize the critical role that education plays in empowering the next generation of Americans with disabilities. Through

education, we can help people with disabilities build a strong foundation of knowledge and marketable skills with expectations for employment and the ability to give back to others in their communities. Stimulus funding under the *American Recovery and Reinvestment Act* represents an unprecedented investment in students with disabilities and demonstrates the administration's commitment to helping all Americans achieve success in school and work. We are proud of the many projects underway at the Department of Education to assist children and adults with disabilities in acquiring the tools they need to achieve their dreams (U.S. Department of Education, 2010, p. 1).

The *American Recovery and Reinvestment Act of 2009* (ARRA) appropriates new funding for programs under the IDEA. The IDEA funds under ARRA will provide opportunities for states, local education agencies, and early intervention service providers to implement innovative strategies to improve outcomes for infants, toddlers, children, and youths with disabilities while stimulating the economy. Of the \$90.9 billion the ARRA appropriates for education, those with disabilities under the IDEA will be allotted \$12.9 billion (Recovery. gov, 2009).

Argentina

In Argentina, education is provided to roughly 36 million inhabitants as the shared responsibility of the national government, the 23 provinces and the autonomous city of Buenos Aires (Ministerio de educacion de Argentina, n.d.). In addition to education, each entity exercises their delegated authority while fulfilling their duties to provide the population with the social services of health, justice and security services. Education is a key variable in the consolidation of national identity, the formation of

democratic citizenship and sustainable development of the competitiveness of any country. The Federal Government of Argentina views education as much more than just a social policy, but as an essential piece of development and democracy. The National Ministry of Education states education is essential to democracy and central to the project of a modern integrated country so its citizens have the assurance of political and social rights (Ministerio de educacion de Argentina, 2003). The Council commissioned to rewrite Argentine education policy after the economic crash of 2002 defined education policy in Argentina as a way of encouraging personal, social, economic and cultural development. The Council also expressed a desire to build an education system articulated to the country's national development plan. As then President Nestor Kirchner noted, "We must stop thinking of education, science and technology as social policies and understand them as strategies for development... It is indispensable to deepen the ties of exchange between the education system and the world of production and employment" (Australian Education International, 2005, p. 7).

History of Education.

Education was universalized by President Julio Argentino Roca in 1884 with *Law 1420 of General Common Education* ("CPE Neuquen," n.d.) which mandated public compulsory, free and secular education. According to the Constitution of the Argentine Nation of 1853 (last amended in 1994), Congress is able to enact legislation:

referring to the organization and basis of education consolidating national unity and respecting provincial and local characteristics; which ensure the state responsibility that cannot be delegated, family and society participation, the fostering of democratic values and equal opportunities and possibilities with no

discrimination whatsoever; and which guarantee the principles of free and equitable State public education as well as the autonomy and autarky of national universities (Presidencia de la Nacion de Argentina, 1994, p. 11).

After the military dictatorship of the 1970's, Congress undertook the task of updating the 1884 law of education to give a renewed consensus for national education. A long parliamentary debate was conducted from 1984 to 1993 to prepare the new legal framework: *Ley 24,195 The Federal Education Act*. The Act defines (a) the management system for education, (b) extends compulsory education to ten years (one year of kindergarten and nine years of General Basic Education), (c) highlights consensus in a federal country, (d) establishes the National Ministry of Education as the top educational strategy organization, (e) provides directions for the school, (f) establishes the fulfillment of curricular common basic contents for the whole country, to guarantee quality, equity and national unity, (g) introduces for the first time assessment in education, and (h) creates the Federal Network of Teacher Development. The Act also establishes an increase in the budget for education to 6% of the Gross Domestic Product and adds regulations for the equal development of the national educational system to compensate regional educational inequalities, solve educational emergencies, cope with situations of extreme poverty or carry out educational goals of the nation (Ministro de Cultura y Educacion de la Nacion, n.d.). The Ministry of Education increased its budget from US\$873 million in 2003 to US\$1.8 billion in 2005; however, many provinces have not been able to do the same and continue to struggle with minimal education budgets and poor infrastructure (Australian Education International, 2005).

Disability Education Policy.

The *Federal Educational Law 26.206* rules that the federal educational system structure is to be integrated by four levels: (a) Initial, (b) Primary, (c) Secondary and (d) Higher Education, and by eight different modalities: (a) Professional Technical Education, (b) Artistic Education, (c) Special Education, (d) Permanent Youth and Adult Education, (e) Rural Education, (f) Bilingual Inter-Cultural Education, (g) Education in an Environment of Privation of Liberty, and (h) Domiciliary and Hospital Education (Secretaría de Gabinete y Gestión Pública, 2005). With regard to education for children with disabilities, this law makes provisions for special needs education as an integral part of the Argentine education structure while the *Ley Nacional de Discapacidad, Ley 24,901* outlines the Basic Benefit System in Comprehensive Qualification and Rehabilitation for Persons with Disabilities (Centro de documentacion e informacion del ministro de economia-Argentina, 1997).

Under *Ley 24.901 Article 9 (1997)*, individuals with disabilities are defined as all those suffering from permanent or prolonged functional, motor, sensory or mental impairment, which in relation to their age and social environment would result in considerable detriment to family, social, educational or workplace integration. The *Ley* designates in Article 2 that the Social Services office is responsible for mandatory, full coverage of the basic benefits stipulated in this law. When persons with disabilities are not covered under the Social Services plan and their dependents can not afford services, the state via its organisms will be responsible for providing the services (Centro de documentacion, 1997).

The law aims to provide services of prevention, assistance, advocacy and protection for those with disabilities. Article 11 entitles persons with disabilities to individual assessment, family and group counseling, community programs, and efforts to provide for the social integration. Also included are the following benefits:

1. Preventive Benefits- From the moment of conception, the mother and child are guaranteed controls, prevention and appropriate care for their optimum physical, mental and social development. If there are risk factors, every effort will be made to prevent disease and detect any impairment as early as possible.
2. Therapeutic Benefits of Education- These are the benefits seen by treating those with behavioral disorders, acquisition of appropriate levels of self-reliance and independence, and new models of interaction. Therapeutic Education Centers are a service to those with disabilities that incorporates knowledge and learning through educational approaches, methodologies and techniques in therapy.
3. Educational benefits- Educational provision is defined as those who develop teaching-learning activities through a systematic programming specifically designed to operate in a predetermined period and implement them according to requirement of each type of disability (Centro de documentacia, 1997).

Also included in the law are provisions for early stimulation which seeks to promote and support the different developmental stages of children with disabilities, early education for those between 3 and 6 years of age, basic general education for those between 6 and 14 years of age, and job training is provided as a preparation for the workforce. Day Centers are provided to children, youth and adults with severe or profound disabilities and comprehensive dental care is provided. According to Article 21

of Ley 24.901, early education can be implemented within a common school where integration is possible. Article 22 allows for basic general education to be implemented within a special school or integration within a common school if the degree of disability so permits (Centro de documentacia, 1997).

As aforementioned, there are positive changes being seen in Argentina with regard to ASD. Chief among these is the mobilization of a group of parents of children with ASD who have petitioned the Argentine federal government amendment of the National Disability Law, Ley 24.901. The amendment revisions would ensure the law extends to persons with ASD by stating and defining the disorder, to cover treatments, and to ensure that relevant professional career education (medical, psychology, special needs education) includes training in treatment of ASD (TGD-Padres, 2010).

Current Situation of ASD.

The current reality in Argentina is that specialized treatment for ASD is very expensive, thus not universally available, and occurs at private treatment centers predominantly in the city of Buenos Aires. Therefore, parents in other provinces are left without many viable options for treatment of their children. In these private centers, students are taught by specifically trained therapists, speech pathologists, behavior specialists, and psychologists. Argentine national law does allow for inclusion of students with ASD in *normal* classrooms with an aide who stays with the student. One challenge faced by this current system is even though the child is integrated, the normal teacher does not have adequate autism-specific training to successfully implement the treatment techniques to teach the child.

In recent years in Argentina, the federal government has placed a renewed importance on education by passing legislation insuring 6% of the GDP is dedicated to education. The current Ministry of Education has 4 stated strategic goals for improving the education system over the timeframe 2008-2011, with goal 3 being to promote inclusive education. Within the new budgetary and strategic framework, Argentina is clearly placing new emphasis on special education which speaks positively for special needs and ASD education (Ministro de Cultura y Educacion de la Nacion, n.d.).

Policy Conclusions

The Federal education policies of both nations compared in this section contain the contents affording legal clarity by defining the eligibility, provider, scope and environments and procedures. When analyzing policies, it is essential to look back at the problem the policy is aiming to address and view it in light of the stated goals it hopes to accomplish. The aforementioned goals of (a) providing universal public education opportunities for all children with disabilities; and (b) training educators and support staff in the most current, evidence-based practices for children with ASD were achieved in both policies. The problem of inadequate access to educational opportunity for those with disabilities is being addressed by the policies analyzed.

Teacher Education

While some adults think of themselves as natural teachers, research supports the claim that being a consistently effective teacher requires professional preparation (Imig, 1996). The National Council for Accreditation of Teacher Education (NCATE) recognizes training is needed in many specialized areas. These areas include knowledge

of pedagogy, ability to be a critical thinker and perform critical analyses of student work, ability to prescribe appropriate levels and modes of instruction, instruction in the impact of diversity of learners and knowledge of assessment principles to name a few (NCATE, 2010).

United States of America

In the United States, licensure and certification vary from state to state. For the purposes of this study, a distinction must be made between “teacher licensing” and “teacher certification”. As defined by Cronin (1983) teacher certification is “the process of deciding that an individual meets the minimum standards of competence in a profession” and licensing connotes the legal process of permitting an individual to teach, once the certification requirements have been met. A license to teach in one state may not be accepted in another. Although these conditions vary from state to state the following list of competencies is considered the core of teacher education: (a) a bachelor’s degree though some states may require a fifth year of education or a master’s degree, (b) completion of an approved and NCATE accredited program of instruction, (c) a major in elementary education or a minor in education for middle and high school subject area teaching, (d) a major in the subject area for middle and high school teachers, (e) strong liberal arts foundation and (f) passing of a state test similar to the Praxis exam. The Praxis exam is a series of tests administered by Educational Testing Service used in the teacher certification process (Roth & Swail, 2000).

Most university programs require a minimum of 130 credit hours for education majors as contrasted to 120 hours for non-education courses of study. An average of 15 weeks is spent in practicum programs (Feistritz, 1999). Forty-seven states require

continuing professional development. This may consist of in-service opportunities provided by the school district or college courses (NASDTEC, 1998).

Alternate certification can be achieved in a myriad of ways, controlled by the state issuing the license. Alternate certifications are designed to provide access to the teaching profession in more accommodating ways. They are the fodder of much debate and scrutiny by professional organizations yet are becoming an integral pathway to emergency as well as full certification to teach. Inner-city and rural school districts rely heaviest on alternate certifications for insuring an adequate teaching population. Low pay and working conditions make the setting less desirable for beginning or experienced teachers (Hart & Burr, 1996; Keirstan, 1988).

Teachers accredited by an alternate form of certification are more diverse than the typical college graduate. They are almost always older and have significant work related experiences that may or may not have to do with education. Alternately certified teachers may lack pedagogical training, but usually have content-specific skills (Stoddart & Floden, 1995; Ashburn, 1984).

Argentina

In Argentina, the requirements for a teaching career include completion of high school and an additional 2.5 years of specialization. Satisfactory completion earns a teaching certificate and qualifies one to teach in a national primary school, or in a provincial school. An additional two years are required for teaching in kindergarten and a university or professional level degree qualify a person for teaching at the secondary level (Morris).

Many challenges face educators in Argentina. M. Victoria Abregú of the Universidad de San Andrés cites 4 structural problems in teacher training: (a) inadequate title assignation, as many teachers are considered substitutes for years; (b) excessive number of graduates for basic education and a shortage of teachers with the needed training for secondary level; (c) lack of training in communication technology; and (d) great number of heterogeneous teacher training institutes. In the area of technology training, a study conducted among 2440 Argentine teachers revealed half of them do not have a personal computer at home, only one-third have Internet access, 63% of the lowest socio-economic levels never use a PC and more than 7 out of 10 teachers never use e-mail. Conversely, the study showed 2 million teenaged students have access to the Internet and 55% of them are online daily (Abregú, 2006).

Internet Access and the Digital Divide

In the past 20 years, the Internet has altered how people communicate, access information and view the world around them. According to Investors.com (2010) online magazine:

One in 5 people around the world believe that access to the Internet is a fundamental human right, a BBC poll suggested. Countries such as Finland and Estonia have already ruled that Internet access is a right for citizens. The survey across 26 countries found that more than 70% of non-Internet users felt they should have access. In S. Korea, the most-wired country, 96% of people believed net access was a fundamental right.

The *digital divide* is the term used to describe the growing gap, or social exclusion, between those who have access to the new services of the information society,

and those who do not. This can be for a number of reasons: access to education or training, lack of money to buy the required equipment, or lack of access because of the problems obtaining the required communications links or services to get online (Bennett, Cole, Tapia, & Reeder, 2009). The digital divide initially referred to the gap between those who had access to computers and those who did not; however, as the prominence of the Internet grew, the term morphed to encompass the gap in access to the Internet as well.

Evidence Based Practices

The term *evidence based practices* is used in multiple disciplines and denotes practices with a foundation in scientifically based research and empirical evidence of effectiveness. The *No Child Left Behind Act of 2001* (2001) includes many references to the importance of practices driven by scientifically based research and defines such research as involving the application of specific procedures to obtain valid knowledge relevant to the education practices. Additionally, research draws on observation or experiment, involves thorough data analyses to test the stated hypothesis and justify the conclusions, relies on accurate measurement methods and is evaluated using experimental or quasi-experimental designs. Research studies are presented with adequate detail to ensure clarity and allow for replication, and have been accepted by a peer-reviewed journal or gained approval by a panel of experts through scientific review (Zucker, 2008).

According to this definition, management techniques for ASD cannot be based upon success in one isolated instance. Successful practices have measurable or observable results reproducible in multiple settings with many children. NCLB and

similar policies require a standard by which they can designate and evaluate possible funding sites; therefore, it has become increasingly important to accurately define these practices.

As aforementioned, many treatments with little or no empirical evidence exist for the management of ASD. Many claim to have a cure for ASD because in one case and in one isolated experience a child has shown remarkable gains as a result of a certain practice. But in reality, there is no cure for ASD because it is by definition a life-long neurological disorder and by virtue of the complexity of the disorder, reproducible results are difficult to attain from one child to the next.

Practices that are popular but lack empirical evidence include but are not limited to (a) sensory integration; (b) animal therapy; and (c) declining vaccines for fear that vaccinations could cause ASD. Despite the difficulty in attaining empirical data in management techniques for ASD, certain practices are considered evidence based practices because they are founded on scientifically based research. Three techniques considered to have or be in the process of compiling a reputable research base are: (a) TEACCH, (b) ABA, and (c) PECS (Jacobson, Foxx, & Mulick, 2005; Simpson, 2005).

Treatment and Education of Autistic and Communication-related Handicapped Children

The TEACCH approach is a family-centered evidence-based practice for autism signifying it is supported by empirical research and extensive clinical expertise.

TEACCH began as a program at the University of North Carolina by a professor who observed a common set of behaviors and preferences in children with ASD. These behaviors included preference of visual information and routines, and difficulty in combining, organizing and communicating information. From these observations, he

developed an intervention approach called *Structured Teaching* that involved developing an individualized curriculum plan for each student and providing structure and visual supports for daily activities. Structured Teaching is the method used to accomplish the long-term goals of the TEACCH approach which are both skill development and fulfillment of fundamental human needs such as dignity, engagement in productive and personally meaningful activities, and feelings of security, self-efficacy, and self-confidence (UNC School of Medicine, 2006).

Applied Behavioral Analysis

ABA is a management technique for persons with ASD based on the idea that social and behavioral skills can be taught, even to profoundly autistic children, and normally begins between the ages of two and eight (Lovaas Institute, 2005). A psychologist first applied ABA to autism at the Psychology Department at UCLA in 1987 (Rudy, 2009). He used the basic framework where (a) *Applied* refers to principles applied to socially significant behavior, (b) *Behavioral* is based on scientific principles of behavior, and (c) *Analysis* refers to progress that is measured and interventions modified (Lovaas Institute, 2005). Many if not most children who received ABA training learned to behave appropriately in a restricted setting and some even lost the educational label of autism after years of intensive therapy (Rudy, 2009). ABA involves a variety of behavioral interventions to teach children skills including: (a) discrete trials of asking for a particular behavior and rewarding compliance by using child-specific reinforcers, (b) incidental teaching to expand communication, (c) fluency-based instruction to increase how quickly a child responds, and (d) peer integration to encourage relationship development with other children (Lovaas Institute, 2005).

Picture Exchange Communication System

PECS is an augmentative communication system frequently used with children with autism. PECS has gained widespread appeal because it requires few complex motor movements, can be taught relatively rapidly and is comparatively low cost. PECS is a pictorial system developed for children with social-communication deficits and utilizes basic behavioral principles to teach children functional communication using black-and-white or color drawings as the communicative referent. The pictures are kept by the child on a PECS board with Velcro® where the child can then use them to create a sentence. For example, a child could combine an *I want* card plus a *juice* card thus communicating a desire for something to drink. PECS teaches children to initiate a request, respond to questions, and make social comments (Charlop-Christy, Carpenter, Le, LeBlanc, & Kellet, 2003).

Summary

It is important to accurately describe the challenges facing individuals with developmental disabilities and those who educate them in order to develop substantiated strategies to educate and inform policy makers. In order to align this project with the wealth of literature on ASD and the current policies the following topics were discussed: (a) the definition and current situation of ASD, (b) public education policies related to disability education in the United States and Argentina, and (c) teacher education in the United States and Argentina. Access to the Internet and the concept of the digital divide, and EBP were discussed in order to clarify two of the variables explored in this study.

CHAPTER III METHODOLOGY

Research Design

This study used a quasi-experimental approach to examine the relationships among the variables (a) access to an online professional library, (b) distance to a physical facility housing a professional library, (c) knowledge of evidence based practices (EBP) and (d) years of teaching experience.

A selection of education professionals and other persons associated with the education and training of children diagnosed with Autism Spectrum Disorder (ASD) in the setting of the study in rural Argentina were surveyed to ascertain their experience and knowledge of certain treatment practices for ASD and their access to the Internet and a professional library. The sample group is significant to the type of information necessary to inform policy at the national level for both rural and urban populations. Nearly one-third of the population of Argentina is located in the Autonomous City of Buenos Aires (Central Intelligence Agency, 2010); therefore, it is essential to policy formation to accurately gauge the situation of personnel development in the treatment of ASD outside of that area. Through the use of a quasi-experimental design, this study examines the relationships among the variables in an effort to inform decision makers within the United Nation's Regional Programme on Education Statistics (SIRI) as well as describe new relationships not previously explored in research studies in the rural areas of Argentina.

Data were analyzed in three phases. First, a series of descriptive characteristics were analyzed to make determinations about the population studied. Among the

examined characteristics was the ratio of males to females, the age of respondents, the highest level of education attained and number of years of professional experience. This information can be utilized to make observations based on the demographics of the sample in study.

Second, a correlational analysis was employed to explore the strength of relationships between the variables distance to a physical library facility and ability to judge EBP. Through the use of this model, relationships can be identified to contribute to the understanding of the study. This method is sometimes characterized as *ex post facto* research because groups were formed and the effect of one variable on another occurred before the study began (Campbell & Stanley, 1963).

Third, an analysis of means was performed to explore the difference between the mean of the ability to judge EBP and the mean of years of teaching experiences.

Correlational Studies

The correlational method allows researchers to study correlational relationships when manipulation of variables is impossible. Using this design, multiple variables can be analyzed in a single project and information can be obtained concerning the strength of the relationships of the variables being studied (Creswell, 2005). Correlational designs are a practical way to provide a preliminary investigation of relational hypotheses (Campbell & Stanley, 1963) and contribute to theory building (Slaven, 2002).

Several specific limitations should be noted in correlational studies. Correlational research does not exclude alternative explanations accounting for the relationship between two variables (Shadish, Cook, & Campbell, 2002). Unknown antecedent and co-existing events may affect the relationships. Innumerable other attributes may be

interacting with the selected variables (Campbell & Stanley, 1963). Because bivariate correlation is symmetrical, it does not provide information about the direction of influential flow. When using correlational methods to analyze historical data, care must be taken to not claim causality.

The Spearman rank order correlation coefficient (Spearman *rho*) is a non-parametric test procedure used to calculate the correlation between two variables measured on an ordinal scale or with data measured in ranks. This is an appropriate measurement to use as the data involved in research Question 3 is measured on ordinal scales (distance from library). Spearman *rho* measures the strength of the relationship between the 2 variables without assuming the data meets any parametrized distributions (such as a normal distribution).

Values of Spearman *rho* fall between +1 and -1. A value of +1 indicates a perfect positive relationship, a value of -1 represents a perfect inverse relationship and a value of 0 indicates no relationship. For the purposes of this study, values between .99 and .75 will be considered strong, values between .74 and .50 will be considered moderately strong, values between .49 and .25 will be considered moderate and values below .24 will be considered weak.

Student's *t*-Test

The *t*-test assesses whether the means of two groups are statistically different from each other. This analysis is appropriate whenever you want to compare the means of two groups of nominal data. This was done with the variables of ability to judge EBP and years teaching experience.

Sample

The sample size for this correlational study ($n = 55$) exceeds the suggested minimum number of participants established by Gall, Borg, and Gall (1996). Approximately 30 observations are recommended for correlational research. A selection including but not limited to education professionals, classroom teachers, therapists, *psicopedagogas* (equivalent of US para-professionals), occupational therapists, speech pathologists and other persons associated with the education and training of children with ASD in the setting of the study in rural Argentina were surveyed to ascertain their experience and knowledge of certain treatment practices for ASD and their access to the Internet and a professional library. The results of the surveys were analyzed to better understand the situation of personnel development in the treatment of ASD.

Participants

Participants in this study were 55 persons affiliated with the education of children with a diagnosis of ASD. As aforementioned, affiliation included but was not limited to preschool teachers, primary teachers, occupational therapists, medical professionals, and auxiliary educational staff from a rural province in Argentina. Participants ranged from

20 to 65 years of age, with the largest percentage in the age bracket between 26 and 30 years of age. The male to female distribution mirrored the United States trend of female-dominated teaching professionals with a 95.2% female population to 4.8% male. In the United States in 2005, the percentage of preschool female teachers was 91.4% , 88.6% for primary school and 62.5% for secondary school (UNICEF, 2008).

Education attainment demographics revealed 8.1% of respondents had completed a technical training program, 35.5% of respondents held University degrees and 19.4% held licentiate degrees. Licentiate degrees are the equivalent of a Masters degree in the United States and denote a certificate of competence to practice a profession (CONEAU, 2005). Another 35.5% classified themselves in the category of other with a large number of respondents writing in *terciario* as their highest level completed which denotes high school completion with 2.5 years of teacher-specific training.

Demographic information on age, sex, and education level of those participating in the study is displayed in Table 1.

Table 1

Demographic Characteristics (N = 55)

Characteristic	<u>n</u>	%
Age at time of survey (years)		
20-25	20	32.3
26-30	11	17.7
31-40	23	37.1
41-50	4	6.5
51-65	2	3.2
Sex		
Male	3	4.8
Female	59	95.2
Highest Level of Education		
Technical School	5	8.1
University Education	22	35.5
Licentiate	12	19.4
Other	22	35.5

Procedures

In September 2009, a conference was organized by personnel from the aforementioned research site. The conference included a 4-hour morning session for parents of children with ASD and a 4-hour afternoon session for professionals associated with individuals with ASD. Topics included ASD characteristics, early screening, team approach to treatment and other topics of concern to parents and professionals. With reference to EBP, strategies were given to help educators determine practices with an

empirical basis however, attendees were not given a specific list of practices that are or are not considered EBP. Therefore, the survey responses were not distorted by recent attendance of the conference. All participants in the conference were asked to voluntarily complete a survey. During the ASD Conference, the survey was distributed to participants, completed, and returned in the same day.

Protection of Human Subjects

The Institutional Review Board (IRB) of The University of West Florida, in Pensacola, FL had positively reviewed the research program (Appendix A). This researcher completed the on-line human subject protection training via the Collaborative IRB Training Initiative (CITI) course (Appendix B). Upon completion of an Autism Spectrum Disorders conference in a rural province of Argentina, participants were advised of the research component of the program and those wishing to voluntarily participate signed the appropriate informed consent (Appendix C) and completed the survey (Appendix D). The informed consent and survey was translated into Argentine Spanish and reviewed by Special Education officials from the region of research. The original informed consent and survey in English are included for reference (Appendixes E and F).

The informed consent forms and surveys were detached and names of subjects were replaced with a three-digit code for all further reference. Both have been kept in a secure location.

Inclusion/Exclusion Criteria

Respondents from the region who completed a majority of the questions asked on the survey were included in the data set. Multiple surveys were returned with over 50% of the questionnaire unanswered and were thus excluded. All respondents participated anonymously and voluntarily in the survey and were not compensated.

Risks to Participants

There are no perceived risks to participants in this survey research project. Benefits include broadening the field of knowledge concerning teachers' use of evidenced based practices and the research to practice gap.

Summary

To provide new information and deeper insights into phenomena affecting education, Cronbach and Suppes of Stanford, in a classic study sponsored by the National Academy of Education, suggest there should be both decision-oriented and conclusion-oriented research in education. Decision-oriented studies result in information to assist decision making by program developers and policy makers. Conclusion-oriented studies are designed to allow for the discovery of new ideas, description of process, and investigation of relationships not previously observed (Cronbach & Suppes, 1969). Through the use of a quasi-experimental design, this study combines the two purposes of decision-oriented studies and conclusion-oriented studies to examine the relationships among the variables in an effort to inform decision makers within the United Nation's

Regional Programme on Education Statistics (SIRI) as well as describe new relationships not previously explored in research studies in the rural areas of Argentina.

CHAPTER IV

ANALYSIS OF THE DATA

Introduction

This study explored the relationships among the variables of (a) access to an online professional library, (b) distance to a physical facility housing a professional library, (c) knowledge of evidence based practices (EBP) and (d) years of teaching experience. Descriptive analysis, correlational analysis and independent samples t-test were performed.

Table 2

Analysis of Variables (Years Teaching Experience, Knowledge of Evidence Based Practices, Distance to Physical Library, and Access to Online Professional Library) (N = 55)

Characteristic	<u>n</u>	%
Teaching (years)		
0-3	30	48.4
4-10	9	14.5
11-15	5	8.1
16-20	3	4.8
21-25	2	3.2
More than 25	2	3.2
Knowledge of EBP		
Yes	4	7.3
No	51	92.7
Distance to Physical Library		
Yes	48	85.8
No	7	14.2
Access to Online Library		
Yes	32	58.2
No	23	41.8

Years of teaching experience were categorized into ranges. As evidenced by the chart, the majority of teachers (48.4%) had less than four years experience. In order to perform the independent samples *t*-test, years of experience data was converted from interval data to nominal data with 0-3 years experience coded as inexperienced and 4 years or greater was coded as experienced.

Knowledge of EBP was determined by responses to a series of questions regarding empirical evidence on well-known teaching methods/programs for children with ASD. The questions concerned the programs of (a) Facilitated Communication, (b) Treatment and Education of Autistic and Communication-Related Handicapped Children (TEACCH), (c) Applied Behavioral Analysis (ABA), (d) Sensory Integration Therapy, (e) Animal Therapy, and (f) Picture Exchange Communication System (PECS). Judgment as to the efficacy of these programs was determined through the research of Simpson (2004), Jacobson, Foxx, and Mulick (2004), and the National Research Council (2001). TEACCH, ABA and PECS are determined to be either based upon evidence based research or in the process of compiling a reputable research base. Facilitated Communication, Sensory Integration Therapy and Animal Therapy are considered to have limited or no supporting evidence.

For the purpose of this study, participants were judged to be knowledgeable in EBP (and recorded as yes in Table 2) if they answered 4 or more questions correctly as to the efficacy of the practice. Three or fewer correct responses are noted by a no response. Table 2 reveals 2 knowledgeable participants (3.6%) and 53 uninformed participants (96.4%).

For the purpose of this study, participants were coded as yes if they lived within 25 miles of a physical facility with a professional library. An overwhelming majority of participants (85.8%) indicated they do live within 25 miles. A majority of participants (32 respondents, 58.2%) provided information indicating they have regular access to an online professional library. Twenty-three participants (41.8%) indicated they did not have regular access to an online professional library. See Table 2.

Table 3

Correlation Between Distance to a Professional Library Facility and Knowledge of Evidence Based Practices

Variable	Knowledge of EBP
Knowledge of EBP	1
Distance to Library	.692

*Note- figures given correspond to Spearman ρ values ($\rho = .692, p < .692$)

The correlation chart (Table 3) shows no significant correlations between the two variables of distance to a professional library and knowledge of EBP. All Spearman ρ values are greater than the minimum significance value of $\rho = .05$.

Research Question 1

The first research question examined whether or not teachers in a rural province of Argentina have access to a physical facility housing a professional library or access to an online professional library wherein they can research EBP in the most current management techniques for ASD. Descriptive data presented in Table 2 indicate that 58.2% of participants in this study have access to an online professional library and 85.5% live within 25 miles of a physical facility housing a professional library.

Research Question 2

The second research question examined whether or not teachers have a working knowledge of evidence based research for selected ASD teaching practices. Data from Table 2 indicate the participants in this study do not have knowledge of what constitutes an EBP as measured in the study. Four of the 55 participants (7.3%) were able to correctly judge whether or not the selected practices were evidence based.

Research Question 3

The third research question examined the correlational relationship between the distance to a physical facility housing a professional library and the ability to judge EBP. Data supplied in Table 3 indicated there is no statistically significant relationship between the two variables ($\rho = .692, p < .692$).

Research Question 4

The fourth research question explored the difference in the mean ability to judge EBP and the mean years of teaching experience. An independent samples *t*-test was conducted to compare years teaching experience to ability to judge EBP. There was no significant difference in the scores for years of experience ($M = 7.4, SD = 7.87$) and ability to judge evidence based practices ($M = 1.58, SD = 1.38$), $t(33) = -.66, p = .94$. The results suggest that years of teaching experience has no statistical relationship with the ability to determine EBP.

Summary

The descriptive data yielded information that the majority of the participants were professionally inexperienced (0-3 years experience), that the participants had little knowledge of EBP. Of the sample group of 55 participants, only four participants answered at least four of the six questions correctly, 12 answered three correctly, nine answered two correctly, 15 answered one correctly and 15 answered zero correctly. However, a majority (58.2%) did respond that they have access to an online professional library and (85.8%) responded they live within 25 miles of a professional library facility. There were no significant relationships revealed among the variables.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The goal of this study was to explore the relationships among (a) access to an online professional library, (b) distance to a physical facility housing a professional library, (c) knowledge of evidence based practices (EBP) and (d) years of teaching experience working with children with Autism Spectrum Disorders (ASD) in Argentina. The study further reinforced the awareness of the research to practice gap between the empirical evidence and the knowledge of management techniques for individuals with ASD. The hypothesis was not verified. In this study, the greater an education professional's access to information (via proximity to a physical library or Internet access to online professional resources) did not result in a greater the ability to judge EBP in management techniques of ASD.

Research Questions 1-2

The first research question examined whether or not teachers have access to a professional library wherein they can research evidence based practices in the most current management techniques for ASD. Question 2 dealt with the determination of EBP. Descriptive data presented in Table 2 shows over half of the participants (58.2%) indicated they had access to an online professional library and 92.7% of participants live within 25 miles of a physical library facility. However, the availability of access or proximity to a professional library did not result in knowledge of EBP. There could be several reasons for this phenomenon.

First, basic assumption number 2 (Participants will be honest in their responses) and number 3 (Participants understand the concepts questioned by the survey instrument) may have been violated.

Second, participants may have access to a professional library but not know how to choose appropriate and reliable sources and navigate through the wealth of information available. Participants may be lacking the knowledge of what constitutes EBP, and where to access EBP and professional peer reviewed articles.

Third, the available EBP or peer reviewed literature may not be readily available in the participants' native language.

Finally, the research to practice gap may account for the discrepancy between access to an online or physical professional library and knowledge of EBP. There is much literature concerning the research to practice gap in the United States (Greenwood & Abbot, 2001; Kauffman, 1996; Kennedy, 1997). Greenwood and Abbot (2001) give 4 plausible causes for the research to practice gap. First there is a separation between research communities and classroom practice. Practitioners are rarely involved in the research process thus their input into practical application to classroom settings are not available to researchers. Second, practitioners view educational research as merely theoretical conducted in settings removed from classroom realities. Third, practitioners may view the work of researchers as lacking in specificity and concreteness. Finally, there are limited opportunities for professional development dealing with contemporary research issues. Often practitioners are limited by materials and methods approved and provided by local and state level administration. Kauffman (1996) and Vaughn, Klinger, & Hughes (2000) observe the disconnect between research and practice when research-

based practitioners conclude their studies and publish their research, no one is in the position to effectively disseminate research to practitioners.

Research Question 3

The third research question explored the correlational relationship between the distance to a physical facility housing a professional library and the ability to judge EBP. Data indicated there is no statistically significant relationship between the two variables ($\rho = .692, p < .692$).

Research Question 4

The fourth research question examined the relationship between years of teaching experience and the ability to judge evidence based practices. Participants in this study stated their experience ranging from 0 – more than 25 years. In order to use the independent samples *t*-test, the interval data was converted to nominal data where 0-3 indicated inexperience and 4 + indicated experience. The *t*-test indicated there is no statistically significant relationship between the variables of years teaching experience and knowledge of empirically based practices.

US research suggests teachers follow the school culture rather than investigating research methods and strategies. Hargreaves (2007) notes that by the time a teacher has accrued years of experience, they have sat through many hours of staff development usually in the form of an edict from superiors on the methods to be implemented at the classroom level. Veteran teachers may be reticent or resistant to change as they have

seen many changes come and go in the form of commercially produced prepackaged methods of instruction (Gitlin & Margonis, 1995; Hubbard & Datnow, 2000). This may be also occurring in this study's site.

Limitations

One must understand the limitations of the study in order to fully appreciate the findings. This study utilized self-reported measures obtained from conference attendees. Thus, self-selection is a limitation that must be considered. Though peer reviewed by colleagues in Argentina and the US, the survey may have affected validity by employing terms presumed familiar to participants such as professional library or evidence based practices. Results of this study are not intended to be generalized to represent the entire nation of Argentina; they are only representative of the rural area wherein the data was collected.

Recommendations

Future additions to the knowledge base could include comparisons between rural areas and urban centers (i.e., Buenos Aires, Cordoba) and an examination of teachers' skills in retrieving and recognizing professional literature on EBP. A comparison to like areas in the United States could be used to demonstrate the propensity of a widespread research to practice gap in spite of proximity to either a physical facility or online professional library. Further exploration of in-service training opportunities and the decision-making process behind the adoption of classroom methods would also add to the knowledge base.

Conclusion

Although significant relationships among the variables were not discovered in this sample, the study still has significance for informing educational policies. This study clearly indicates that mere access to the Internet whereby empirical research can be accessed does not necessarily guarantee the Internet traveler can access and use the information. Furthermore, accessing the information does not guarantee the knowledge obtained will be implemented in classroom practice. The United Nations Education, Scientific and Cultural Organization's Regional Programme for Education Statistics has a stated mission to create a network for educators to disseminate high quality practices and standards, and foster the exchange of innovative experiences throughout Latin America and the Caribbean. This mission includes the implementation of a regional information system on special needs education at the regional level (UNESCO, 2008). The implementation of a regional information system on special needs education will fit the need for complementing the scant information available at the regional level relative to special needs students; however, this study suggests that access alone does not achieve greater ability to determine EBP in ASD. Therefore, efforts should continue to bring about the formation of such systems in Argentina and it must be accompanied by adequate training in discernment of evidence based practices.

APPENDIXES

Appendix A

Institutional Review Board from the University of West Florida



Research and Sponsored Programs
 11000 University Parkway, Bldg. 11
 Pensacola, FL 32514-5750

MEMORANDUM

August 31, 2009

TO: Dr. Betsy H. Botts
 Teacher Education

FROM: Dr. Terry Prewitt, Chair, IRB for Human Research Participant Protection

A handwritten signature in blue ink, appearing to read "Richard S. Podemski".

Dr. Richard S. Podemski, Associate Vice President for Research
 and Dean of Graduate Studies

SUBJECT: IRB Approval

The Institutional Review Board for Human Research Participants Protection has completed its review of your proposal titled "Assessment of Management Teaching Methods and Materials" as it relates to the protection of human participants used in research, and has granted approval for you to proceed with your study. As a research investigator, please be aware of the following:

- You acknowledge and accept your responsibility for protecting the rights and welfare of human research participants and for complying with all parts of 45 CFR Part 46, the UWF IRB Policy and Procedures, and the decisions of the IRB. You may view these documents on the Office of Research and Sponsored Programs web page at <http://www.research.uwf.edu>. You acknowledge completion of the IRB ethical training requirements for researchers as attested in the IRB application.
- You will ensure that legally effective informed consent is obtained and documented. If written consent is required, the consent form must be signed by the subject or the subject's legally authorized representative. A copy is to be given to the person signing the form and a copy kept for your file.
- You will promptly report any proposed changes in previously approved human subject research activities to the Office of Research and Sponsored Programs. The proposed changes will not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
- You are responsible for reporting progress of approved research to the Office of Research and Sponsored Programs at the end of the project data gathering period of October 30, 2009.
- You will immediately report to the IRB any injuries or other unanticipated problems involving risks to human subjects.

Good luck in your research endeavors. If you have any questions or need assistance, please contact the Office of Research and Sponsored Programs at extension 6378.

CC: Dr. David Stout

Appendix B

Collaborative IRB Training Initiative Course Completion

CITI Collaborative Institutional Training Initiative**Human Research Curriculum Completion Report****Printed on 3/29/2010****Learner:** Kelly Reeser (username: kab235)**Institution:** Georgetown University

Contact Information 1310 Eagle Drive
 Cantonment, FL 32533 USA
 Phone: 850-932-1372
 Email: kab235@georgetown.edu

Group 2. Social and behavioral research investigators and key personnel.:**Stage 1. Basic Course Passed on 03/08/10 (Ref # 4174634)**

Required Modules	Date Completed	
Introduction	03/06/10	no quiz
History and Ethical Principles - SBR	03/06/10	4/4 (100%)
Defining Research with Human Subjects - SBR	03/06/10	5/5 (100%)
The Regulations and The Social and Behavioral Sciences - SBR	03/06/10	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	03/06/10	5/5 (100%)
Informed Consent - SBR	03/06/10	5/5 (100%)
Privacy and Confidentiality - SBR	03/06/10	3/3 (100%)
Research with Children - SBR	03/07/10	4/4 (100%)
Research in Public Elementary and Secondary Schools - SBR	03/07/10	4/4

		(100%)
International Research - SBR	03/07/10	3/3 (100%)
Internet Research - SBR	03/07/10	5/5 (100%)
Group Harms: Research With Culturally or Medically Vulnerable Groups	03/07/10	3/3 (100%)
HIPAA and Human Subjects Research	03/08/10	2/2 (100%)
Workers as Research Subjects-A Vulnerable Population	03/08/10	4/4 (100%)
Conflicts of Interest in Research Involving Human Subjects	03/08/10	2/2 (100%)
Georgetown University	03/08/10	no quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
 Professor, University of Miami
 Director Office of Research Education
 CITI Course Coordinator

CITI Collaborative Institutional Training Initiative (CITI)

Social and Behavioral Responsible Conduct of Research Curriculum Completion Report Printed on 3/29/2010

Learner: Kelly Reeser (username: kab235)

Institution: Georgetown University

Contact Information

1310 Eagle Drive

Cantonment, FL 32533 USA

Phone: 850-932-1372

Email: kab235@georgetown.edu

Social and Behavioral Responsible Conduct of Research: This course is for investigators, staff and students with an interest or focus in **Social and Behavioral** research. This course contains text, embedded case studies AND quizzes.

Stage 1. Basic Course Passed on 03/22/10 (Ref # 4174635)

Required Modules	Date Completed	
Introduction to the Responsible Conduct of Research	03/08/10	no quiz
Research Misconduct 2-1495	03/08/10	5/5 (100%)
Data Acquisition, Management, Sharing and Ownership 2-1523	03/08/10	5/5 (100%)
Publication Practices and Responsible Authorship 2-1518	03/22/10	5/5 (100%)
Peer Review 2-1521	03/22/10	5/5 (100%)
Mentor and Trainee Responsibilities 01234 1250	03/22/10	5/5 (100%)
Conflicts of Interest and Commitment 2-1462	03/22/10	6/6 (100%)
Collaborative Research 2-1484	03/22/10	5/6 (83%)

The CITI RCR Course Completion Page.	03/22/10	no quiz
Georgetown RCR	03/22/10	no quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

Appendix C

Informed Consent (Spanish)
Consentimiento Informado

Título de las Investigaciones: Conocimiento del Método de Enseñanza Basada en Evidencia con Estudiantes con Síndrome del Espectro Autista. Una Investigación Comparativa en la Región de la Patagonia de Argentina con la de la Costa del Golfo de Florida.

Investigadora: Dra. Betsy H. Botts, La Universidad de Florida Occidental, Pensacola, Florida, EEUU.

Descripción: Se le entregará una encuesta de dos partes. La primera parte pedirá información demográfica general (edad, nivel de educación, experiencia enseñando, etc.) La segunda parte contendrá preguntas con respecto al conocimiento de los enfoques y métodos actuales que se puede aplicar a la educación de los niños con Síndrome del Espectro Autista. El tiempo anticipado para completar la encuesta será de aproximadamente 15-20 minutos.

Riesgos y Beneficios: No habrá ningún riesgo en participar en esta investigación. Los beneficios anticipados incluyen el avance del cuerpo del conocimiento en la educación de niños con los síndromes del espectro autista.

Confidencialidad: Su nombre no estará incluido en el documento de la encuesta. La información provista quedará confidencial. Solamente la investigadora tendrá acceso a los nombres y la información provista. Anticipo que los resultados de esta investigación puede ser publicados en una revista profesional o presentados en una revista profesional. Ningún nombre ni material identificante será utilizado.

Derecho de retirarse: Su participación en esta investigación es totalmente voluntaria. Se puede elegir no participar sin consecuencias adversas. Si usted elige a participar y después decida retirarse de la investigación, podrá discontinuar su participación sin incurrir consecuencias adversas.

Aprobación por la Junta de Revisión Institucional: Esta investigación ha sido revisado y aprobado por la Junta de Revisión Institucional(JRI) de la Universidad de Florida Occidental. La JRI ha determinado que esta investigación satisface las obligaciones éticas requeridas por la ley federal de EEUU y la política de la universidad. Si usted tiene cualquier pregunta en cuanto a esta investigación, se puede contactar con la investigadora.

Declaración de Consentimiento: Por medio de firmar este consentimiento usted declara estar de acuerdo con participar en el proyecto: *Knowledge of Evidence Based Teaching Methods with Students with Autism Spectrum Disorder: A Comparative Study of the Patagonia Region of Argentina and the Florida Gulf Coast* (Conocimiento del Método de Enseñanza Basada en Evidencia con Estudiantes con Síndrome del Espectro Autista. Una Investigación Comparativa en la Región de la Patagonia de Argentina con la de la Costa del Golfo de Florida).

Firma_____

Fecha_____

Appendix D

Survey (Spanish)

Encuesta: Prácticas Basadas en Evidencia

Numero de Identidad _____

PRIMERA PARTE: Información Demográfica

Edad:	Idioma Principal	Genero	¿Cuál describe mejor el área donde vive usted?
____ 20-25	____ Inglés	____ Masculino	____ Urbano
____ 26-30	____ Español	____ Femenino	____ Suburbano
____ 31-40			____ Rural
____ 41-50	¿Tiene usted acceso al Internet disponible diariamente?		____ Si ____ No
____ 51-65	¿Tiene usted acceso al Internet disponible en una base semanal?		____ Si ____ No
____ Más de 65			

¿Cuál es el nivel mas alto alcanzado en su educación?

____ Escuela Técnica
 ____ Educación Universitaria
 ____ Licenciatura
 ____ Doctorado
 ____ Otro

¿Cuándo recibió su título mas alto?

¿En cuál área académica es su título?

Número de años de Experiencia docente:

____ 0-3
 ____ 4-10
 ____ 11-15
 ____ 16-20
 ____ 21-25
 ____ Más de 25

Número de años enseñando alumnos con necesidades

____ 0-3
 ____ 4-10
 ____ 11-15
 ____ 16-20
 ____ 21-25
 ____ Más de 25

Edad(es) de los alumnos discapacitados que usted enseña:especiales:

____ 0-3
 ____ 4-6
 ____ 7-10
 ____ 11-13
 ____ 14-18
 ____ Más de 18

¿A cuántos kilómetros vive usted de una institución de educación superior con una biblioteca profesional? (definido como una biblioteca que le da la capacidad de investigar los procedimientos, programas, y métodos que utiliza con sus alumnos.)

____ Menos de 8 Km.
 ____ 9-16 Km.

____ 17-24 Km.
 ____ 25-40 Km.

____ 41-80 Km.
 ____ Más de 80 Km.

Si tiene usted acceso al Internet con frecuencia, ¿tiene acceso a una cyber-biblioteca profesional?

____ Sí ____ No

SEGUNDA PARTE: Prácticas Basadas en Evidencia

Nombre del enfoque/método	¿Ha escuchado de este método?	¿Cree usted que este método es una práctica basada en evidencia?	¿Es aplicable este método a los alumnos que usted enseña?	¿Utiliza usted este método?	¿Conoce usted a alguien que la utiliza o la ha utilizado?
Comunicación Facilitada	Sí No	Sí No	Sí No	Sí No	Sí No

Si usted está familiarizado con Comunicación Facilitada, se describen brevemente los componentes clave de esta práctica.

Nombre del enfoque/método	¿Ha escuchado de este método?	¿Cree usted que este método es una práctica basada en evidencia?	¿Es aplicable este método a los alumnos que usted enseña?	¿Utiliza usted este método?	¿Conoce usted a alguien que la utiliza o la ha utilizado?
TEACCH	Sí No	Sí No	Sí No	Sí No	Sí No

(Tratamiento y Educación de Niños Autistas y/o Niños Comunicativamente Discapacitados)

Si usted está familiarizado con TEACCH, se describen brevemente los componentes clave de esta práctica.

Nombre del enfoque/método	¿Ha escuchado de este método?	¿Cree usted que este método es una práctica basada en evidencia?	¿Es aplicable este método a los alumnos que usted enseña?	¿Utiliza usted este método?	¿Conoce usted a alguien que la utiliza o la ha utilizado?
Análisis de Conducta Aplicada	Sí No	Sí No	Sí No	Sí No	Sí No

(ABA)

Si usted está familiarizado con ABA, se describen brevemente los componentes clave de esta práctica.

SEGUNDA PARTE: Prácticas Basadas en Evidencia (cont.)

Nombre del enfoque/método	¿Ha escuchado de este método?	¿Cree usted que este método es una práctica basada en evidencia?	¿Es aplicable este método a los alumnos que usted enseña?	¿Utiliza usted este método?	¿Conoce usted a alguien que la utiliza o la ha utilizado?
Entrenamiento Integración Sensorial	Sí No	Sí No	Sí No	Sí No	Sí No

Si usted está familiarizado con Entrenamiento Integración Sensorial, se describen brevemente los componentes clave de esta práctica.

Nombre del enfoque/método	¿Ha escuchado de este método?	¿Cree usted que este método es una práctica basada en evidencia?	¿Es aplicable este método a los alumnos que usted enseña?	¿Utiliza usted este método?	¿Conoce usted a alguien que la utiliza o la ha utilizado?
Terapias Utilizando Animales o Mascotas	Sí No	Sí No	Sí No	Sí No	Sí No

(Como Equino terapia o Terapia Usando Delfines)

Si usted está familiarizado con estas terapias, se describen brevemente los componentes clave de esta práctica.

Nombre del enfoque/método	¿Ha escuchado de este método?	¿Cree usted que este método es una práctica basada en evidencia?	¿Es aplicable este método a los alumnos que usted enseña?	¿Utiliza usted este método?	¿Conoce usted a alguien que la utiliza o la ha utilizado?
PECS	Sí No	Sí No	Sí No	Sí No	Sí No

(Sistema de Comunicación de Intercambio de Ilustraciones)

Si usted está familiarizado con PECS, se describen brevemente los componentes clave de esta práctica.

Appendix E

Original Informed Consent (English)

Informed Consent

Title of Research: Knowledge of Evidenced Based Teaching Methods with Students with Autism Spectrum Disorder: A Comparative Study of the Patagonia Region of Argentina and the Florida Gulf Coast

Investigator: Dr. Betsy H. Botts, University of West Florida, Pensacola, Florida

Description: You will be given a survey with 2 two parts. The first part will ask for general demographic information (age, years of schooling, teaching experience, etc). The second part will contain questions concerning knowledge of current approaches or methods which may be applicable to the education of children with autism spectrum disorder. The anticipated time to complete the survey is approximately 30 minutes.

Risks and Benefits: There are no anticipated risks from participating in this study. The anticipated benefits include advancing the body of knowledge in the education of children with autism spectrum disorders.

Confidentiality: Your name will not be included on the survey document. The information you provide will remain confidential. Only the investigator will have access to names and information provided. I anticipate that the results of this study may be published in a professional journal or presented at a professional meeting. No names or identifying material will be used.

Right to Withdraw: Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. Should you choose to participate and later wish to withdraw from the study, you may discontinue your participation without incurring adverse consequences.

Institutional Review Board Approval: This study has been reviewed and approved by the University of West Florida Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have any questions regarding this study please contact the Investigator.

Statement of Consent: By signing this consent form you agree to participate in the project entitled, *Knowledge of Evidenced Based Teaching Methods with Students with Autism Spectrum Disorder: A Comparative Study of the Patagonia Region of Argentina and the Florida Gulf Coast*

Signature

Date

Appendix F

Original Survey (English)

Survey: Evidence Based Practices

ID Number _____

PART I: Demographic Information

Age:	Primary Language	Sex	Which best describes the area where you live?
____ 20-25	____ English	____ Masculine	____ Urban
____ 26-30	____ Spanish	____ Femenine	____ Suburban
____ 31-40			____ Rural
____ 41-50	Do you have Internet access available daily?		____ Si ____ No
____ 51-65	Do you have Internet access available on a weekly basis?		____ Si ____ No
____ More than 65			

What is your highest level of education completed?	When did you receive your highest degree?	In what academic area is your degree?
____ Technical School	_____	_____
____ University Degree		
____ Masters Degree		
____ Doctorate		
____ Other		

Number of years of Teaching experience:	Number of years teaching students with special needs:	Ages of students with disabilities that you teach:
____ 0-3	____ 0-3	____ 0-3
____ 4-10	____ 4-10	____ 4-6
____ 11-15	____ 11-15	____ 7-10
____ 16-20	____ 16-20	____ 11-13
____ 21-25	____ 21-25	____ 14-18
____ More than 25	____ More than 25	____ More than 18

¿How many miles do you live from an institution of higher education with a professional library? (Defined as a library that has the capacity to research procedures, programs, and methods that you can use with your students)

____ Less than 5 miles	____ 13-19 miles	____ 26-35 miles
____ 6-12 miles	____ 20-25 miles	____ More than 35 miles

If you have frequent Internet access, do you have access to an online professional library?

____ Yes ____ No

PART II: Evidence Based Practices

Name of the method	Have you heard of this method?	Do you relieve this is an evidence based practice?	Is this method applicable to students you teach?	Do you use this method?	Do you know anyone who uses this method?
Facilitated Communication	Yes No	Yes No	Yes No	Yes No	Yes No

If you are familiar with Facilitated Communication, briefly describe the key components of this practice.

Name of the method	Have you heard of this method?	Do you relieve this is an evidence based practice?	Is this method applicable to students you teach?	Do you use this method?	Do you know anyone who uses this method?
TEACCH	Yes No	Yes No	Yes No	Yes No	Yes No

(Treatment and Education of Autistic and Communication-Related Handicapped Children)

If you are familiar with TEACCH, briefly describe the key components of this practice.

Name of the method	Have you heard of this method?	Do you relieve this is an evidence based practice?	Is this method applicable to students you teach?	Do you use this method?	Do you know anyone who uses this method?
ABA	Yes No	Yes No	Yes No	Yes No	Yes No

(Applied Behavioral Analysis)

If you are familiar with ABA, briefly describe the key component of this practice.

PART II: Evidence Based Practices

Name of the method	Have you heard of this method?	Do you believe this is an evidence based practice?	Is this method applicable to students you teach?	Do you use this method?	Do you know anyone who uses this method?
Sensory Integration	Yes No	Yes No	Yes No	Yes No	Yes No

If you are familiar with **Sensory Integration Training**, briefly describe the key component of this practice.

Name of the method	Have you heard of this method?	Do you believe this is an evidence based practice?	Is this method applicable to students you teach?	Do you use this method?	Do you know anyone who uses this method?
Animal Therapy	Yes No	Yes No	Yes No	Yes No	Yes No

(i.e. horse therapy or therapy using dolphins)

If you are familiar with **Animal Therapy**, briefly describe the key component of this practice.

Name of the method	Have you heard of this method?	Do you believe this is an evidence based practice?	Is this method applicable to students you teach?	Do you use this method?	Do you know anyone who uses this method?
PECS	Yes No	Yes No	Yes No	Yes No	Yes No

(Picture Exchange Communication System)

If you are familiar with **PECS**, briefly describe the key component of this practice.

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