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EXPERIENCES OF TEACHERS USING AN IEP SOFTWARE PROGRAM FOR STUDENTS WITH DISABILITIES

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DISSERTATION

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Dedication

I dedicate this manuscript to my wife Rebecca for her continuous encouragement and support and my daughters Skylar Violet (2 years old) and Sasha Alexina (6 months old) who continue to amaze me and make me proud each and every day.

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ABSTRACT

This study investigated the experiences of special education teachers who used IEP software programs to author their IEP documents for students with disabilities. The participants included 8 special education teachers enrolled in a special education graduate program at a Research 1 University. This qualitative investigation used semi-structured face to face interviews to examine issues related to the impacts and constraints of the IEP software when authoring IEP documents. Analysis of participant interviews revealed several benefits and challenges when using the IEP software. Participants stated that the software allowed them to develop a professional looking IEP document, free of errors and no sections omitted that met the letter of the IDEA (2004) law. Participants also noted tension between compliance and the spirit of the law, for example ensuring IEP goals were individualized and aligned with students' needs and working as an interdisciplinary team to develop the IEP document. Some additional findings were that participants viewed the software as a tool for

helping them author an IEP document however, in order to write an effective IEP, the teacher must have in-depth knowledge of the IEP process, matching students' needs with the appropriate services and supports while showing professional judgment. This study also confirmed some consistencies as well as inconsistencies as far as the claims made by purveyors of IEP software. Implications for teachers, students, parents and interdisciplinary team (IDT) members are discussed. Recommendations for future research are also discussed.

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Chapter 1: Introduction to Experiences of Teachers Using an IEP Software Program for Students with Disabilities

Overview

Starting in 1975, every child in the United States who has been diagnosed with a disability and determined to be in need of special education services has been entitled to a free appropriate public education (FAPE) under a federal law called the Individuals with Disabilities Education Act (IDEA), P.L. 108-446, formerly known as the Education for All Handicapped Children Act (EAHCA), P.L. 94-142. The reauthorized Individuals with Disabilities Education Act commonly known as IDEA 2004 (20 U.S.C. §1400 et seq.) was officially signed into law by Congress on December 3, 2004. The provisions of the act became effective on July 1, 2005 and the final regulations were subsequently promulgated (Federal Register, 2006). IDEA is a United States federal law that is considered both a grants statute and civil rights statute (Apling, 2005). "It provides federal funding for the education of children with disabilities and requires, as a condition for the receipt of such funds, the provision of a free appropriate public education (FAPE)" (Apling, 2005, p. 5).

This law governs how states and public agencies provide early intervention and special education and related services to children with disabilities. It was established as a way of addressing the individualized educational needs of children with disabilities (twelve categories of specified disability) from birth through age twenty-one. As a result of needing to individualize a student's education, Individualized Education Programs (IEPs) were first required in 1975 after Congress passed PL 94-142. The IEP can be considered a blueprint in that it is a written individualized education program for each child that documents the student's educational and habilitative needs and what services and supports will be provided

to help the student make progress. Prior to the Individuals with Disabilities Education Act, it was up to schools whether to provide services and supports to students with disabilities. Once this law was signed schools were provided guidance in what services and supports should be offered to students with disabilities in an effort to comply with the rules and regulations and to continue receiving funding from the federal government. The heart of the law is the child's written IEP, which allows the child with a disability to receive a free appropriate public education (FAPE).

History and Background

The U.S. Supreme Court clarified the requirements of a FAPE in its first special education decision, Board of Education v. Rowley (1982), when it defined a FAPE as,

> …personalized instruction with sufficient support services to permit the handicapped child to benefit educationally from that instruction. Such instruction and services must be provided at public expense, must meet the State's educational standards, must approximate grade levels used in the State's regular education, and must comport with the child's IEP, as formulated in accordance with the Act's requirements. If the child is being educated in regular classrooms, as here, the IEP should be reasonably calculated to enable the child to achieve passing marks and advance from grade to grade. (p. 203, 458 U.S. 187-204)

According to the U.S. Supreme Court in the Rowley case an appropriate program means, "An individualized Education Program (IEP) which was developed in procedural compliance with the requirements of the law and is reasonably calculated to allow the child to receive educational benefit" (458 U.S. 207). Furthermore it was mandated (Part B §612(a)(5)(A)) that students with disabilities should be educated with nondisabled children in

the general education setting to the maximum extent appropriate. As a result of this court case**,** the court provided future direction for abiding by the regulations by suggesting a two-part test that asks the following questions:

> First, has the state complied with the procedures set forth in the Act? And second, is the individualized educational program developed through the Act's procedures reasonably calculated to enable the child to receive educational benefits? If these requirements are met, the state has complied with the obligations imposed by Congress and the courts can require no more. (458 U.S. 206-207)

The essence of this ruling was later passed by Congress in IDEA Part A, §602(9)(A-D)). IDEA mandates that a "free appropriate education is available to all children with disabilities residing in the state between the ages of 3 and 21," which is consistent with an IEP (20 U.S.C. § 1412(a)(1)(A); 20 U.S.C. § 1401(9)(D). Once the child has been diagnosed with one of the twelve categories of disability and it has been determined that an IEP is necessary an IEP must be developed and then implemented, reviewed and updated at least annually. The IEP document is completed at an IEP meeting by an interdisciplinary team (IDT) of professionals, including the student's parents or guardian. The IEP meeting often serves as a communication vehicle between the parents and school (Menlove, Hudson & Suter, 2001; Rodger, 1995). It is estimated by the United States Department of Education Special Education Programs that almost fourteen percent of the student population in the United States (ages 6 through 21) has an IEP (U.S. Department of Education, 2011).

As the number of students receiving special education services continues to grow in the United States of America so does the need to develop IEPs for all eligible students as mandated by IDEA 2004. IDEA also mandates that students with disabilities be evaluated as

often as their non-disabled peers. In addition an annual review of each student's IEP is required which means assessing the student's present levels of functional performance, developing new goals and objectives and ensuring supports and services based on student need. As a result, paperwork has steadily increased not only for special education professionals but also other members of the IDT. Congress recognized this problem in the last reauthorization, IDEA 2004, by allowing up to fifteen States to participate in a pilot program aimed at paperwork reduction entitled the "Paperwork Waiver Demonstration Program also known as the Paperwork Waiver Program" (Part B §609(a)(1)). Under this program and as approved by the State Secretary of Education, new regulations were enacted that allowed IDTs to develop a three-year IEP in hopes of reducing the amount of necessary paperwork. Even if IDTs developed a three-year IEP, however, IEPs still must be reviewed annually or even more often if there is a change in the student's programming due to identifying a new need or simply exiting a student from a prescribed therapy because the student no longer requires it. In some cases the IEP can simply be amended which still requires additional paperwork but often times the entire IEP needs to be rewritten.

Clearly, Congress is attempting to respond to the assertion of too much burdensome paperwork. Some researchers however contend that the new regulations have only minimally reduced the paperwork burden for special education teachers (Samuels, 2006; Yell, Shriner, & Katsiyannis, 2006). Special education teachers are charged with the task of not only writing IEPs but must also take data on a daily basis to track progress on IEP goals and objectives. In addition, these professionals must write more formal progress reports every grading period which is typically every nine weeks and write reports for student re-evaluations. This is in addition to the administrative work of sending out IEP notifications to

parents and team members, ensuring meeting space is available and booking interpreters for the parents of students who don't speak English. In summary, producing and then making sense of all the required IEP paperwork is a major challenge for special educators (Goldstein, 2003; Smith, 1990; Sopko, 2003). One solution to make IEP paperwork less burdensome for special educators has been to apply information technology like the personal computer with software that could help generate and manage the IEP paperwork (Brown, 1982; Enell, 1983; Ryan & Rucker, 1986; Sahin, 2006; Wilson, Michaels & Margolis, 2005). With the aforementioned software, teachers may have the ability to devote more of their time, attention and capacity to meeting the instructional needs of their students.

Description of IEP Features and Benefits

In order to assess the current status of IEP software, I reviewed and analyzed the advertising of nineteen web sites of software developers. The aforementioned web sites have been identified by Serfass and Peterson (2007, p.16) as "the most widely available systems" based on their Google search and by their review of professional publications and thus can be considered a representative sample. In an effort to make comparisons and analyze the advertising and websites of the major purveyors, I developed a table that outlined the features and purported claimed benefits of the software as stated by the software purveyors (see Appendix E). The following discussion includes a description of IEP software including the main features of the software and benefits of using the software as stated by the software purveyors. Also included is an analysis of website advertising of all the major purveyors of IEP computer software.

Features of Software

Custom forms/comprehensive. The majority of web sites (n=17) advertised the ability to provide customized IEP forms as well as other forms (i.e., evaluation, behavior intervention plan, assessment, notices, 504 plan) that could be individually tailored to meet the particular needs of the school and students served. Companies must have determined that this is important because schools want a product that will meet their district's exact specifications and that is tailor-made as opposed to something generic. Some software developers like OASYS Online™ (2010) also advertised the ability to provide over thirty form templates that were said to comply with federal and state regulations. SEAS™ software (2010) developers noted, "it's imperative to have the forms you need, when you need them…SEAS™ uses the exact forms that you use instead of the forms a software company thinks you should use" (para. 7). The aforementioned statement would appeal to the consumer who wants to get the job done their way and on their own terms. It is also a reality that while the IEP process is essentially the same from state to state, each district has unique interpretations and requirements that must be followed. Some companies claimed that if they didn't have a critical feature that was needed, they would build it for you. The companies also made it well known that they could provide a product that could be tailored for any size school, from small school districts to statewide school systems. The majority of purveyors (N=10) claimed to be able to offer a software package that was comprehensive in nature. By comprehensive, they intended it to manage all aspects of the entire special education process, including pre-referral, eligibility, IEP development, service documentation, reporting to parents, 504 plans, English Language Learners, personalized education programs and support for Medicaid billing.

Statement banks. More than half (N=10) of the software programs also provide written objectives or the option of creating your own IEP statement banks. The statement banks are intended to help develop students' IEP goals and objectives. This is important as many special education teachers, especially new teachers, struggle with writing goals that are measurable and observable (Burns, 2007). The software companies also offer schools the opportunity to customize their own goals to meet the needs of an individual student.

Another option that software companies offer is the ability to populate state standards and district benchmarks. This avoids having to wade through a large binder of standards to align goals and objectives to the general education curriculum. Commonly used and well-worded statements can also be saved and inserted and modified as necessary. This would indeed save time and prove useful for justifying why a student may need services such as specialized transportation services, an educational assistant, extended school year services and/or nursing services. Some special education teachers might question, however, whether this truly allows a teacher the opportunity to individualize the program to meet the student's needs. The majority of computer software programs allow teachers to customize their students' goals and help ensure the goals are written with all the necessary components. Also impressive was one company's (Goalview™, 2010) claim that users could "Choose from 250,000 education standards and 10,000 special education goals or write your own" (para. 1). None of the companies that claimed time savings, however, backed up their claims with empirical research that they had conducted and instead made general claims such as SEAS™ (2010):

With state-standard aligned goal banks, teacher-custom goals, and district processes, SEAS™ users report over two hours of teacher time saved per IEP. In these days of increased

demands on special education staff, these are the kind of results that teachers and administrators need. (para. 6)

Built in calendars/e-mail reminders. In addition to over the phone technical support, more than half (N=11) of the companies offered built-in calendars as well as e-mail reminders and scheduling tools in an effort to help manage the evaluation and IEP process (e.g., reminders of when IEPs are due). Some companies like Genesea (2010) even have tools that allow administrators to monitor a teacher's workflow to see if they are keeping current with their paperwork and to check for compliance with timelines. There seems to be an overriding theme with all of the software companies as they stress compliance with the law. For example, the developers at SpedTrack™ (2010) claimed their calendar could add, "functionality, coupled with a list of tasks and reminders, helps to ensure compliance with mandated process timelines" (para. 1).

Security. Almost half (N=8) of all software purveyors offered a combination of security features intended to protect the privacy of student records and keep confidential information secure. Basic security features took three different forms and some purveyors included all three while others included only one or two of the features. For example, data could be encrypted (i.e., secure sockets layer, SSL technology) between the purveyor and the user's web browsers to help ensure security. Another security feature was that teachers only had user-level access to certain students (i.e., students actually on their caseload or at their school). The last feature that was offered was permanent storage of completed evaluation and IEP data and documents. Security of confidential data is definitely a serious matter especially for compliance with laws such as the Family Educational Rights and Privacy Act of 1974 (FERPA) and the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

Technical support. Some of the software companies (N=8) also claimed to offer technical support for users who experienced difficulty operating the programs or if the system malfunctioned. In addition some of the companies offered what was described as "comprehensive training" and IEP Online™ (2010) claimed:

We promise to fully support you. Our online helpdesk and live support staff provide outstanding solution tools to help run your program smoothly. A searchable, online knowledge base helps your users find the information they are looking for and our friendly staff provides helpful, insightful information to your users. (para. 4)

It is also apparent that the software developers realize that people want answers quickly and don't want to talk to an automated answering service. The SEMS Company™ (2010) offered, "Live people phone support – have your questions answered by a real person" (para. 5).

Alludes to consultants. In order to have a high quality IEP, it would seem like a good idea to have a cadre of well qualified special education consultants to help the purveyor design and test the IEP software. Only four of the purveyors, however, even alluded to the fact that they had consultants help develop their software. Goalview™ (2010) claimed to have a few consultants help them and they appeared to be not from just any higher education institution, "Founded in 1979 in Cambridge, Massachusetts by educators, computer scientists and linguists from Boston University, Harvard, and MIT, Learning Tools has become the most widely accepted provider of specialized administrative software in the United States" (Goalview, 2010, para. 1). LiveIEP!™ (2010) claimed to have developed their product and received "input from educators in the Special Education Industry" (para. 7). TIENET™ (2010) maintained that their system was "developed in conjunction with special education

and IEP experts" (para. 3). None of the aforementioned purveyors listed the consultants' names.

Benefits/Claims Made by Purveyor

Increases Federal and State compliance. More than three quarters of all the web sites reviewed indicated that by using the software, a direct result would be an improvement in federal and state compliance under laws such as the No Child Left Behind Act (NCLB) of 2001 and the Individuals with Disabilities Education Act (IDEA) of 2004. Compliance can take many different forms in terms of the IEP process and the software companies claim they can help prevent skipping steps of an IEP, meet compliance timelines, follow the rule of the law, retain audit trails, increase accuracy, and demonstrate accountability. SEAS™ software (2010) developers claim:

With the burden of paperwork and accountability increasing, tools that keep your district in compliance are critical. With timeline notification, messaging capabilities and your district business rules incorporated into the system, SEAS™ provides reassurance to teachers and administrators alike that they are staying in compliance. This is especially important in these times of increased complexity of special education legislation. (para. 9)

While none of the web sites reviewed supported their claims with research that had been empirically confirmed, customer satisfaction testimonials were abundant on the majority of web sites. Typically they came from district superintendents, supervisors of teachers and principals. For example, on the TIENET™ website (2010), Robert Runcie, former Chief Information Officer of the Chicago Public Schools commented, "The TIENET™ solution enables Chicago's teachers and special education service providers to prepare fully compliant Individual Education Programs" (para. 10). None of the companies,

however, had testimonial or social validity data from other stakeholders such as parents and students that promoted their software, which should have been easy to obtain. For example, parents might have been able to comment on how the IEPs were easier to read, appeared more professional, were better able to capture the needs of their child and document progress towards IEP goals and objectives. Among all of the software web sites, only one teacher's accolades were captured and one can see how it was ambiguous in nature: "With EXCENT™ (2010), we're driving a Ferrari versus driving a Yugo [should read Hugo]. We've never had an issue and it's made a world of difference" (para. 4). Subsequently, most fellow teachers would want to know more about how it has made a world of difference. Has it cut down on the amount of time necessary to create a high quality IEP? Is it easier to develop measurable IEP goals and objectives? Have students been in a better position to benefit from the IEP compared to a hand written document?

Many of the companies are aware of the need to adjust their forms as federal, state and school district rules change. Some companies like SEAS™ (2010) claim they are quick to accommodate and can make form changes in a matter of days. With so many different software packages available to schools, it would appear that customer service and quick response to customer's needs are of great importance.

Saves time/increase staff efficiency. More than half of the software developers claimed that their IEP software would help the special education teacher save time by having to complete less paperwork. Easy IEP™ (2010) claimed their software, "cuts staff time spent on paperwork and increases real time with students by 25 to 40 percent" (para. 4). A software company by the name of Goalview™ (2010) declared, "Now you can produce a quality IDEA IEP in minutes instead of hours, and access previous IEPs instantly" (para. 1). One

has to doubt (especially someone who has actually written an IEP) whether an IEP can be of high quality and be individualized if it is written in mere minutes. Another developer named Infinite Campus™ (2010) professed, "Avoid paperwork burnout, spend more time collaborating, and provide individualized instruction for your students using Campus Special Education" (para. 1). Some companies claimed to cut down on the data entry time with forms already pre-populated with student data. With OASYS's™ (2010) automatic data fill they suggested:

> Don't reinvent the wheel each year by writing a nearly duplicate IEP for the same student! OASYS' simplified design actually reproduces the data on the last saved form and pulls the information into a newly created one. Staff has the ability to make just the needed changes for the upcoming evaluation. (para. 2)

Teachers might question whether this is considered best practice in writing a truly individualized education program or is it a cookie cutter IEP where only the dates or student's names have been changed. If you are writing a "nearly duplicate IEP for the same student" (OASYS, 2010) every year then something is not working for that student and major changes may be necessary in terms of programming. OASYS™ (2010) also offers what the company refers to as an "IEP Forms Manager" (para. 3), which can take care of some of what could be considered repetitive data entry. For example, some fields such as student demographic information, placed and resident schools, IEP team participants and parent/guardian contacts can be automatically populated and kept up to date, which would indeed save time in the long run. The Encore Suite™ software (2010) offered to "eliminate additional data entry utilizing the educator dashboard to quickly record and monitor IEP goal progress" (para. 4). Goalview™ (2010) offered another venue to increase teacher

transparency and communication with parents and claimed, “Parents can see exactly what their child knows and where improvement is needed” (para. 1). IEP Online™ (2010) maintained they could “provide reporting tools to measure progress and track data” (para. 2).

Cost effective/save money. Some of the makers of the software (N=6) appear to subscribe to the old adage that “time is money” and claimed that their software (e-IEP Pro™) was a “cost effective solution,” that school districts would save money in the long run, and that the software would pay for itself. One software company (Easy IEP™, 2010) included a tool that would help identify students who cost their school a lot of money by performing a cost analysis that could be used in “applying for State Educational Authority (SEA) High Cost Funds to offset the cost of serving LEAs’ most costly students” (para. 3). Five of the software companies also included reporting tools so that Medicaid could reimburse schools without having to complete additional paperwork. SEAS™ (2010) offered:

With increased pressure on school budgets, we understand that it is critical for school districts to find other revenue streams. For districts which provide related services to their students, recovering Medicaid dollars for the provision of those services is a viable method of enhancing revenue. A major benefit of the SEAS™ Service Tracker is that the information required to submit a Medicaid eligible claim is already captured. SEAS™ has a complete tool set that allows you to monitor progress, extract data, send electronic claims, reconcile claim data and provide a full set of reports. (para. 15)

One software manufacturer (netIEP™) stated that a benefit of using their software was it allowed schools to “Capture the highest allowable government funding through our complete, robust reporting system” (para. 7). Many of the software purveyors (N=13) advertised that their software included built in reporting tools that would make

administrators' jobs easier and had the potential of saving time. For example, the web sites (see table in Appendix F) claimed that it would be easier for administrators to submit reports for NCLB purposes, federal compliance and accountability reports, Child Count reporting, class lists, recipients of services as well as current and projected service lists.

Easy to learn and easy to use. In addition to saving teachers' and administrators' time and schools' money, the software companies realize that not all teachers will be computer literate as others might be and the majority (N=12) of companies claim their system is both easy to learn and easy to navigate. Based on my experience of using one of the computerized IEP programs (TIENET™, 2010) and being computer literate, I was able to learn the system quickly and became quite proficient in its use with the minimal training that was offered. Other teachers I knew who were not as computer literate, had a harder time learning to use the system. They also reported, especially at the beginning of using the system, that much of the time spent at the IEP meeting was focused on entering the information correctly instead of focusing on the student and discussing his or her needs. This problem was alleviated as teachers became more proficient at using the software and more comfortable with the software.

Produces a high quality IEP and increases accuracy. A school can have all its data secure but what good is that unless the IEP is of high quality and actually accurate? Only three of the purveyors claimed that their IEP software would actually help produce a high quality or as one company (IEP Online, 2010, para. 2) stated "content-rich" IEP instead of just the heavily relied upon claims of helping with compliance. In defense of the purveyors, in some respects the IEP will only be as high quality as the person who has the expertise to develop the program with the assistance from the student's interdisciplinary

team. One of the three companies, however, stated they could "produce a quality IEP in minutes instead of hours" (Goalview™, 2010, para. 1). It is possible that what may be considered high quality for some may not meet the same standard for others. In terms of increasing the accuracy of an IEP document, only five purveyors made this claim. These companies claimed to be able to accurately determine the least restrictive environment (LRE), accurately define service delivery, decrease errors, prevent skipped steps, enter information accurately and provide attention to detail. All of the aforementioned features, if used correctly, sound like they could improve certain aspects of the IEP.

Analysis of Advertising on Websites

After reviewing nineteen of the most widely used computerized IEP software development websites, it is safe to say that they all do similar things while making similar claims as to the benefits of using their software. In regards to advertising, some of the websites are fancier than others and provide more information about their product in comparison to others. Some of the websites featured attractive looking young women who might (for marketing purposes) serve as teachers. One website (IEP Online™, 2010) had a picture of an attractive looking young man who was working on his paperwork while using his laptop. He had a big smile on his face and it appeared that he didn't look too burnt out from having to write all his IEPs. Some web sites showed students experiencing success dressed in graduation gowns, holding up their diploma or a report card with straight A's for all to see. One thing that was noted was that there were no pictures on these websites of students who appeared to have any physical indicators of disability.

Many of the websites reviewed were not aesthetically pleasing by today's standards and instead of streaming video of their product they included bulleted lists that delineated

features and benefits that advertised the software. Many of the websites included actual screen grabs as examples of their product so that the customer could get a better idea of what they would receive. Some of the websites set themselves apart from others by claiming to be "a leading provider" or having "the most sophisticated IEP software package available today." The websites, however, did not try to sell their product by claiming to offer certain features that were superior in nature to other similar products.

This is not to say that some of the purveyors didn't have some cutting edge features that distinguished their software from others. For example, Goalview™ (2010) claimed to be able to produce IEPs and other reports in multiple languages. This would be useful and solve the problem of having to send documents to be translated in the student's native language. This purveyor also claimed to be able to allow parents the ability to "see exactly what their child knows and where improvement is needed" (para. 1). Encore's EXCEED IEP™ (2010) claimed to be able to "track student IEP progress, overall growth and learning plans through easy to read progress monitoring and growth graphs" (para. 6). This would inform the parent much better than a box checked off next to a student's IEP goal that states "progressing at expected rate," "not progressing," or "achieved goal" as in some school districts. Encore's EXCEED IEP™ (2010) even stated their software could further "incorporate progress monitoring and instructional strategies based on district and scientifically based best practices" (para. 5).

Statement of the Problem

Not too long ago, Serfass and Peterson (2007) identified nineteen of the most common computer-based software programs for developing IEP paperwork. Before reviewing the major features of each of the software programs they noted that in their search

for literature from 1992-2007 they found very little information on the topic of generating IEPs using computer software. They found no research on any of the computer software packages they reviewed in their article and only two articles (Edds, 2002; Wilson, Michaels & Margolis, 2005) that addressed the value of computer based IEP systems. Serfass and Peterson (2007) added, "as near as we can tell no research has been conducted on the merit, content, or even the degree to which these systems have been adopted by school districts or individual schools" p. 18.

I conducted an extensive literature search and was also unable to locate any additional literature on using computer software to generate IEP paperwork except for an antiquated report that was prepared for the Office of Special Education California State Department of Education (Enell & Barrick, 1983). In addition, I located what would be considered by today's standards an outdated guide on computer assisted IEPs. The guide discussed the use of "microcomputers," software that existed on "floppy discs" and "IEP objective codes" that were read from "mark sense cards or scan sheets" and that could be printed and duplicated on "carbon or multi-part paper." This literature had been "prepared for the special education director responsible for managing the preparation of IEPs" (p. 5, Enell, 1983). Compared to a typewriter which was popular at this time, this type of computer management information system must have been seen as being cutting edge technology.

In addition to conducting and extensive literature search, I systematically analyzed and critically evaluated the company claims based on the advertising and web sites of all the major purveyors of IEP software programs. IEP software developers promise that teachers and administrators will save time, schools will save money, and IEPs will be more accurate while improving federal and state compliance. These companies further promise to track IEP

progress, provide invaluable reporting tools and a system that is easy to learn and use. It is difficult, however, to empirically confirm these claims because none of the developers of the software have reported research on these claims.

Purpose of the Study

The purpose of this study was to investigate how special education teachers experience and perceive IEP software-authoring programs when writing their IEP documents for students receiving special education services. The study addressed the lack of research on the impact perceived by teachers using a computer software program to author IEPs for students receiving special education services. I collected social validity data by using qualitative research methodology (Bogdan & Biklin, 1998), in particular in-depth interviewing that used semistructured interview questions to gather and examine accounts given by special education teachers regarding their experiences of using IEP software to author IEPs for their students.

This study focused on the merits and potential concerns of using computerized IEPs as an alternative to writing IEPs by hand. A purpose of this study was to investigate the experiences and attitudes of front-line special education teachers using computerized IEP software. By documenting these experiences, I was able to compare some of the claims made by the software purveyors. This study provided a picture regarding teacher's insights into using computer software to develop the IEP. Other purposes of this study included summarizing the available research-based findings on computer software and IEPs, a review of the IDEA 2004 law on all aspects of the IEP, as well as teacher perceptions regarding the IEP process and document.

Research Questions

The purpose of this study was to document the reported experiences and perceptions of special education teachers using computer software to develop IEP documents for students receiving special educations services. Specifically the following research questions were addressed:

1) What are the perceptions and experiences of special education teachers using IEP software to develop IEP documents for students receiving special education services?
2) How do special education teachers' experiences of the IEP process using IEP software compare to those claimed by the purveyors of IEP software?

Chapter 2: Review of Related Literature

Introduction

Dudley-Marling (1985) wrote “more has been written about the Individual Educational Program (IEP) than any other aspect of Public Law 94-142” (p. 65). Long before the Education for All Handicapped Children Act of 1975 (P.L. 94-142), Edouard Seguin expressed his concern about individualizing education for students with special needs. Many professionals in the field of developmental disabilities regard Seguin as the grandfather of special education. He also became the first president of the "Association of Medical Officers of American Institutions for Idiotic and Feebleminded Persons,” which would later be known as the American Association on Intellectual and Developmental Disabilities. Seguin (1907) as cited by Edelen-Smith (1995) wrote:

> The individuality of the children is to be secured for respect of individuality is the first test of the fitness of a teacher . . . [individual planning] will secure the sanctity of true originality against the violent sameness of that most considerable part of education, the general training. (p. 297)

Since the passing of P. L. 94-142 every student eligible for special education services is required to have a written Individualized Education Program (Edelen-Smith, 1995).

More than 35 years have passed since the inception of P. L. 94-142 and researchers and non-researchers have written much on IEPs for students with special needs. Comprehensive literature reviews of the IEP process and documents have been published (Smith, 1990; Rodger, 1995; Sopko, 2003) and are recommended sources. In this chapter, I review the literature that addresses some of the problems teachers experience with writing the IEP and conducting the IEP meeting. Criticisms of the IEP document are then presented

with suggestions from the literature on how to address some of the aforementioned problems. Next, I review the pertinent attributes often associated with high quality IEP documents. Reviewing the aforementioned literature provided a context for the remainder of the literature review, which presents research-based findings relevant to using IEP software to author the IEP document.

The IEP as a Document

Smith (1990) maintained, "For special education there is no document [referring to IEP] more significant to districts, agencies, administrators, teachers, parent and educational advocates, and students" (p. 6). Bateman and Linden (1998) noted that a carefully designed IEP can make all the difference in terms of allowing a student attain greater achievement and providing a sense of direction. Conversely, Yell (2006) asserted:

> Sadly, most IEPS are horrendously burdensome to teachers and nearly useless to parents and children. Far from being creative, flexible, data-based, and individualized applications of the best of educational interventions to a child with unique needs, the typical IEP is empty, devoid of specific services to be provided. It says what the IEP team hopes to accomplish, but little if anything about the special education interventions and the related services or classroom modifications that will enable [the Student] to reach those goals…Many if not most goals and objectives couldn't be measured if one tried, and all too often no effort is made to actually assess the child's progress toward the goal. (p. 275)

Because the IEP is of central importance to a wide number of people from a variety of backgrounds, and especially the student with special educational needs, it is essential that it be well designed to directly align with the student's educational needs and lead to the desired

outcomes. Research has suggested (Lynch & Beare, 1990; Pretti-Frontczak & Bricker, 2000; Smith & Simpson, 1989) that required components of the IEP document are often missing. Some of the problems noted pertained to properly documenting a student's present level of performance (Smith & Simpson, 1989) and documenting how student progress will be measured (Lynch & Beare, 1990). Other problems that have been noted in the research literature pertain to IEP goals that were not functional for the student and were said to not provide training for skills to develop that would make them more independent in real life (Downing, 1988; Goodman & Bond, 1993; Weisenfeld, 1986).

One of the components that IDEA 2004 mandates in the IEP are educational goals so that students can make progress in his or her academic program. This also appears to be one of the most time consuming and difficult parts of the IEP document to write for new as well as more experienced teachers (Burns, 2007; Gibb & Dyches, 2000; Kamens, 2004; Pretti-Frontczak & Bricker, 2000). Properly written and legitimate IEP goals will help ensure that a high quality IEP document is prepared for a student. This in turn will increase the likelihood that the student will actually benefit from the proposed program. Edelen-Smith (1995) offered eight practical suggestions to guide the development of IEP goals for students receiving special education services. This author stated that a student's IEP goals (italics added for emphases) should (a) be *conceivable* in that the goal should lead to a desirable outcome for the intended student, (b) *believable* in that they are challenging but not impossible and are valuable for the student to obtain, (c) *achievable* so as to avoid frustration on everyone involved, and (d) *controllable* as to allow the student to feel empowered in terms of reaching the stated goal. Goals should also be devised so that they are (a) *measurable* in that there is a clear statement of the student's present level of performance and

exactly where a student should be at the end, (b) *desirable* in that they enhance the overall well-being of the student and so he or she is motivated to attain the goal, (c) stated with *no alternative* so the student knows exactly what must be done, and (d) *growth-facilitating* in that the goals are stated in a positive and constructive manner (Edelen-Smith, 1995).

Drasgow, Yell, and Robinson (2001) offered guidelines to assist schools in developing IEPs that would be considered both educationally appropriate and legally correct. One of the authors' first suggestions pertained to evaluation and making sure that students are evaluated in all areas of need. The authors also suggested that the results of the evaluations be presented in the student's present levels of performance, which in turn should correlate and serve as a basis for developing IEP goals. Next, the authors suggested that IEP goals be written in a way that can be measured and observed so that student progress can be monitored and tracked. This should also help in guiding instructional decisions and documenting the efficacy of the educational programming. The authors also suggested charting and graphing student progress using techniques borrowed from the field of applied behavior analysis. Another suggestion was to actually implement the IEP as it is written. They further suggested that every professional working with the student be given a copy of the IEP that pertains to their direct responsibility. For example, a regular education teacher needs to know what modifications and accommodations the student may need to function in their classroom and thus should be given the page of the IEP that pertains to these needs.

LaPoint (1997) asserted that all school personnel must understand their direct responsibilities when carrying out a student's IEP and that the IEP document should not be altered in any way just to make it easier for staff to implement. There have been many recommendations as well as tools such as checklists and rubrics developed to assist in

assuring IDEA compliant quality IEPs. Each state is also responsible for disseminating literature regarding IEP training on a variety of topics that will inform professionals (Drasgow, Yell, & Robinson, 2001; Etscheidt, 2006; Hunt, Goetz, & Anderson, 1986; Lytle & Bordin, 2001; Menlove, Hudson, & Suter, 2001; NMPED, 2011; Pretti-Frontczak & Bricker, 2000; Rosas, Winterman, Kroeger, & Jones, 2009; Walsh, 2001).

The IEP as a Process

The IEP document that outlines a student's entire special education program is developed during the IEP meeting and forms the basis of a student's FAPE (Drasgow, Yell, & Robinson, 2001). A number of researchers have identified problems with the IEP development process in relation to the team meeting. For example, parent and administrators not attending IEP meetings, difficulty with the team process, confusion concerning team roles, poor connections between student needs and services rendered, lack of training on the IEP process, lack of resources and time, and loss of instructional time (Smith, 1990). At a basic level some team members may not understand the professional jargon used by school personnel (Harry, Allen, & McLaughlin, 1995) and at a more advanced level it is not always certain that team members have sufficient knowledge of the educational process to even be able to make a substantive contribution when developing the IEP document (Vaughn et al., 1988). While teachers see the IEP process as being useful (Lee-Tarver, 2006), they seem less satisfied with the amount of time it takes to develop the IEP, the problems associated with setting up (i.e., getting all team members together) and chairing IEP meetings (Simon, 2006), a lack of involvement of team members and maybe most importantly, the lack of impact on daily instruction (Dudley-Marling, 1985; Morgan & Rhodes, 1983).

In the past, researchers have been critical with regard to the amount of teacher time for form completion and related special education paperwork and how this takes away from instructional time (Rodger, 1995). Researchers have also investigated teachers' perspectives toward the IEP document (Dudley-Marling, 1985; Margolis & Truesdell, 1987). One of the major findings indicated that special education teachers find IEP writing time-consuming. Although anecdotal, it has been estimated (Edds, 2002) that "the average special education teacher spends 20% of his/her time doing paperwork" (p. 76). It has been suggested in the past that a single IEP document can take more than six hours to prepare (Price & Goodman, 1980). It was also reported in the Price and Goodman (1980) study that when developing the IEP teachers took approximately two hours of time that should have been used for instruction. A more recent study funded by the Office of Special Education Programs (OSEP) examined a nationally representative sample of teacher and personnel needs in special education (Carlson et al., 2002). The study found that teachers who spent more than four hours per week on paperwork and administrative duties were more likely to view these responsibilities as interfering with their job of teaching. The study also reported, "The extent to which special education teachers perceived paperwork as interfering with their teaching was also a predictor of intent to leave the field after controlling for other differences" (p. 9). Special education teachers from this study reportedly spent on average five hours per week completing forms and administrative paperwork. Excessive paperwork has been cited as one of the major reasons that special education teachers remain in the teaching profession but transfer to a general education setting (Billingsley & Cross, 1991).

Research-based Findings on Computer Software and IEPs

A quick search on the World Wide Web using the search engine Google Scholar and the keywords "individual education program, IEP and students with special needs" returned almost twenty-four thousand articles on the subject. This provided a picture of the enormous amount of information available on the aforementioned topic. More scientific literature search strategies were implemented to identify relevant research publications on computer software programs for authoring IEPs. A number of computerized databases were utilized including Academic Search Complete, Academic Search Elite, Education Abstracts, Education Research Elite, ERIC (FirstSearch) and Wilson Select-Plus. The descriptors "individual education program and computer software" served as initial keywords but returned only one study. In order to expand the search, other keys words were used in conjunction with the main key words individual education program and computer software: computer, computerized IEP, IEP, Individual Education Plan, Individual Education Program, laptop, microcomputer, on-line IEP, personal computer, pc, and software. Preliminary articles were found and suggested additional keywords: computer-assisted management systems, computer-based IEP writer, computer-managed IEP record systems, computer-managed IEP software, computer technology, computerized IEP management system, electronic IEP software, IEP writer systems, software applications, technology, and technology-assisted IEPs.

Names of researchers who had published literature with regard to IEPs and computer software programs were also typed into the databases to see if they had conducted additional studies that might have been missed during the initial search. Papers identified were acquired and hand searches made of their bibliographies. This helped ascertain how far the

computerized searches identified key papers and also to retrieve and review any omitted. To date, studies from the United States of America predominate. The identified literature ranges from informative guides to computer software programs to author IEPs to carefully planned research studies with a strong research orientation and which provide data of varying degrees of adequacy.

Inclusion and Exclusion of Research Articles

Studies from the initial pool were selected for review if they: (a) were empirical; (b) included special education teachers of children aged three through twenty-one with disabilities; (c) focused on IEP software; (d) were published in a peer-reviewed journal; (e) were published between 1975 (the year Public Law 94-142, the Education for All Handicapped Children Act of 1975 was passed, which introduced the term individual education program or IEP) and 2013. Studies that did not meet the previous criteria were eliminated along with any non-English language studies as well as dissertations. A total of three studies met all of the selection criteria.

History of IEP Software Programs

One of the first computer software programs to author IEPs for students receiving special education services was described in the literature by Brown (1982) and was referred to as the Computer Assisted Management of Educational Objectives Project or simply CAMEO. The software was designed to "provide teachers with an easy and efficient way to develop and print IEPs while maintaining the flexibility necessary to address individual students' needs" (p. 152). The publisher boasted that teachers could select from 7000 measurable skill-based objectives in different content areas at an appropriate performance level. A keyword system, the equivalent of a search engine by today's standards, allowed

teachers to quickly locate appropriate objectives. Then teachers could select their desired objective by entering a four to seven digit reference number which eliminated the task of writing or typing the objective.

Brown (1982) noted that "many computerized IEP systems exist" (p. 152) but what set the CAMEO system apart from the others was the ability to individualize the objectives by substituting as many as three predetermined variables within each objective. The criterion in each objective could also be changed by selecting the desired criterion level from a list of thirteen and again the teacher could substitute up to three variables. Teachers were also able to hand write their objectives if the objectives listed did not address their student's needs. Handwritten objectives would then be sent to CAMEO staff and the database of objectives would be updated. The software was said to be located on a centrally located computer and could be accessed over telephone lines or centrally at the school district service center. Teachers were said to have ordered the IEP (although there was an option to access the program remotely) with a turnaround time of the same day to three days (1.5 day average).

Brown (1982) reported that a survey in the form of a questionnaire was sent by mail by the researcher and 41 of 63 teachers responded. The majority of teachers who responded approved of the system and 79% indicated that the software reduced the amount of time required to prepare and write IEPs and wanted to continue using the software. The bulk of teachers (90%) stated they were able to adequately individualize objectives for their students by using the substitution option when developing objectives. The average time reported to develop an IEP which was described as locating objectives and filling out an order form was half an hour, (range of 5 minutes to an hour) which was said to cut the IEP development time in half. The majority of teachers indicated that they would "like to see the system add more

general objectives and cross-references to specific curricular framework, assessment instruments, resources, programs, and activities" (Brown, 1982, p. 153).

I found one quantitative study (Ryan & Rucker, 1986) that directly examined special education teachers' attitudes as well as time and cost savings with regard to using computer software versus handwriting IEPs. Teachers' attitudes were reportedly measured by conducting a factor analysis of an instrument the researchers developed entitled, "Attitudes Toward Individualized Education Programs." The software analyzed in this study was very similar to the software described by other authors of discussion papers (Gore & Vance, 1983; Kellogg, 1984; Krivacska, 1987; Minick & School, 1982) where teachers entered codes of the desired goals and objectives or wrote in goals if not found and then sent them to a vendor or central office clerk who print out the IEP and send it back to the school in two to five days. Nineteen teachers who used computer software to author IEPs and twenty-six teachers who wrote IEPs by hand participated in the study by completing surveys. Results from this study indicated that teachers saved time and school districts saved money. As one might have guessed the teachers who spent less time writing IEPs had more favorable opinions towards the IEP than teachers who authored their IEPs by hand. It was also noted that teachers who had more favorable opinions also viewed the IEP "as a valuable tool for planning instruction in the classroom. It appears that teacher's perceived value of the IEP for instructional planning can be enhanced by using computerized IEP systems" (p. 10). The researchers concluded by suggesting future research to investigate whether a savings in teacher time resulted in an increase in instructional time spent with students as well as the quality of IEPs by teachers who are using each approach to author their IEPs.

One year later Jenkins (1987) conducted a quantitative research study that sought to understand the same question posed by Brown (1982) which was whether there was a savings of time when using computer software versus handwriting the IEP. In addition, Jenkins wanted to know if the quality of an IEP authored by computer software was significantly higher than the handwritten IEP. The author described the intervention as a 12-hour computer-writing workshop where all 42 participants learned how to use the computer software, a word processing program as well as the proper way to write an IEP and conduct an IEP meeting. Participants were divided into two groups where one group used the software and the other group wrote their IEPs by hand and were timed by a stopwatch. In addition, two certified special education teachers used a quality checklist to rate the quality of the IEPs. Results of the study indicated that it took significantly less time to use the computer to generate the IEP and the quality of the IEP was also said to be significantly higher. The training program implemented showed that "novice computer users can learn a very complex system for generating IEPs in order to save time…help participants project a higher perceived computer literacy and comfort level" (p. 65). Participants who provided feedback reported that they saved time and also noted that IEPs were less tedious to complete using the computer software.

Only three studies (Brown, 1982; Jenkins, 1987; Ryan & Rucker, 1986) were found in refereed journals that reviewed the effects of using computer software to author IEPs. Both studies reviewed software programs with limited features and that for all intents and purposes can be considered antiquated and obsolete by today's standards. Clearly there is a need for additional research that focuses on the merits and potential concerns of using computerized IEPs as an alternative to writing IEPs by hand. One way to start this line of research would

be to document the perceptions of the front-line special education teachers who are actually using the computerized IEP software and continue from there. By documenting these perceptions, special education as a field could start to confirm the claims made by the software purveyors. As Serfass and Peterson (2007) noted in their review of the research they could find no research on the most widely available computer software programs and therefore purveyor claims such as "savings in time or cost, or improvements in readability or compliance" cannot be confirmed (p. 18). It has been theorized that using information technology such as IEP software will reduce human errors in management, data entry and data processing (Sahin, 2006) and save teachers time when developing the IEP document (Brown, 1982; Enell & Barrick, 1983).

Margolis and Free (2001) in their guide for educational consultants considering the implementation of computer software to author student IEPs noted that educators might be hesitant about using IEP software due to a lack of experience with computers. These researchers also noted educators may fear that using software to author IEPs will reduce their ability to individualize IEPs. Both of the aforementioned claims, however, were not supported by research. The authors cautioned "IEPs generated with IEP software with rigid characteristics deprive students of their right to an individualized education plan that meets their unique needs" (p. 177).

Fratt (2005) provided an anecdotal report that suggested the use of IEP computer software in one school district helped to eliminate 95% of compliance issues and that teachers reduced the amount of time it took to prepare an IEP document from over an hour to only 15 minutes. One school Principal (O'Donovan, 2006) discussed some of the trends that he noticed when special educators implemented IEP software for the first time. While

anecdotal in nature, one trend was that teachers could be so focused on making the software work that it can create a barrier between the parent and teacher. O'Donovan (2006) suggested that teachers have to "work hard to make sure that the computer is not allowed to propagate cold and stilted meetings" (p. 73). In terms of the practical initial implementation O'Donovan (2006) alluded to the financial investment involved in obtaining computers, servers, software and what was described as "systematic and comprehensive" training that can also be expensive. This principal also questioned whether the software truly allowed teachers to individualize the IEP and actually meet student needs due to some of the constraints and predetermined content inherent with the software.

Wilson, Michaels and Margolis (2005) argued that the computer software programs that were first developed in the 1980's "were often extremely generic and boilerplate in nature" (p. 39). The researchers also acknowledged that the databases often contained thousands of poorly devised goals and objectives that were rarely appropriate in meeting individual student needs. The researchers went on to describe these early software programs as containing "rigid, formulaic statements, which rarely satisfied IDEA's requirement for individualized IEPs" (p. 39). With these IEP software programs it was easy enough to change the student's name and quickly print out a document that contained "hundreds of atomistic or vague objectives, overwhelming teachers and families" (p. 39). These documents began to look identical in nature and the researchers cited personal correspondence from a colleague where these early IEPs were often referred to as "Identical Education Programs." These types of IEPs have been challenged in court (i.e., *Elmhurst Sch. Dist. 205, 46 IDELR 25 (SEA III. 2006)*; *Roland M. v. Concord Sch. Comm., 1989 WL 141688 (D. Mass. 1989), aff'd, 910 F.2d 983 (1st Cir. 1990)*; and *Rockford (IL) Sch. Dist. #205, 352 IDELR 465 (OCR 1987).*

Wilson, Michaels and Margolis (2005) contended that the IEP software has vastly improved since the 1980's, however, some programs continue to be "formulaic and rigid" in nature and are not better than the ones that were first developed. These authors concluded by stating that IEPs software should not be used to produce IEPs that are just concerned with the letter of the law but instead produce meaningful education programs that actually meet the spirit of IDEA. Based on my literature review on the history of computer software programs for developing and authoring IEPs, and my analysis of the websites of the major purveyors of IEP software, I concluded that the software has become more sophisticated and all encompassing in nature.

Computers have also become more complex and powerful and the Internet continues to provide networking opportunities that must have seemed beyond science fiction when some of the earliest IEP software programs were first developed. While some research studies have provided brief vignettes of teacher's appraisals of using IEP software to develop the IEP document as well as guidelines for IEP software evaluation (Majsterek, Wilson & Mandlebaum, 1990; Serfass & Peterson, 2007; White, 1984) it is a mistake to conclude that researchers and policymakers have reached the goal of knowing everything about IEP software. Further research in the area of technology applications for students with disabilities is necessary to ensure we move closer to this goal.

The purpose of this research study was to gain a more current and holistic investigation of teacher's experiences using IEP software to develop IEPs for students receiving special education services. Documenting these teachers' experiences contributes new knowledge to the field of special education. Although a limited number of research studies have been done in this area, I believe that this does not indicate the lack of

importance of this research study. Results from this study may inform and provide recommendations for pre-service and practicing teaching professionals on how to use IEP software to provide the most meaningful education as well as challenging services and supports.

Chapter 3: Methods

Introduction

In this chapter, I describe the research design and methods used to explore special education teachers' perceptions of using IEP software to author their IEPs. The overall purpose of the current study was to describe, understand, and explain how special education teachers view IEP software as a tool to develop their students' IEP documents and educational programming. The research design description includes rationales for the selection of naturalistic inquiry and a phenomenology research design that employs grounded theory methods for the systematic study of special education teacher experiences of using IEP software to develop the IEP document and subsequent educational program. The methods section includes descriptions of the research participants, data sources and collection strategies, data analysis, and techniques for assuring trustworthiness. Lastly, human protection issues are addressed.

Theoretical and Conceptual Framework/Research Design

This research study was conducted using a qualitative approach, which has also been referred to in the literature as naturalistic inquiry, as well as the interpretative, constructivist, or postpositivist approach. A phenomenological research design informed by the grounded theory approach was employed in this study in an effort to gain a deeper understanding regarding the experiences and points of view of teachers using IEP software. This research design was appropriate for the research study because I wanted to learn more about what it is like to use IEP software from the perspective of multiple special education teachers.

Operational Definitions

IDEA 2004, Part B, §614(d)(1)(A)(i) defines the individualized education program in the following manner. "In general the term 'individualized education program' or 'IEP' means a written statement for each child with a disability that is developed, reviewed, and revised in accordance with this section and includes…" (Part B, §614(d)(1)(A)(i)). Drasgow, Yell, and Robins (2001) referred to the IEP as both "the document and the process that formalizes the free, appropriate public education (FAPE) for students with disabilities" (p. 359). An IEP must be developed for each student who receives special education services and it is estimated that about twelve percent of the student population in the United States has an IEP (U.S. Department of Education, 2011). The IEP takes the form of a legal written document that documents a student's educational and in some instances functional and adaptive behavior needs. It also contains a description of the programming in the form of educational goals, modifications and accommodations and personnel required so that the student can benefit from the proposed program.

IEP computer software, for the purposes of this dissertation, can be defined as a type of technology or computer program that allows for preparation and management of Individualized Education Programs (IEPs) for students receiving special education services. Sahin (2006) suggested that IEP software can be thought of as an application that employs "a database-integrated information processing system" (p. 1184) to generate a written document. Data bases have long been known to have the capacity to store, sort and report information in an efficient manner (Honeyman, 1985). IEP software programs can be as simple as word processing programs where a teacher can enter data and print documents to

complex and costly software that include many options that can be adapted to the needs of the school district.

Selection and Description of Participants and Procedures

Specific representational characteristics of the participants were essential to the study; so "criterion based selection" (LeCompte & Preissle, 1993, p. 69) was used as a sampling procedure. Criterion based selection has also been referred in the literature as "purposeful" (Maxwell, 1996, p. 70) sampling because participants are often chosen on the basis of their perceived ability to facilitate the understanding of the phenomenon investigated. A typical sample size in a phenomenological study is from 5 to 25 individuals, all of whom have direct experience with the phenomenon being studied (Creswell, 1998).

Inclusion criteria. Initially four participants contacted me and were deemed to meet all of the criteria for inclusion in the research study. My criteria for inclusion were that the individual participating must be a certified special education teacher enrolled in a graduate program in special education, have authored at least one IEP using computer software and provided consent to the research. After interviewing the four participants I asked these participants to forward the recruitment e-mail to any of their colleagues enrolled in UNM's Special Education graduate program who might be interested in participating. Four additional participants then contacted me via e-mail and stated they were interested in participating in an interview regarding the use of IEP software. Ultimately a total of eight teachers agreed to participate in the interview. Before the interviews commenced, the nature of the study was described in detail, and participants were asked to read and sign an informed consent letter (see Appendix B).

Recruitment of participants occurred through an announcement by the special education department secretary via the special education graduate listserv through electronic e-mail. Prospective participants were asked to contact me via e-mail if they met the criteria for participation and agree to participate. Next I scheduled a brief introductory meeting where I provided a full explanation of the research project to the four potential participants. A letter of informed consent was then presented to each participant and signed and a copy of the informed consent was provided. The informed consent included an explanation of the purpose of the research study, along with a description of all data gathering procedures and instruments involved. It also included statements that participation in the research project was voluntary, all information collected would be kept confidential and secure and that participants may quit the study at any time without penalty. Lastly, it included a description of any foreseeable risks and benefits (see Appendices A and B). Participant selection was free of coercion.

Interview Protocol and Process

Before the interview commenced, participants were asked to complete a survey (see Appendix D) that solicited demographic information as well basic information about their experience using IEP software, i.e., ethnicity, gender, highest academic degree, how long they have taught students with disabilities and approximately how many IEPs they have written. The aforementioned information provides readers of the research with an overview of the socio-demographics of the sample (see Appendix F).

The interviews for this research study were conducted over eight weeks in the fall of 2012 in a southwestern city in the United States. The interview protocol for this study was developed based on LeCompte and Preissle's (1993) suggested interview guide. I also

examined literature (Merriam, 1998) on how to design high quality interview questions. My dissertation committee members also provided much assistance with the development of the interview protocol. The interview questions were revised five times before the final draft was in an acceptable format. Oftentimes during the interview I restated what had been said by the participant by paraphrasing or summarizing some of the information and then further questioned the participant. This helped determine the accuracy of what was discussed and allowed the participant to expand their response.

Interviewees

My sample consisted of eight certified special education teachers who had authored IEPs with IEP software at least one time. The participants were from both urban and rural locations in the southwestern United States. All participants were female, enrolled in a graduate program in Special Education and were all employed in surrounding school districts. The sample included seven participants who identified themselves as Caucasian, and one who was Hispanic. The number of years participants had taught ranged from three months to more than 16 years of experience. Six of the teachers were working towards obtaining a Master's degree and two towards a Doctorate degree. Five of the teachers were currently teaching at an elementary school and three were teaching at a middle school. Teachers reported having written approximately between three and 200 IEPs in their career. Seven of the teachers had used a software program named TIENET™ and one teacher used a program named SEAS™ to write IEPs for students. I analyzed both of the aforementioned software programs in the previous chapter. One of the teachers rated her proficiency with each of these programs as minimally proficient, four indicated they felt competent and three rated themselves as extremely competent.

Data Collection Strategies

Data for this study was obtained by conducting semi-structured interviews with special education teachers involved in using IEP software to author IEPs for students receiving special education services. Interviews were audiotape recorded using two audiotape recorders just in case one failed. The protocol for the participant interview can be found in Appendix C. The length of each interview ranged in duration from twenty minutes to fifty minutes with a mean duration of twenty-eight minutes.

Each interview was conducted face to face at a location designated by the participants. The interviews typically took place at a local coffee shop or in one instance a public library. I telephoned the participants to set up a time and location for interviews to commence. The interviews were conducted in person in September and October of 2012. I also provided a relaxing atmosphere for participants by being accepting and understanding of their responses and showing agreement with what was said. Lastly, follow-up questions with regard participant training were sent via email to six of the eight participants with a 100% response rate. These follow-up questions were also included with the transcribed interviews.

Data Analysis Strategies

Before analyzing the data, I listened to the audiotape recordings of the interviews and read through the typed transcripts several times which helped ascertain important comments and phrases. The comments and phrases represented one general thought. Some of the comments and phrases were similar in nature but all were analyzed just the same. In terms of data preparation I tried my hand at transcribing the narratives, which proved to be a cumbersome and laborious process. Specifically I found myself frustrated at not being able to accurately transcribe the narratives at a decent speed and would often press the wrong

buttons no matter how hard I tried. I found myself spending more time cueing the narratives at the proper starting point than I did typing the text. It was at this juncture that I decided to hire a professional transcriptionist to transcribe the following seven interviews. This provided to be a huge time saver and reduced the stress associated with an accurate transcription. After having the interviews transcribed, I listened to the tapes several times and compared what I heard to what had been transcribed. This further ensured everything had been transcribed with as much precision and accuracy as possible as I was able to correct many errors and inconsistencies with the transcription.

Reading through the transcriptions while listening to the audiotapes also allowed me to get an initial understanding or big picture of some of the reoccurring words, phrases, and ideas as well as themes and events. The central task during data analysis encompassed identifying common themes in what the participants reported in terms of their experiences with IEP computer software. Creswell (1998) suggested that it is often helpful to first identify statements that relate to a certain topic and to separate relevant from irrelevant information before breaking the information into small segments that reflect a single specific thought. Next, Creswell suggested grouping the segments into categories that reflect the various aspects of the phenomenon as it is experienced. Categories emerged as I reviewed the segments and made sense of them. Initial categories and themes were tested by searching for contradictory evidence. When contradictory evidence was discovered, the initial categories were then revised to incorporate the new evidence. Various meanings were also identified which aided in the development of an overall description of the phenomenon as people typically experience it (Creswell, 1998).

I anticipated that there would be a great deal of data to analyze. I was correct with this assumption. I assigned a color code to each of the participants. By color coding the transcription notes I was then able to analyze certain responses with respect to specific participants. In order to accomplish this I used a word processor to highlight each participant's interview transcription notes in a specific color of print. Next, I printed out the color coded interview transcripts and then cut and pasted the segments onto note cards that could then be sorted into groups according to themes and sub-themes. This allowed me to then revisit each pile of cards frequently with each new piece of data using a constant comparative method as outlined by Lincoln and Guba (1985) to see if the themes were still accurate. This made it possible to take one piece of data (i.e., a statement or theme) and compare it to all the other pieces of data that were either similar or different. I then examined what made each piece of data different or similar to other pieces of data. This method of analysis employed inductive reasoning where themes and categories emerged from the data by critically examining the data. I knew that I was done with my data collection and analysis when no new ideas or concepts seemed to be emerging and theoretical saturation had been achieved (Lincoln & Guba, 1985). According to Strauss and Corbin (1990), grounded theory suggests that theoretical saturation occurs when: (a) new or relevant data no longer seem to be emerging from the data, (b) the categories or themes have been well developed, and (c) when the relationship among categories or themes has been clearly established without any overlapping categories.

An analysis of the interview transcripts provides a picture of the teacher's reported experiences and perceptions of using computer software to develop IEP documents for students receiving special education services. Representative quotes from the participants

were used to illustrate responses to the interview questions. The teacher responses also provided specific information on how special education teachers' experiences of the IEP process using IEP software compare to those claimed by the purveyors of IEP software.

The data clustered into four distinct categories and each category contained certain themes and subthemes discussed in more detail in the next chapter. The four categories identified were (a) the impacts and constraints of IEP software on the teacher, (b) the impacts and constraints of IEP software on students, (c) the impacts and constraints of IEP software on parents and (d) the impacts and constraints of IEP software on the functioning of a student's interdisciplinary team (IDT).

Trustworthiness

It has been reported by other qualitative researchers that researcher bias may be reduced and an advanced degree of accuracy attained through the use a peer debriefer (Creswell, 1994; Denzin & Lincoln, 1994). Peer debriefing can help reduce researcher bias that has the potential to occur when the interpretation of data corresponds with the researcher's preconceived notions (Miles & Huberman, 1994). One way that I enhanced the credibility of my findings and increased the accuracy of my analysis was to employ the use of a critical friend also known as a peer debriefer. Peer debriefers are commonly used in qualitative studies as a way of testing the researcher's ideas against a peer or peers who have not been a part of the research project (Lincoln & Guba, 1985). By using a peer debriefer, I was able to obtain an alternative perspective regarding how I coded and interpreted my data. For example, first I sorted the statements into themes and wrote the theme on the back of each card. Next my peer debriefer read each card and wrote what she thought the theme was on the front of the card. We then read each statement and compared our identified themes.

This process provided an opportunity for discussion of units of meaning and themes and proved useful for examining similarities and discrepancies. The goal during my meetings with my peer debriefer was to reach consensus regarding any discrepancies.

Researcher Positionality

It is essential for researchers to attend to issues of positionality and active reflexivity. This is because "a researcher cannot be neutral, or objective, or detached, from the knowledge and evidence they are generating" (Mason, 1996, p. 6). Thus, it is important for researchers to reveal their identities in their studies as this can help readers understand how the data was interpreted (Mason, 1996). I approached this study with previous experience as a middle school special education teacher. I have authored IEPs for students using the handwritten process as well as by using IEP software on the computer. My interest in conducting this dissertation was instigated by remembering when I was told by administrators at my school that I would no longer be able to write my IEPs by hand, as my school district had adopted computer software that would assist in developing the IEP document. I also remember questioning if this shift in producing IEPs was in the best interest of my students and if research had been conducted to confirm writing IEPs using computer software. My experiences as a special educator and graduate student have also provided many opportunities to be critical of new approaches that are often recommended for students receiving special education services.

As I have used computers for almost the last thirty years, I feel comfortable with a variety of computer applications (i.e. word processing, spreadsheets, databases, e-mail, and internet) and related technologies (i.e., MP3, DVD and CD players, cellular phones, video game consoles, television) in general. My past experience with the aforementioned

technologies made learning the IEP software easier and I found myself instantly proficient with the IEP software. I remember the software was designed in a manner that I found to be user-friendly. I have used the IEP software to author my IEP documents for the last four years and would never want to go back to writing my IEPs by hand. I feel like I can complete my IEPs more efficiently and consistently than before. The documents look more professional and I can easily track my students' progress and print out reports for parents.

Human Protection Issues

This research study was approved through the University's Institutional Review Board (IRB) in August, 2012. My IRB proposal explained the purpose and significance of the proposed study, how participants would be recruited and involved in the research project, the data collection procedures and provided a thorough description of how participants would be protected. Written consent to participate in the research study was obtained from all participants. I did not experience any ethical dilemmas when collecting the data by interviewing participants. While there is always a possibility of risk (i.e., anxieties exacerbated by questions raised), none of the questions were designed in a manner that would have allowed respondents to feel like their privacy had been invaded nor did they appear to be embarrassed by any of the questions. Although a minor inconvenience of time was encountered by participants, all of the participants were told in advance the time commitment necessary to participate in the study. Participants who agreed to be interviewed actually appeared to enjoy sharing their knowledge, opinions and experiences of using IEP software and teaching in general. Participants were given an opportunity to respond to the study which allowed participants to affirm that the summaries reflected their views, feelings and experiences. This was done after the interview process via e-mail by sharing the results

and discussion chapters of my dissertation with the participants involved and feedback was solicited. Six out of eight participants provided feedback.

All information collected during this study was kept confidential and secure. All transcripts of interviews, audiotapes, consent forms and any other identifying information were securely housed in a locked filing cabinet in the office of the researcher. A log that specified the participant's name and code number were also housed in a locked filing cabinet. The code number identified the recorded interviews as well as the transcribed interviews. The professional transcriptionist that was hired to transcribe the audio recordings was not provided with any names or identifiable information about the participants. To ensure confidentiality, pseudonyms were used throughout the dissertation to conceal the identities of participants. I referred to geographic locations such as cities, participant's schools and the school districts where they worked only by description. All data will be kept for one year after the dissertation has been successfully defended and then will be destroyed.

Conclusion

Barritt, Beekman, Bleeker, and Mulderij (1983) suggested that one of the goals of phenomenological research is to effectively communicate other people's way of seeing things. A phenomenological research design informed by the grounded theory approach best fit my research question as I wanted to understand the experiences and point of view of teachers using IEP software. This design also allowed me to learn more about what it was like to use IEP software from the perspective of multiple special education teachers.

Chapter 4: Results

Introduction

The purpose of this study was to investigate how special education teachers experience and perceive IEP software-authoring programs when writing their IEP documents. Specifically the following research questions were addressed:

1. What are the perceptions and experiences of special education teachers using IEP software to develop IEP documents for students receiving special education services?
2. How do special education teachers' experiences of the IEP process using IEP software compare to those claimed by the purveyors of IEP software?

In this chapter, I will summarize the findings and themes from the data collected from October 2012 through November 2012 from eight certified special education teachers. In chapter five, I will discuss the implications of teacher's experiences with IEP software as they relate to relevant claims made by the purveyors of IEP software with an emphasis on the professional development of special education teachers.

Findings

Qualitative data analysis was used in reporting the findings of this study. The semi-structured interviews with teachers solicited information regarding a number of topics that helped provide an accurate and substantive picture of teacher's perceived and reported experiences using IEP software. The data consisted of eight transcribed interviews and the data was analyzed according to the procedures outlined in the previous chapter.

My first set of themes consisted of the following:

1. Benefits of the software.

2. Challenges of using the software.
3. Successful IEP process.
4. Unsuccessful IEP process.
5. Confidentiality of student information when using the software.
6. Impact of software and technology on parents.
7. How teachers were trained to use software.
8. Handwritten IEPs- paper and pencil.
9. Technology.

After the preliminary analysis, I enlisted the help of a critical friend as discussed in chapter three who examined the cards and the themes written on the back of the cards. Next we discussed the themes written on the backs of each card and we noted discrepancies as to how some of the themes had been sorted into each category. The main reason for this was that some of the themes identified could have been included into multiple categories. For example, benefits of the software had the potential to be listed under four of the nine aforementioned themes. Working together, we combined or renamed each of the units of thought and developed a new set of themes so that each unit had a better tendency to fall under one of the specified themes. We decided on a logical way to describe teacher's experiences of using the IEP software that examined the perceived impact and constraints of the software on four distinct stakeholders- the teacher, student, parent and interdisciplinary team. Several themes as well as subthemes emerged from the data analysis and will be discussed in this chapter. The final set of themes and subthemes that emerged along with the definitions that were refined as I coded my data are included in the table on the subsequent page.

Table 1. Inductive Code List from Interview Data

Codes and Sub Code Names	Code Definition
1. IEP software impacts and constraints on teacher • Benefits of IEP software and related technology- forms accessible online, ability to project IEP document, report functions- ability to interface with other programs • Technical difficulties--problems with hardware, internet server malfunctions, glitches	Describes teachers' perceptions of the impact and constraints that IEP software and related technology had on how special education teachers conducted their work.
Technical assistance to learn/implement software • Training- pre-service, in-service or not at all • Lack of professional development • Self taught- "learn as you go" • Help from colleagues or head special education teacher • Model for professional development • Training manual	Describes the amount and model of professional development and technical assistance provided to the special education teachers.
IEP development/writing • Goals/objectives development- mechanical vs. individualized, completion vs. enhanced content • Professional/clinical judgment • Alignment to standards/benchmarks	Describes how special education teachers develop their IEP goals and objectives and then align them with state standards and benchmarks.
Compliance Mandates vs. Spirit of the law • Student confidentiality • Legal Requirements- meeting LRE & FAPE • Too much paperwork • Parent friendly version needed • Knowledge of IEP document and process • Knowledge of students' needs and appropriate interventions	Describes how teachers understand their district, state and federal requirements in relation to the IEP software and IEP document compared to the spirit behind special education law.
Handwritten IEP Documents • Benefits and drawbacks of software in relation to handwritten process	Describes how teachers compare their experiences of writing IEPs by hand to using computer software to author their IEP documents.

2. IEP software impacts and constraints on parents as perceived by teachers • Document and process too lengthy and confusing for parents • Ability to follow along on projector • Parents unable to type their information into the document • Confidentiality of child's information • More parent involvement in the drafting of the IEP document • More parent input into the development of their child's IEP document • History of parent involvement contained electronically • Parent may view draft document as a finalized document • Conversation vs. emphasis on typing information into the document	Describes teachers' perceptions of the impact and constraints that IEP software had on parent participation in the IEP process.
3. IEP software impacts and constraints on students as perceived by teachers • Degree of student participation in IEP process • Software reemphasizes stigma often associated with receiving special education services • History of student educational programming and progress contained electronically • Student led IEP meetings	Describes the perceived impact and constraints that IEP software had on how students are involved and participate in the IEP process.
4. IEP software impacts and constraints on IDT functioning as perceived by teachers • Working in isolation vs. team work • IEP document development • IEP meetings • Draft of working document vs. finalized document	Describes the perceived impact and constraints that IEP software had on how IDTs collaborate to develop the IEP document.

In the next section, these four themes are described in greater detail.

Theme 1: IEP software Impacts and Constraints on Teacher

Benefits of IEP software and associated technology. Having access to IEP software and associated technology in general is important to special education teachers. Something as simple as being able to use a spell checker to edit their IEP to make the document look more professional was significant. Being able to access the IEP document on-line and read the document on a computer screen was momentous to a self-proclaimed "technology brat" like Sasha. Terra thought it was "wonderful" that supporting documents such as diagnostician reports, functional behavior analysis (FBAs) and behavior intervention plans (BIPs) have all been scanned in and are accessible online in the same location as a students' IEP document. Being able to have these documents easily accessible saved Terra time and helped her prepare for her IEP meetings. Terra and I discussed how things had changed now that everything was online,

> Interviewer: Yeah, before did you have to use the confidential files where you had to go like sift through it?
>
> Terra: Yeah, and most of the time we couldn't even find certain things. Like BIPs were oftentimes really hard to find.
>
> Interviewer: Yep like you said, now you have everything right at your fingertips.
>
> Terra: Everything is right there!

Having the ability to store the document on a secure server and not kill thousands of trees by wasting paper was meaningful for Toni. Being able to work on an IEP document at home was convenient for teachers like Heidi, Ann, Kerry, Toni, Alyssa and Sasha who, like many teachers, find themselves taking their work home with them. The tone of teachers' comments was positive and upbeat when they discussed the utility of IEP software for their daily work.

Projecting the document. Technology is also important to teachers and IEP meeting participants in general. When I asked Heidi what she liked best about the software, she stated she liked the fact that she could project the IEP document onto a wall during the IEP meeting. When I asked Jill if she thought the IEP software had an impact on the role of parents, families, guardians, or students with disabilities in the IEP meeting, she felt the software had less of an impact than the people participating in the meeting and was able to differentiate the software from other technology. While she did not refer to anyone in particular, the following quote suggests that using something as common as an LCD projector can be beneficial to people who attend the IEP meeting,

> I don't think – again, I don't think that it's the software itself. I think it's the people running the meeting. When we started using TIENET™ in [school district] what I noticed is that we started also projecting the IEPs using an LCD projector, and that we received great feedback on. When I went to another district, they were using TIENET™, but never projected the IEPs, and I thought that's what you did, and so I did it. And I had people saying, "Oh my goodness, best thing I've ever had, and I've never seen this." They loved being able to follow along with it, and I still do that now with the Word™ document. I mean it's not the software program, it's other technology. But I think that piece significantly changes how people participate.

Sasha also thought projecting the IEP document was helpful for team members to follow along with in terms of what page of the IEP was being discussed. She also stated that she felt if the parent was not able to understand how to read the document, then the parent may be less likely to look at the document as it was projected and the "parent might get

discouraged." When I asked Sasha what she meant when she said the parent may not be able to read it she clarified,

> People using acronyms and using like instead of saying occupational therapy, saying OT. You know, some parents may not know that verbiage. So maybe providing maybe an outline in parent friendly jargon so that the parent kind of knows what to expect, and the parents are able to actually understand it, and it's not like trying to send home a letter to a 2nd grader when you are speaking in the form of like a college student. You know because they're not going to understand it. And you don't want to always assume that the parent can understand everything. You want to make sure it is as easy and as simple as possible so that anybody can.

As stated earlier, Toni liked the fact that the IEP document could be projected and that parents could follow along but was concerned that the language (i.e., specific to special education) used in IEP meetings might be intimidating for parents and students. Ann also thought that projecting the IEP document was helpful for parents and stated,

> Because I teach such young kids, the only time my students are present at the meetings are during progressions, and they just kind of sit there. They don't participate much in it. But I do think the parents appreciate seeing it projected on the wall so that we all can at least be looking at the same thing at the same time, and I can show them with my curser, "Here's where I am. Here's where I am reading off of." And I don't know how effective that would be if you were all just sharing one piece of paper around a large table. So I think the projection of the IEP is helpful with the explanation of it, definitely, just having the visual.

Report functions. The IEP software reviewed in this study allowed the user to run a number of reports regarding the student. Teachers would not need to run these reports as this is typically done by administration or the head special education teacher. One teacher who also served as the school's head special education teacher indicated the IEP report functions were very useful and made her job easier. She was able to run reports on which students in her school had an IEP, students' eligibilities, grade levels, and when students' IEPs and reevaluations were due. She also liked how the IEP software could interface with programs like Power School and School Max which keep track of student data. These programs in turn are able to run reports for other programs like STARS. Jill stated the reporting functions were helpful at her school site and were also helpful for reporting information to the State Department of Education. At the school level, she was able to run reports on teachers' caseloads that helped track which students received what type of related services, and overdue as well as upcoming due dates for reevaluation reports. Jill used the software in her last position to run reports and now that she didn't have access to this software, she had to develop her own system of keeping track of everything. She noted the system that she developed as being more labor intensive and less efficient,

> …right now I am doing all of that using Microsoft Word™ and Excel™, and it's time-consuming and not – it's one of those things where you are constantly having to go in and updating. So you have the IEP, and then you have to update, and then you have to do this and then you have to do this. Whereas in TIENET™ everything is kind of updating for you, so it just helps you to make sure you have more – all of your things are streamlined.

We also discussed how related services providers like Occupational, Physical, Speech Language therapists and Social Workers could benefit from the report function. In the past, the related service staff would have to contact special education teachers who had copies of the entire IEPs to find out which students had services and for how many hours. Now these staff could print a report that lists the students on their caseload and the hours of services they received. Jill noted the time savings benefit for both special education teachers and related services personnel,

> …the related services people have access to TIENET™ so they can pull up and write in your IEP for you so you're not trying to get pages from them and this and that and do all these other things. They just put everything directly into the document so that your document is all compiled and drafted when you get to the meeting. So I think the report functions can be really, really, really useful as well.

Technical difficulties. When discussing with teachers what challenges they had experienced when using the software, a common concern that surfaced related to the theme of technical difficulties. Some of the technical difficulties that had to do with the software included the TIENET™ internet site being down, not on-line or simply freezing. It was difficult to ascertain if this was a problem with the software, hardware or with the users' internet network itself. Heidi stated, "As far as improving the IEP software, I think that sometimes it should go a little bit faster. It's kind of a slow process, sometimes it's frustrating when it takes a long time to download." Sasha indicated that having more than one person entering information at a time was problematic,

> It freezes, or it will kick you out automatically. So you got one person, who is projecting the program, and then you've got maybe your SLP over here who is typing

> the information but you're trying to type the notes at the same time. Whenever they try to submit their information, it kicks them out because you are already logged in, so you can only have one person logged in at a time. It's probably either one or two because I think the head teacher is able to be on, and I think one other person can be on. But like I said, when I was in a meeting where everybody was putting their information right there as the parent was sitting there, it was just a complete havoc.

Another frustration reported by a teacher involved losing work that had already been entered.

> The actual software – the challenges would probably be that it is unreliable where you could spend an hour working on one page and you go to save it and then it completely closes your browser, and you've lost everything that you've just worked on. So that actually has been happening a lot more this year than I've experienced before. I don't know what that is, but when you go to the save and continue editing box, a lot of times it just resets the entire browser and you have to even log back into TIENET™ and get back in and everything you just worked on is not there. So that's a bummer because that wouldn't happen if I used paper and pencil.

I tried to ascertain if this was the result of the school's internet network or home internet network and Heidi replied,

> Both, but I find that it happens a lot when I would assume a lot of people are working on IEPs at the same time like high trafficking times. Right after dinner I find it happens a lot because it doesn't really happen in the mornings when you wouldn't expect a lot of teachers to be working on their IEPs. It's more in the afternoon and evening.

Jill also mentioned the unreliability of the server when working on the IEP,

> When the server goes down it's difficult because you don't have a backup necessarily. And so that's kind of frustrating. Occasionally the server will be slow which is annoying, but I haven't had any major significant issues with it. Not like I've lost anything or anything like that.

The following account from Heidi explained her experience of the software translating her document when this was not what she had wanted,

> Even though you don't hit any buttons and there's no option to translate it, it actually translates into Russian so I had an IEP this week and I was printing out the back half of the IEP so the last twelve pages or so umm literally were in Russian. There's no option to print Russian so I don't understand how it did it but we actually looked it up later and it actually was Russian.

As stated earlier, it was hard to determine whether the aforementioned problems were a result of the IEP software, internet server connection or computer hardware itself. The aforementioned quotations however reflect the notion and understanding that some type of technical difficulty often surfaced that prevented the normal operation of the IEP software. The teachers who reported they lost some of their work that was entered into the software as a result of these technical difficulties did not indicate they frequently used the "save continue editing" button that would have prevented their work getting lost. The next theme, described as 'technical assistance required to learn and implement software,' refers to the training that participants received in order to have a working knowledge of the software.

Technical Assistance Required to Learn and Implement Software

While the interview protocol did not contain a question regarding participants' prior experiences with learning to use the software, the issue of how teachers were trained to use

the software surfaced in all but two interviews. As training was a central theme that arose when conducting the initial data analysis, a follow up email was sent to Alyssa and Ann who didn't comment on their training and asked the following questions:

1. How did you learn to use the software?
2. Were there any challenges to learning how the software operated?
3. Did you receive a training manual?

Only Toni reported she had received any initial training or professional development from her school or school district. Toni also set herself apart from the other teachers in that she had received training by trainers of the software company. Toni, a veteran teacher with sixteen years of experience and a doctoral student studying special education explained,

> I learned how to use the IEP software for [a previous school district she worked for] [different software name but similar to TIENET™] and [school district] during planned professional development training days. Trainings were held in computer lab [a previous school district she worked for] & [current school district] with principal as the trainer for [a previous school district she worked for] and TIENET™ training associates hired by [current school district].

Only Alyssa and Terra, who were second and fourth year teachers, alluded to the fact that they had received some training in their teacher preparation program as student teachers. Alyssa also practiced using the software during her student teaching. Alyssa described the training she received as part of her pre-service teaching program,

> I had the opportunity to sit down with the [school district] teacher I was student teaching with and look over the IEPs of her students from TIENET™. She explained a little bit about each section and what each part is for as well as what needs to be

> included in the student goal pages. Though it still all looked like a foreign document until I could sit down and write my own. Classes at UNM would only mention writing IEPs in passing but never gave a more formal explanation or class session devoted to actually walking through and showing how to write an IEP, which I think would be so helpful.

Alyssa stated she did not receive any further training when hired by her school district, whereas Heidi attended a training in October of her first year but by that time she had already taught herself how to use the software. Most of the teachers reported they learned how to use the software on their own and would seek guidance from other special education teachers or their head special education teacher when they needed help. Unlike Alyssa, Ann stated she had little if any experience with even the IEP document or process,

> When I was hired as a special education teacher, I had never even seen an IEP before so not only did I not know really what an IEP was or what any of the pages of the IEP meant, I had no idea what TIENET™ was, how to access it, or how to use it. Until I got access, my head teacher at [southwestern school] sat with me and helped me to write my first IEP and showed me how to use TIENET™. She used to stay at school with me for hours to help me. I remember it being very confusing and overwhelming. When I switched to [a different school] I sat down with an IEP specialist and she helped me even more. The IEP specialist helped me to understand the IEP process much better. But I had to beg these people to do this... I could tell they were kind of bugged at having to sit down with me to show me what TIENET™ was all about. When I became a head teacher, I learned even more about the IEP

process and using TIENET™ from my instructional manager at our cluster head teacher meetings.

Similar to Ann, Sasha had very little experience writing IEPs but was also able to obtain assistance from her head special education teacher so that she could learn to write her IEPs and learn to use the software. Sasha explained,

> I was basically told, "Hey you have an IEP in two weeks, and you are the case load teacher." And at that time I was a long-term substitute so I was really not user friendly at all. I didn't even know what TIENET™ was until they were like you need to go on line and you need to put up present levels of performance and all this other stuff, so I basically talked to my head teacher. She said, "Hey, this is a breakdown of it. I'll give you about ten minutes to play on mine, and then you can just go ahead and do what you need to do." And I basically had to print out where I wanted to be because I was only a long-term sub, and I wasn't allowed a log-in or anything because it's confidential information. I got papers that said basically Student's Weaknesses, Student's Goals, Reading, Writing, all that stuff and I had to write it in, and I had to give it to my head teacher. She had to type it in and then during the IEP meeting, I had to direct it, but I didn't even know how to use the software. So within two weeks I basically borrowed her computer, she sat there and she basically oversaw everything that I did, and I taught myself how to use TIENET™.

When I asked Sasha what would happen if her head teacher saw her doing something incorrect when writing the IEP she described the following process,

> She interrupted me, yeah. She would say, "Hey, you know instead of doing it that way, do it this way." She was the reason that I knew that the goal page is actually

> carried over to the next page. So she kind of taught me everything. I don't know if the reason why I didn't get training was because I wasn't an official teacher or what the case may have been. I got hired on as full time this year, and I still haven't received any training.

Kerry, a first year teacher, explained that she was hired long before school had started and would have appreciated being trained before school had commenced in August. She explained how she learned how to use the software and her aptitude regarding technology,

> Well, once I first learned that I had access, I signed on. I figured out how to sign on by myself really. Then I kind of walked myself through the process. My head teacher showed me during the first week of school how to search for a student, even though I didn't have access. But it was how to search for students, and then at that point I had to figure it out by myself. I just messed around with it. A week or a week and a half later I sat down with the head teacher. We had about a three-hour training after school, and he walked me through and we did a practice IEP. I learned a lot from that. I had one printed out, and so I wrote in the blank areas what we should write, what it should look like. That's what I use when I write the other IEPs to kind of help me. So at least I saw every part of the IEP that way. Then after that it was pretty self-explanatory for me. But I catch onto technology pretty quickly, and I mess around with technology, so a lot of it I could kind of figure out myself.

Kerry's experience was consistent with Ann who was a full time teacher and also served as the head special education teacher in her department. Ann indicated she never received any training on how to use the software and confided,

> I had to teach myself, beg, borrow, and steal from other teachers. So the fact that I was never trained on even how to open a new IEP, how to open an addendum, how to add an ESY attachment, whereas if it were paper and pencil you could just go grab a copy. So those are the kinds of things that I was really left hanging and it was just a learn as you go kind of thing because no one ever trained me on just how to use the software; I had to learn it as I went and by mistake.

While Ann was discussing her lack of training with regard to the software she mentioned, albeit briefly, how it would have been easier to have access to the paperwork she needed if it was a hard copy and not online. Ann had never used hard copies to author her IEPs but recognized this might have been a better medium to start becoming acquainted with the necessary paperwork. More will be said about teachers' perspectives regarding handwritten IEPs later in this chapter.

One of Ann's responsibilities as a head teacher is to review her colleagues' IEP documents before they are finalized and submitted to the district and the student's parents. Later in the interview, when I asked Ann how she would improve the IEP process, she once again raised her concern of there not being enough training for teachers. Ann stated enthusiastically,

> Training for sure. Being a head teacher, that's the number one thing that I just can't seem to get my team of teachers to do, is being consistent with the IEPs. Every IEP you get is worded different; there is information in different places. Nobody is consistent on how they are even using this software. And I know I didn't get trained, so I don't know how many other people are getting trained, but if everyone was consistent on the expectations on what went on each page, that would help like crazy!

> …The most challenging part about using the software is that no one is trained the same on it therefore kids coming from different teachers or schools have crazy looking IEPs.

Ann appeared to understand the importance of training her fellow special education teachers so that an appropriate IEP document could be developed. She also appeared to understand the importance and legality of the IEP document and therefore has taken it upon herself to develop her own training program for staff. When I asked Ann if she was responsible for conducting and presenting the training for her staff or if someone from the district provided the training, she stated,

> No, the lady from the district comes to me and tells me what is wrong with my IEPs and tells me to fix it, but she doesn't provide me or the staff members with training, she just lets me know everything that is wrong. So I put together a contract of IEP non-negotiables which is a training for my teachers on going through each page on TIENET™, showing them exactly what kind of information is expected to be in each box, having them sign after every explanation that they understand and will do it. And I have to hold them to that because they haven't done it up until now, and if they don't do it our principal has a copy of them and all their signatures, and if they don't do it, they get written up now because our school has been cited so many times for wrong IEPs or illegal IEPs or IEPs worded in a way that is just completely like not okay.

One of the participants (Sasha) referred to herself proudly as a "technology brat" and most of the participants appeared to be very comfortable using computers. Only one of the

teachers, however, indicated that she felt unsure of her computer skills when trying to learn the software. Toni confided,

> The most challenging aspect of learning how to use the software was my reluctance to change and fear of using technology due to having very limited computer skills. Trainings went too fast for me; I was overwhelmed and frustrated after the first page. Pull this, drop this, click over here, forget it!

Despite computers being very popular in mainstream society, there are still people who, for whatever reason, do not use computers. As someone who has practically grown up with computers since the Apple IIc computer was introduced in 1984 and is constantly on the computer for internet or work, I often assume erroneously that everyone uses computers. Kerry reminded me of this when thinking back and talking about her training experience,

> There were two other people in the training with me, and they were older, and they had not written IEPs before. And their use of technology was the first time they used TIENET™. They had done it by hand. They were from different school districts. They were really kind of way over their head. They struggled with it.

All of the participants except one of the teachers alluded to the fact that the software changes on a regular basis and when this happened, teachers appeared to be unaware of the changes. Terra indicated,

> Sometimes they send out bulletins that something has been changed and our head of Special Ed will say, “Head’s up. This has changed.” But it’s not really training, so sometimes it is a little confusing because we don’t really realize we are supposed to be doing this or that, or at least I don’t.

Heidi echoed Kerry's frustrations of not being made aware of changes in software. She also was the only teacher to discuss the need for general education teachers to be properly trained on using the software so that they could have access to a complete IEP document. Heidi stated in a confident tone of voice,

> I know that special education teachers are trained in my district on the software and how to use it and how to go through it because it can be tricky to navigate through especially if you don't have that experience because it does change different things. Every six weeks or so there is always an update. You know this button is over here. It gets tricky but I think that general ed. teachers need to be trained on it too. They have log ins and we can get them access to see it, however, they have never had formal training on it so it's very tricky for them to navigate through it and so they obviously don't look at it…they just look at their whatever your school calls it IEP at a glance is typically what they will look at with the goals and accommodations versus the full IEP.

One of the special education teachers, Jill, who also served as the school's head special education teacher, provided her insights on learning to use the software. Jill admitted the software at first was challenging and that she, "struggled with it for a while, but then I was really able to understand it, understand how to use it." She thought that once teachers had learned to use the software and use it efficiently, it was easy to navigate and self-explanatory in nature but also described herself as being comfortable with technology before learning to use the software. Jill also recognized that professional development was important and appeared to value what could be described as a mentoring process,

> …I think a training is necessary and then some coaching with the teacher, writing the IEP, going through the IEP itself, I think it's just the teachers just need some decent professional development on it in order to make it work well.

Jill described what she considered an empirical professional development model that she used when training her teachers. She described how teachers received some direction in writing the IEP and obtaining feedback,

> I found in research that one of the most effective ways to provide professional development is to provide a workshop and then follow-up coaching and then maybe a follow-up workshop. But to have something that is continued and goes on over time so that teachers are really able to play with things, figure out what they don't know, what they need help with, that sort of thing. So I provided a training – not necessarily using that model because I didn't know about that yet. But I did a workshop on IEP training and understanding what the IEP is, what the purpose is, what things we should include. And then teachers brought present levels of performance and then the student profile information from interviewing a student and were able to draft an IEP at the training and be able to get feedback immediately from people at the district and from myself about how to make sure that they were completing everything correctly and that they were using the tools and doing everything the right way.

The data from this study were replete with examples of both formal and informal processes in which teachers engaged and actively participated in learning how to use the IEP software. While some participants learned to use the software on their own, others worked collaboratively with fellow teachers or school leadership personnel. One method for teachers

who learned to use the software on their own was by using a training manual and will be described further in the next section.

Training manual. When I get new software for my computer, it always comes with instructions in the form of a training manual. Only three of the teachers indicated that they received a hard copy of a training manual. Heidi indicated she received a training manual at a training she attended in October in her first year of teaching and then she received another training manual when the forms were updated in January. Heidi also stated that "every single special ed. teacher went to the training" on how to use the software. Heidi appeared to have the most thorough training compared to the rest of the teachers and it is important to note that she was employed in a different school district than the other teachers. Toni reported she had also received a training manual, and sarcastically stated, "Yes, I received a training manual for TIENET™. The make-shift training manual consisted of blurry Xerox copies, almost impossible to read, that were stuffed in a paper folder." Kerry, the study's only first year teacher said,

> I didn't get a training manual, and I didn't need one at the time, so I can't really speak with certainty that there isn't one but there wasn't one that's boom!!!….right in front of me, "This is how you're going to use this if you have questions."

Alyssa stated she also did not receive a hard copy of a training manual but was told one could be found "on TIENET™." Ann also stated that she did not receive a training manual but signed a consent form that stated she "would only use the software for best practices" referring to protecting the confidentiality of a student. When I asked Sasha if she had received a training manual she replied, "Nope. I was told, Hey, if you need help come to my office, and that sort of thing." Terra stated she had received a training manual as a student

teacher but hadn't since then and specified, "I did like when I was a student teacher, but I haven't since then. I would imagine there's one online but I don't really know. I haven't seen that."

IEP Development/writing

The interview protocol did not contain any questions with regard to developing IEP goals and objectives, but this essential task for special education teachers came up throughout many of the interviews. One reason for this might be, as stated earlier in the literature review, developing high quality goals and objectives can be difficult for teachers. Another reason may be that developing high quality IEP goals and objectives can be arguably one of the most important aspects of the IEP document in terms of the student's educational programming. Special education teachers must track and report a student's progress towards IEP goals and objectives by taking data on an ongoing basis. Based on my experience, progress towards IEP goals and objectives is recorded on the IEP twice every grading period, which is nine weeks. Progress toward goals is sent home to parents by law, once every nine weeks or more if specified in the IEP document.

When I interviewed Kerry, I found she was passionate with regard to accountability of not only herself but also the teachers with whom she worked. She was also ardent about completing her work with a high degree of accuracy and ensuring her work reflected the needs of her students and the educational programming they received. The following conversation illustrates this concept and indicates how she felt that IEP goal development is crucial to the work that special education teachers perform. When asked how the IEP process can be improved, Kerry appeared to give much consideration to each word she selected in her answer,

> Holding teachers accountable for completing things on time. Especially for those who are responsible for writing our math goals. Since I'm a social studies teacher, I can't always do math goals. I don't know where the student is at. A lot of times it turns into a generic thing, which I don't feel always reflects the student's ability or current performance. And so kind of requesting that all the teachers add stuff to the IEP…all the Special Ed teachers. So kind of like the re-evaluation where you are going to get input from all teachers. I think they should do that for the whole IEP process so when you are in the process of writing the annual, you get true data so the kids are helped.

As Kerry stated, it is hard for her as a student's sponsor teacher to write individual goals outside her area of expertise and what she teaches. She also stated her desire to not only receive "generic" information from her colleagues but "true data." In order to clarify what true data referred to, I probed further and asked if that meant "actually getting accurate assessments and goals that are individualized?" Kerry replied,

> Yeah, for example one of my students – she…across the board everything said that she needs to work on phonological awareness, the whole list of word recognition. But she had been testing proficient. And so they had just been copying and pasting goals and the current levels of performance, which really she needs to work on reading comprehension, and she's proficient in math and everything. But they still said that she needed to work on computation and three digit numbers or something.

Kerry's interview really resonated with me throughout the interview process, especially when it came to discussing the development of IEP goals. In general, the results indicated that

most of the teachers interviewed viewed the IEP software helpful when developing IEP goals and objectives. Jill noted that,

> I think it helps to make sure you include – you know, depending on how it is used, that you include like all the components of a goal for example – all five components that are required. And I think it also helps because you have the opportunity to insert – where you can have the insert statements. And you can add things in there like your accommodations and things. Even goals you can write kind of a blanket goal that says by xx date blank student will independently be able to write a blank paragraph essay using... So you can write sort of a template that you would then be able to click on. It just saves time, it makes sure that your wording is correct, and it helps you too – if you have a student that you really don't know what your goals is, you can bring up all the goals in the meeting, and say, "Here are some ideas for goals. Is there one that we can start with and then be able to adjust it from there." So I think that using those templates is a huge convenience. It also helps you to – you know, you may think of one thing one day and not be able to think about that thing the next day, but if it's already in your templates, you can say, "Oh, look I already have that in there." And then be able to adjust it according to the student.

Jill valued that the software ensured all five components of an IEP goal were addressed and this implied that Jill valued having goals that were complete. By being able to adjust the goals the way she wanted, she could help ensure they were not just complete but more appropriate and individualized for the student. By having the templates saved and available when writing her IEP goals, if she was unsure of what to write for a student or had trouble devising a goal, she would refer to her templates and again adjust the goals accordingly. Jill

also found the template goals saved her time and accommodations she created useful for developing goals and accommodations for future students she encountered with similar needs,

> I also think you can get more from your…like I said, with your templates and things – if you had to make up some unusual goal for a student that you were able to put it into your templates, that might be useful for somebody else. To be able to have that same template so you have your experience almost documented in there and then be able to continue to use that. I have had to too with accommodations – that one parent brought up that I had never thought of before – and then I was able to apply that to other students as well because it just made sense. But it had never been on the checkmark boxes of the [school district] form, so it just didn't really occur to me. So I like that aspect of it. I think it just makes it easier, quicker, have your experience documented, but you still need to understand the process very well in order to be able to use the software. The software is not going to do it for you, it's just going to be kind of a little bit of a check and make it a little easier.

The last few sentences of the above quote are important as it demonstrates that Jill is able to recognize the software as a tool that allows a teacher to write an IEP document quicker and easier which saves her time. She also understands however, that the software will not write the IEP by itself, so understanding the process behind developing a high quality IEP is a fundamental skill for special education teachers. The IEP software the teachers used in this study would not allow a teacher to finalize a student's IEP unless each section had been filled out with either a box checked next to a statement or text entered into a textbox. Jill stated that just because a teacher has completed all aspects of the IEP document doesn't necessarily

mean it's of high quality. Jill observed, "So you can still have poorly written IEPs using the software. Just because you filled in the boxes doesn't mean that you did it right." Although Jill viewed the IEP software helpful in developing goals for her students, she also stated that using the IEP templates had the potential to lead to less positive outcomes and cautioned,

> I think you need to be careful with the idea of drafting templates so that you make sure that you don't have cookie cutter IEPs. I think that having the templates available can be tempting to be able to do that.

Toni was also less supportive of the templates and also advised against their use due to the automaticity that was often involved. When I asked her what aspects of IEP software can lead to less positive outcomes, she replied,

> I think that it's real easy to push the buttons, and sometimes…and pull down the charts and fill in the percentages or this or that – sometimes it's very mechanical and we don't stop to think as much as much as we can. We're moving pretty fast and picking goals and maybe there would be some goals that we could come up with that would better fit the students.

Inversely, Heidi talked about how the templates made her job of writing the IEP easier and helped ensure a successful IEP process. She referred to these templates as "drop downs" which is short for drop down menus, where the teacher is able to select a statement from a list of others and choose the one that is most suitable for their student. Heidi described the drop downs as being helpful when developing the student's goals, accommodations, and transition page. The reason she found the software helpful in this respect was that it provided "friendly reminders on what we should be including just so we don't forget anything…"

Even though she had access to the drop downs, she also stated she could individualize any statement she wanted to by typing in the information.

Sasha liked that she could see background information on a student's prior IEP goals for program planning and felt it was beneficial to have the student's past IEPs posted online,

> I also like being able to look at previous years, being able to identify if goals have even been attained. Some people don't always often put what goals have been achieved, what haven't, and what they are still working on. So being able to look back and kind of get a history or background from the student when the student is presented on your case load, instead of introducing yourself the first day of school being like, "Hey, tell me about yourself five years ago." You know, why do you have an IEP? You know, why do they say you are in Special Education? It gives me a little bit of background knowledge and it kind of gives me an idea about the parent, too. It shows me the parent involvement. It shows if the parent showed up. If the IEP was held with or without the parent. You know, how many times the parent would have cancelled. What their input was and how much detail they wanted. I think it's a good background basis.

Two of the teachers interviewed stated they did not like that after they developed the student profile page with the student's present levels of performance that this information did not transfer to the goals page like it did in prior years. Sasha reported that because the software did not automatically generate a goals page for each academic subject like it used to, a goals page had to be generated by the teacher. As a result of this, she had almost forgotten to include a goal for a student's functional performance because she had entered the information for their academic goals and thought she was finished. Alyssa stated her

frustrations with the information from the student profile page not transferring to the goals page,

> I think just for time's sake there is a lot of redundancy. Like on the Performance Page and the Annual Goals. So being able to – instead of having to copy and paste everything in that it would automatically transfer or put stuff in, and give you the option to edit it if you need to but it could kind of make things a little bit more streamlined so that it connects the dots for you.

Participants stated that the IEP software has the capability of saving them time when developing their students' goals and objectives and ensuring all components of the goal were included. Conversely some participants disliked how information from a student's profile did not transfer automatically to the goal pages and how in some instances goal pages were not automatically generated. The next section discusses how teachers described aligning their students' IEP goals and objectives to district standards and benchmarks.

Alignment of IEP goals and objectives to standards. Historically when teachers have written IEPs by hand they have had to reference and align state or school district standards and benchmarks with a student's IEP goals and objectives. Results indicated that teachers liked that they did not have to reference separate documents to locate standards as the software had the standards built into the program. Jill stated,

> Another thing I like about the software is the standards and being able to have the standards right there on the goals so that you can browse through the standards and then choose your goal based on the standard that is being addressed.

Similarly, Terra commented, "I find it extremely helpful the pull down charts for the standards and the benchmarks for the goal pages; I think those are extremely helpful." Sasha

reported she was frustrated with the fact that the new Common Core standards she was expected to use had not been installed in the IEP software because all of the schools in the state had not adopted the new standards. She suggested the following changes be made,

> but what I think would be helpful is basically you have a whole drop down to where you just click on second grade and it has the efficiency of showing what the common core standard and benchmark would be. If you have a third grader, availability would be the third grade standards. It would be based on what grade level their in. So that way you couldn't accidentally pick a 2nd grade standard for a 3rd grader or just try to accidentally put a 6th grade standard for a 2nd grader or something. Because it's all into one – I don't know how to explain it – it's a one basic page. So what you do is you click on the New Mexico Curriculum and then what it will do is show you K-12 – it will show you K all the way to 12 – and then you have to click on a plus sign, and then it breaks it down into what subject it is. Then as you enter into the subject, then you get into what type of thing you are looking for, so if it was like career readiness, would it be reading and language arts, written, would it be just language in general – and then once you get in there, there's like two more, and then you have a list of drop downs and you get to like the ninth drop down and you're finally at where you need to be 20 minutes later.

Sasha noted the time it look to find the information that was needed and even then would not find the correct goal that she needed,

> …I mean I've spent four hours preparing one IEP for a student that had one service. Because I'm trying to find those two extra goals that I can't find. It's either too broad

> so you can't put the goal in there because you want to narrow it down. Or you don't have the option to because the goal is not an option in there.

The data from this study suggest that IEP software has the capability of saving teachers time when referencing the appropriate educational standards and benchmarks but that this process could be streamlined and perfected. The data also suggests that teachers want easy access to the standards they are expected to use. Not only were teachers concerned with aligning their goals and objectives correctly with standards and benchmarks but they were also cognizant of the need to abide to state and federal laws.

Compliance Mandates

Student confidentiality. Public school teachers must adhere to the Family Educational Rights and Privacy Act (FERPA) of 1974 which is a United States Federal law (20 U.S.C. § 1232g; 34 CFR Part 99). Essentially FERPA is concerned with ensuring the student's confidentiality with regard to school records, personal information, grades, etc. Schools must have the parent or eligible student's written permission to release information or disclose educational records (United States Department of Education, 2012). Most of the teachers interviewed were cognizant of FERPA and confidentiality. When I asked if teachers could think of any aspects of the IEP software that can lead to less positive outcomes for students, some of the teachers stated they were indeed concerned with who had access to their students' IEPs. Heidi commented with what I noted to be a concerned look on her face,

> I think for students and for families in general I think we should consider that people do access these online programs in public places even though they're not supposed to realistically. I personally know people who do their IEPs in public places and they shouldn't because we're not meeting confidentiality, FERPA right? I mean so if

someone is working on their IEPs at Starbucks and someone walks behind them well they can see the name on the form you know it's in the top of every form they can read it and can gaze over your shoulder and we just have to be careful and don't be doing it in public. I think that's the biggest thing…

Heidi stated that only teachers working with a particular child should have access to their IEP. She was also concerned that too many teachers have access to a student's IEP and may or may not have a legitimate educational interest in that child. When I asked her if a teacher who was not currently working with the student may be able to pull up their IEP and look up information about them she responded,

Yeah for example, I had kids on my caseload well not on my caseload but on my access list when I log in I can see all the students and I can see all the students' IEPs that I had. Up until last month I had seven students on there from my first year of teaching that were still listed on there that I still had access to and I could've gone in and edited those forms and I mean I didn't but that fact is after three years I still had access to them…And I could have deleted it if I wanted to, I wouldn't but that's kind of scary that it's not being taken care of in that aspect.

When I asked Toni what part of the IEP should not be computerized, if any, she also brought up concerns about confidentiality and the security of students' information and stated,

I question this whole thing- I am very worried about hackers, about confidentiality, who can get in there, who is seeing what.

Interviewer: So with the handwritten IEPs those are typically kept in a secure place, locked up, in a confidential file right?

Yes, and now it's just out in cyberspace.

Sasha was also concerned about a student's privacy and internet security and wondered,

> And these are supposed to be very private, and these are supposed to be very – you know – it's like you got the HIPAA and the FERPA and you can't disclose any of this information, but yet you're saving it on the Word™ document because you are trying to copy and paste it. Imagine if someone steals your computer and your computer gets hacked. You've got legitimate information about another person, social security number and all that stuff just ready and available. I know it's secure and everything, but people are extremely intelligent these days when it comes to hacking. There should be some sort of I guess protection for that. You know what I mean? I bring my homework home with me all the time. I don't think I get a break at night. I'm taking Master's classes on top of teaching full time and having to work on an IEP and work on my homework, and I'm trying to go back and forth so that I don't get burnt out on both of them, and then I'm like what is the off chance that someone is using the local Internet that is not blocked or not private.

Although parents were not a part of the interview process, one of the teachers, Heidi, questioned what some parents might be thinking, "… so I think as a parent of a student with a disability I would feel just like uneasy a little bit knowing they're logging in to see my kid's information. And who is seeing it?"

Legal requirements. The concept of developing a legally correct IEP document was another theme that arose during three of the interviews. When I asked Heidi if the software helped insure a successful IEP process, she responded,

> I would say so and the reason why is because I think we can insure that we have all the forms necessary and also in SEAS™ it gives us like on certain pages like the

> transition page it gives us drop downs on our goal pages. It also gives us drop downs like how we're going to measure the goals and so it just gives us some friendly reminders on what we should be including just so we don't forget anything and so we're just making sure it's a good legal document to follow.

When I probed further and asked for an example of what a good legal document might look like, she explained,

> Sure I mean so IEPs are legal documents according to IDEA 2004 and so considering if the parent is unhappy and chooses to go to due process and lawyers and all of that and go that route that you can defend what's in the IEP and then its following the law that it is meeting the LRE for the student but it is FAPE and an IEP is actually being done. So I think that's important to make sure that you can defend it.

Ann, also a head special education teacher, appeared concerned about her school getting sued, "…our school has been cited so many times for wrong IEPs or illegal IEPs or IEPs worded in a way that is just completely like not okay." When I talked to Jill who had used the TIENET™ software in the past and who had also authored her IEPs, she explained that her school was using the state IEP form that was completed using a "Microsoft Word™" word processing program. As a head special education teacher, she was more concerned about the formatting of the document and stated,

> The document itself is okay, it's not bad. The formatting in it is an absolute nightmare. Just trying to – because I think that these documents need to have a level of aesthetic appeal because they are a legal document that should look nice and professional. And trying – just the format – the way that the document is formatted is

> rough, and so it just takes extra time to be able to go in and make it look nice. Do you know what I mean?

Sasha thought there needed to be two documents provided to parents. She thought parents needed to have a complete document as well as a shorter document that was more parent-friendly and with just the essential information from the IEP. She suggested,

> Not making so many pages for everything. Because you've got someone who is walking out of there with at least 15 pages on a good day. And it's so long and so lengthy, I definitely think there should be a parent friendly version to where it basically breaks it down. You know, "Hey, I understand that this is a legal document, here's a copy of that." But here also is what we will be working on and this is something you can look at for reading. We just want to work on comprehension. For math we want to work on you know 1-100 adding and subtracting. Just very simple, basic things.

Toni thought that as teachers, we have lost sight of the whole purpose behind the IEP and are too concerned about the legality of the IEP document. When I asked Toni how the IEP process could be improved she suggested,

> I would say somehow allowing for it to be more personal…personalized toward the student and not such a legal document that is doing just that. It's meeting every legal basis for the school to be covered, for the district to be covered, more than meeting the needs of the student. I think we have lost sight of that. And it's not aligned with standard based assessments. It's not. You know our goals for the student that's written do not necessarily meet how they are tested. For instance, in the IEP, we will say they are up to third grade level, but they are still tested at the fifth grade level.

As a veteran teacher with sixteen years of experience, Toni first started authoring IEPs by hand. With the advent of using IEP software, she was in a position to be able to reflect how the two processes differed,

> I think it was more personal when it was written by hand. It was individualized. It wasn't you know this computer – you see it on the computer. It was more – what do I want to say? It was just a more relaxed atmosphere I think. Parents were more at ease. We were just talking openly about their student and what that student was doing and what they had accomplished versus they have a deficit or they are in special ed. "x" amount of hours, and this is why they can't be with the other class, and there are so many legal aspects that we have to meet now so that it is not as personal.

It became apparent the more I listened to Toni, that she favored a more authentic and personalized IEP experience, one that was more student-centered and that felt less mechanical. Toni thought about when she used the handwritten process to author her IEPs and stated,

> It was a conversation about your child when it was handwritten. Everything was geared towards that child and it wasn't as based towards- I think there are a lot of legal issues that we are trying to cover, so we don't get sued – it's just the time we're in.

Based on this data, it is clear that although several teachers viewed the importance of producing an appropriate legal document that adhered to the letter of the law, teachers also wanted the document to meet the spirit of the law. Teachers stated they wanted the IEP document to be practical for the student and at the same time easily understood by the

student's parent. One participant indicated that she favored a more personal and authentic IEP process and that this could best be accomplished by handwriting the IEP document. The following section discusses in more detail handwritten IEP documents in relation to participants' experiences with IEP software.

Handwritten IEP Documents

Toni was one of only two teachers who were interviewed who had prior experience with writing IEPs by paper and pencil. These two teachers were in a unique position in that they were able to compare and contrast the two modalities for authoring IEP documents. Jill was in an even more unique position because not only had she written IEPs by hand, she had also used a word processing program in addition to the IEP software. When I asked Jill how using the IEP software to author the IEP document was different from her experiences of writing the IEP document by hand and with the word processing program, she discussed and listed the following reasons why she favored writing IEPs using software,

> I think it's easier first of all. I think it's just being able to go in – formatting really is difficult for me. I think that piece makes it nice and easy. I also really like that you can have – you don't have to have only hard copies. You know, if you have related services people or other people you know throughout the school or whatever that want to look at it, they can look it up because it is all on a secure server. So I appreciate being able to have that piece in there instead of emailing documents or sending them on flash drives – neither are necessarily terribly secure.

As Jill suggested, anyone who has tried to enter data into a form or table created by a word processing program knows just how frustrating this can be. Jill found it easier and quicker to enter the information into the software program as opposed to the word processing document.

Jill also recognized having the IEP document online on a secure server was important, as anyone that worked with the student could have easy access as opposed to a hard copy that is not as accessible. It also allowed her to easily write goals and accommodations and she recognized the importance of understanding the IEP process in order to operate the software and create an IEP document. This suggests that she viewed the software as a tool to help teachers make the task of authoring the IEP document "a little easier."

Ann said she thought the IEP software helped ensure that everything that should be addressed is addressed in that a page of the IEP cannot be saved unless it is totally complete. As Ann had never handwritten an IEP before, she hypothesized that with paper and pencil it might be easy to "skip over a box or not see something." Ann stated,

> …when you are going to save it and it won't let you save, you really have to go through and see what you might have missed. So I think it helps a lot with completion. The contents of the IEP – I don't think it goes either way with whether technology is making better IEPs, I just think it helps with the completion of IEPs.

Ann also commented by reiterating this aspect concerning the completion of the document versus the content of the document later in the interview. When asked if there was anything about the software that can lead to less positive outcomes, she said, "I think in general this could go for software and handwritten, it will give you all the prompts on what to complete, but that doesn't mean the content will be enhanced." The two aforementioned quotes suggest that some teachers believe that the IEP document will only be as good as the expertise of the teacher entering the information.

When Jill said, “I also really like that you can have – you don’t have to have only hard copies,” she alluded to the fact that she still liked having a hard copy of the IEP. Later in the interview, we conferred the advantages of having a hard copy of the IEP document,

> Jill: Yeah, and it’s the way I am. I like paper copies, they make me feel secure.
>
> Interviewer: Right, like you need not just a signature page, but the whole document.
>
> Jill: I do print up a whole document just for the permanent file and I always kept them for my working files. It’s just a little bit – I don’t know it’s just–
>
> Interviewer: It’s tangible.
>
> Jill: I like tangible. So I don’t know. I think there is still a reason to have the hard copy so like [school district]’s thing right now is where they are scanning everything and putting it all into. I mean what scares me about that too is that I am trying to get records from them, and so I’m recognizing how difficult this is, but if they miss a paper by mistake, that paper is gone. If something should happen to the program – I mean I feel pretty secure that it’s okay – but if you don’t have a paper copy of it, then nothing happened. And so I think that means that need for paper hard copies of things is still appropriate.

For Jill, it was not having a paper trail to substantiate the work that had been done or discussed on the student’s behalf that led to feelings of anxiety.

Ann was one of two teachers who reported frequently losing work she thought she had entered into the software program. After relating her experiences to me on what it was like to lose work and start over, Ann summarized in one sentence what I had already been thinking, “So that’s a bummer because that wouldn’t happen if I used paper and pencil.”

Toni discussed her experiences when writing her IEPs by hand,

Interviewer: Okay, so would this be different then to your experience of writing IEPs by hand?

Toni: By hand there was a lot of mistakes made. A lot of paper wasted. It was not as thorough. Perhaps not intentional. But you would write an IEP perhaps you wouldn't write present levels of performance. TIENET™ – they make sure every point is made.

Interviewer: So you have to fill something into each box or else it won't let you finalize it?

Toni: Exactly, thank you, yes.

Interviewer: Okay, and less paper wasted.

Toni: There were triplicate copies. Triplicate. It might have been four. And then if you made a mistake, it was the law that you couldn't cross it out, you had to re-write it.

Interviewer: yeah…

Toni: And so I remember that there were just thousands of trees that died.

Interviewer: Yep, four at a time, four pages. Four pages each time. Got it.

Toni: Right. And sometimes you know as a teacher you might not write to where other people can read it also, which is a big problem.

By reading the above passage, it is evident Toni appreciated that the software allowed her to be more thorough in that she cannot make as many mistakes, for example, forgetting to fill out a section of the IEP. She also felt it was saving the environment in that not as much paper was wasted by having the IEP document on-line. Lastly, having a document that was typed was easier to read than someone else's hand writing. By listening to Toni's experiences

of writing IEPs by hand, I was able to learn more about what she thought some of the benefits were of using computer software to author her IEPs as illustrated in the following exchange,

> Interviewer: Okay, that's fair. What do you like best about it?
>
> Toni: You know… I like that it's convenient. Once again, the convenience takes away from it being individualized. It's very convenient and it's a lot quicker than a handwritten IEP.
>
> Interviewer: Convenience in that you can work on it anywhere? Like your home, here?
>
> Toni: Anywhere! You can save it, you can erase things, edit, you can edit usually. And then automatically it plugs in if you do the first page on Student Profile, then it automatically plugs in for the goals.
>
> Interviewer: Yep, that's all filled out for you, right. And then it transfers over to your goals section so that's less…
>
> Toni: It's very convenient. With that being said, it takes the individualized aspect out.
>
> Interviewer: Okay, so part of it – the worst thing about the software would be that it takes a lot of the individualization and kind of the personalization out of what we are trying to do, which is develop individualized –
>
> Toni: It's technology…(laughs nervously)

As soon as Toni said so matter-of-factly "it's technology," I sensed in her voice that she was not enthusiastic of technology in general. As I drove home from the interview, I remembered that Toni stated earlier in her interview how challenging it was for her to use the software

due to her fear of using technology and having very limited computer skills. Conversely, Kerry, a first year teacher, embraced technology. When I interviewed Kerry, she seemed excited about the IEP software but had never written IEPs by hand so had nothing to compare with the software. Kerry's appeared enthusiastic when she indicated that she liked the fact that IEPs are computerized because she has the ability to use the spell check tool, although she questioned whether other teachers knew how to use the spell check feature or if they simply forgot to use it. This would imply that Kerry has read IEPs with spelling and grammatical errors.

Participants were also asked if they thought there were any parts of the IEP that should not be computerized. All but one of the teachers stated it makes no difference with regard to the content of the IEP document whether it is typed using computer software or handwritten. Jill said she tended to write more than she thought was actually necessary because she types fast. She conjectured that her IEPs would not be as detailed if she had to use paper and pencil to write the document because she would get fatigued. Heidi also stated she saw no reason why any parts of the IEP document should not be computerized. The reason for this was because she could write in her own statements (instead of using the drop down menus with the prefabricated statements), and therefore saw no reason why teachers would not have the ability to individualize each page of the IEP document.

Jill thought the only part of the IEP that should not be computerized was the signature page, which showed who attended the IEP, but also that attendees agreed with the IEP document as written. Currently at Jill's school, the procedure for including the signature page is to scan a hard copy of the signature page but without the actual signatures. Jill thought this was misleading and confided, "…unfortunately it still happens that people go by and have

people sign the document later if they weren't at the meeting for compliance purposes." She admitted this had more to do with the people running the IEP meeting than the actual computer software. She suggested,

> …you still have that IEP process that needs to be followed just as a – because that's just what needs to be done – what needs to be done for that student. So I think just understanding that software is a tool to help you, but there is still that people component.

It was at that point in the interview where I suggested an electronic pen that could be used on a computer screen or tablet similar to signing your name on an electronic credit card receipt. Jill liked my suggestion and commented, "That would be cool. That would be awesome actually. I would really like that!" The next theme, described as 'IEP software impacts and constraints on parents,' refers to the perceived role of the software from the parent stakeholder perspective.

Theme 2: IEP Software Impacts and Constraints on Parents

Participants were asked if the IEP software had an impact on the role parents/guardians play in the IEP meeting. Some of the participants indicated that the IEP software impacted the parents' role and level of involvement in the IEP process. At a basic level, most teachers were concerned that the IEP process and document was confusing for parents and could be perceived as intimidating. Toni stated,

> I think they can follow along (on the projector). I think that's nice. But I think they get very intimidated because of the language. It's not kid friendly and it's not parent friendly. They talk about scores, beginning steps, this and that scaled score, we talk

about proficiency and data based assessments and curriculum based assessments and parents just – I have noticed they just nod their head yes, yes.

Interviewer: And they may or not really understand it, but they don't ask for clarification.

Interviewer: Right, they can be very intimidating.

When I asked Sasha what recommendations she had for improving the IEP process, she suggested parents be given two distinct versions of the IEP document and also suggested,

> Not making so many pages for everything. Because you've got someone who is walking out of there with at least 15 pages on a good day. And it's so long and so lengthy, I definitely think there should be a parent friendly version to where it basically breaks it down. You know, "Hey, I understand that this is a legal document, here's a copy of that." But here also is what we will be working on and this is something you can look at for reading. We just want to work on comprehension. For math we want to work on you know 1-100 adding and subtracting. Just very simple, basic things.
>
> Interviewer: Right, like an IEP at a glance like you give Regular Ed teachers.
>
> Sasha: Yeah, kind of like an outline. I am kind of an obsessive person when it comes to outlines – I outline everything. But it's because I can see the breakdown of everything and I don't have to sit there and read through every single thing and read what the OT said five times ago when all I want to know about is the goals.

Alyssa also thought the IEP document was intimidating for parents and that it was her job as a teacher to explain what the IEP meant in a manner that parents would understand. She also

thought parents might simply agree with what was being proposed in their child's IEP document without a real understanding or feeling like they can participate,

> Yeah, basically just what I had said, I think that – you know parents have the opportunity to share information but may not always feel that they can. Also I think that you know, even for me, just being a new teacher, and having to figure out the software and try to understand what it says on that screen for a parent. Like kind of intimidating so that they are not really knowing where to look or what everything is really for. So even though they have an IEP every year, it's different every year, they're not seeing it all year long. They kind of end up just listening and just accepting what is said to them rather than really feeling like they can really participate or know what is going on. You know what I mean?
>
> Interviewer: Right, so they almost need like a parent friendly version or IEP at a glance or something that they could understand instead of like a big lengthy document, right?
>
> Alyssa: Yeah. What each thing is – maybe even what each section is for.

Ann also tried to help parents interpret the IEP but often found it difficult. She also found the IEP document to be too lengthy and wordy and questioned if parents would actually take the time to read the entire document.

> Number one, because it is so much text. There is so much written down where if it were paper and pencil you are not going to write nearly as much as you type. I think because you are typing you can type so fast that you can just get really, really, really, really wordy and everything becomes a million times longer than it should be. So automatically, you print up an IEP and it's 19 pages. But not many parents are just

> going to go sit down and read through every single page. It's just so much to read. So I think it's just extremely wordy and long. And the formatting is kind of hard to explain, too. When you print it out you are going through pages and some are left blank. It's not written in like a paragraph form, it's kind of like a table. It's kind of hard to interpret to parents.

It is one thing to have to interpret the IEP document's technical jargon in a way that parents will understand. It is another thing to have it interpreted from one language to another language. Kerry often wondered what exactly got lost in translation and whether parents simply acquiesced instead of having a full understanding of the IEP document and its purpose.

> …the second IEP I was in – first off, the parent didn't speak any English so we had an interpreter, and I don't know how much knowledge the interpreter had for Special Ed law, for Special Ed processes, but she was just simply interpreting. I kind of got the idea that they shrug their shoulders, like, "Okay sure." I'm not sure that the parents even knew everything that was going on with that one. It was already completed, so what are they going to do when they disagree? Are they going to argue when it is already written up there?

Heidi also thought because parents don't have access to being able to type the information into the document, nor do they have access to the software, that they might not feel as involved with the IEP process. It was obvious she empathized with the parent who may not be able to participate fully or have a say in their child's IEP document,

> I think so and I think because they see us log in obviously and they see us projecting this computer program and they have no access to it and there's no access for them…

so I think as a parent of a student with a disability, I would feel just like uneasy a little bit knowing that they're logging in to see my kid's information. And who is seeing it? And they are working on this and I have no say in it.

When asked what parts of the IEP should not be computerized, Kerry and Sasha both referred to the parent and student information that is solicited at the beginning of the IEP meeting. In this section of the IEP, parents are typically asked to comment on what are the student's academic needs, strengths, weaknesses, short and long term goals and so forth. Kerry suggested a parent interview be sent home with the student prior to the IEP meeting to be completed and that could later be brought to the meeting and transcribed by either the parent or student if possible. This way, Kerry stated they would have more time to think about their child's goals and other information that they might be asked during the IEP meeting. With this format, the student and parent might feel more prepared and in a better position to communicate their thoughts more effectively and feel less pressure during the meeting. Kerry stated, "When the student is there, the student has to think about what they are good at. They might not always articulate it in the way that they mean it. And then they see it up on the wall and say, Oh, that's not what I meant."

Similarly, Sasha liked that parent input is incorporated into the IEP document but suggested things could be done even better to improve the IEP process. Sasha stated she would welcome the opportunity for even "more parent input so that it would feel like the parent is more involved, rather than just what are your student's strengths and weaknesses and what goals do you want?" Sasha also suggested that parents be given the opportunity to have more input into the draft of the IEP document. When I asked Sasha what areas of the IEP document would be better to incorporate more parent input, she suggested,

> I would say they could help develop the goals because they are going to know their student better than I will. So if they help me develop a reading goal for their student that they know is achievable, then I know the student is able to achieve it, and that is something that they know they can help work with at home because the parent is involved. You know what I mean?

Sasha suggested that parents could be encouraged to fill out as much information as they were able to, as well as based on how involved they wanted to be in designing their child's IEP document,

> You are always going to get that family that might not be that involved and stuff like that. Then maybe that might be good to just have those three boxes that they already have available for the parents to fill in and provide information. But if you have a parent that is extremely huge and are a very big self-advocate for their student, then you want to make sure that they know that they are extremely involved and what goals are being created for their student.

Knowing the extent of parent participation in the development of their child's IEP was of special interest to Sasha and having access to previous IEP documents on-line appeared to be helpful in terms of providing historical information,

> It gives me a little bit of background knowledge and it kind of gives me an idea about the parent, too. It shows me the parent involvement. It shows if the parent showed up. If the IEP was held with or without the parent. You know, how many times the parent would have cancelled. What their input was and how much detail they wanted. I think it's a good background basis.

Sasha also questioned whether having most of the document completed beforehand in a draft format affected the parent,

> A lot of it is pretty much pre-done and I think that can cause a little bit of stress on the parent too like I was talking about before. It's already put in the IEP so basically without being finalized, it's finalized.

As stated earlier, Toni felt that before she had started to use IEP software and wrote her IEPs by hand, it was a more "personal" experience that produced a more "relaxed atmosphere" where parents felt more at ease. She felt the hand written process lent itself more to having a conversation where the emphasis was on the student and his or her progress. It was evident that Toni missed the IEP process that was described as being more authentic and student focused. Likewise, Terra indicated that using the computer and typing during the IEP meeting depersonalized what should be a collaborative process while developing the IEP document. When asked if the IEP software had an impact on the role that parents play in the IEP meeting, Terra responded,

> I think that it can if the meeting is not conducted right. I think that people can get lost in the typing without a lot of dialogue going on or without a lot of eye contact, or you know, acknowledgement that you are actually sitting there as a group and that the computer is just a tool that you are using, so it can feel really impersonal.

Terra went on to explain a time where she had been in an IEP meeting where the focus was more on getting the information typed into the forms than it was on the student,

> I have been in a meeting like that one time. It was where it felt uncomfortable like that. But for the most part, I think the way that we organize ours, the way that we use, the way we all sit around the table. But I was in an IEP once where somebody

was sitting away from the table typing all the information in – like behind us – and that was really ridiculous actually. It was very uncomfortable.

Jill portrayed a totally different picture of an IEP meeting she participated in with parents who were very involved in their child's education. The following quote illustrates how the teacher worked closely with parents so that the student's needs were clearly identified, results from evaluation were clearly explained, and the parents were directly involved in the development of the IEP document. Jill stated that most of her IEPs were positive and discussed a recent IEP meeting that exemplified what could be considered a positive IEP process,

> The parents are both very supportive of the student. One parent works in a school and so he has some knowledge of what should and shouldn't be done in IEPs. So they are the type of parent that pushes just far enough to – they are not threatening, but you want to make sure all your ducks are in a row. We went through with an evaluation. We went through all of the evaluation results with all the – you know, with the diagnostician, with the related services people. Then we went through and we had the IEP very much based on what exactly the teachers were saying he needed to do. I mean we went through it very detailed. The parents were very active participants, which you don't see as much. They asked questions, they clarified, they pointed out my typing errors as I was typing. You know, that type. But a couple of days later the principal forwarded me an email and one of them had written saying that it was the most positive IEP that they'd ever had with the child and that it was very thorough and that they really understood the process better because of it. And

that was from people that already felt that they were – that they did know the process well. But now they understood it better because of the way we went through it.

Although teachers were asked to comment on the perceived impact the IEP software had on the role that parents play in the IEP meeting, some teachers instead discussed issues pertaining to the IEP document itself. For example, teachers stated that the IEP document was too lengthy, not parent friendly, had the potential to be intimidating and too confusing for parents. Teachers also commented on the IEP process separate from the IEP software and wanted more parent input into the development of the IEP document not only during the meeting but also when drafting the document. One teacher who commented on the IEP software specifically stated parents may not feel very involved in the IEP process because they don't have access to the software and therefore are not able to enter any of their child's information. Two teachers made a distinction between the computer software and hardware. They stated that by using a computer and typing during the meeting had the tendency to depersonalize the collaborative nature of the IEP process. One reason for this was a certain propensity for entering information into the document and ensuring all the forms were filled out completely instead of focusing on the student, the reason the team is meeting in the first place.

Theme 3: IEP Software Impacts and Constraints on Students

When asked if the IEP software had an impact on the role that students play in the IEP meeting, multiple issues and statements were made concerning students' experiences with the IEP meeting and their involvement. Results indicated that teachers were concerned with not only how their students experienced the IEP meeting itself but also their level of participation within the meeting. Ann stated, "Because I teach such young kids, the only time

my students are present at the meetings are during progressions, and they just kind of sit there. They don't participate much in it." Sasha, a teacher who had formerly received special education services herself due to a learning disability, had experienced firsthand what it was like to participate in her own IEP meeting. Therefore, she was in a knowledgeable position to summarize what it might feel like to be a student involved in an IEP meeting. When asked whether the IEP software had an impact on the role that students play in the IEP meeting, Sasha responded empathizing with both the student and family,

> I think that, and I also think you know putting a kid in a room with seven or eight adults is very intense. I mean you have to consider one, being in special ed. is already that given label. For a lot of people, either they don't want to admit that their student has a disability and they are already just kind of like, "I just want to get in and out and done." Because I have met parents like that. I have been in an IEP where the father will say, "My son doesn't have a disability whatsoever, I don't know what we're doing here." The mom is like, "My son has some issues and I want to work through them." So it's hard.

The aforementioned quote suggested how some students and parents might feel during an IEP meeting with regard to the stigma involved with receiving special education services and having a disability in general. It also illustrates how parents can feel denial as well as acknowledging there may be a problem and a desire to look for a solution. The focus with this teacher, however, was less on how the IEP software impacted the student and more on the IEP form and format of the document, emphasizing the stigma that is often associated with special education services,

> I do think that the software is extremely wordy, but it's also very – I don't want to say stressing negative things – but it kind of is. Because you have box after box after box after box. You know, so it's kind of like, "Oh, another one. Here's something else that is wrong. Oh, here's something else that's wrong. Here's why your kid is not good. Here's why your kid's in special ed." It kind of puts a bad stigma on the student. And then you have the parent, who like I said, could be very quiet because they just don't want to admit that their student has something wrong with them. Like if there is an impairment of any kind. And it could take a toll on the parent…

As far as student involvement, Sasha stated that she hasn't had very many students come to their IEP meetings although she has offered. She reasoned that because her students "are more on the lower functioning level," they were not able to sit for long periods of time, nor would they be able to understand what was discussed. Conversely, Jill described her experience of having her students not only participate in the IEP meeting but also conduct and lead certain aspects of their IEP meeting. She spoke specifically how the software impacted the teacher and the student during student led IEP meetings,

> One thing I have found also is that when I did self-directed IEPs with students and they use a PowerPoint™ program, you do have to flip back and forth between the document and the PowerPoint™ you know to be able to see everything unless you're running two computers and you have one person running the PowerPoint™, and one person running the software program separately. And I guess one thing about the software program is that it puts things in a certain order which may not be the most logical order. Whereas in the PowerPoint™ you can kind of run through it more logically. And all that means is that on the software program you're flip-flopping

between pages quite a bit, and so as long as you are capable of doing that, you are fine. But I don't see the form – the IEP form – again, not necessarily the software, but the IEP form itself is not very conducive to students conducting their own IEPs.

This quote suggested a potential problem that was encountered when trying to coordinate the IEP software with the student's PowerPoint™ presentation, which can take some getting used to and practice. Jill was also able to differentiate between the IEP software and the IEP form and how the form itself was not constructive to student led IEP meetings. During past conferences and in reading the professional literature, I had heard about student led IEP meetings and the inherent value of using this approach, but had never tried this format as a special education teacher. Although Jill was the fifth person that I interviewed, she was the first teacher to bring up the idea of how the software might impact student led meetings. This was something I had never taken into consideration and the following quote illustrates the difficulty that Jill experienced when interfacing the IEP and PowerPoint™ software,

Jill: …maybe that's a function that the state needs to work on is making their document more conducive to student led IEPs if that's…I mean that's the direction that we seem to be going. Or maybe we have a different document that is laid out differently for student led IEPs. I don't know exactly, but currently they really don't work very well in conjunction together unless you have someone that can flip-flop between the pages on TIENET™, which appears confusing to parents, but you know so it's just kind of one of those things that we're just having to deal with right now.

Interviewer: Yeah, I hadn't thought about that, and I don't know maybe if you go through the PowerPoint™ first and then go back to the TIENET™ document and try to catch up or fill in the information with PowerPoint™.

Jill: Yeah, usually what I've done is that I've just had to – I mean you just have the PowerPoint™ up and then you flip to the IEP document, and you type in all the things that were mentioned, and then you flip back to the PowerPoint™ and then back to the TIENET™. I mean it's not pretty, but it kind of fits the function. I think that the parents need to understand that if you hand them a 20-page document and don't explain it, that's not very nice. But at the same time, you want the kids to be leading their own IEPs and so it just takes a little more time.

As this participant suggested, having the IEP software work in conjunction with a student led conference took extra time and was not as streamlined as it might be. Jill also acknowledged that the State has not directed whether students should lead any component of their IEP meeting. She offered however suggestions for how this might be accomplished. It was clear that Jill felt passionate about having her students lead their IEP meetings. This thought resonated with me so much that I asked the next participant Sasha about her experiences with student led IEP meetings,

Interviewer: Right, so would any of your students in elementary be expected to do the student led IEP? Have you heard of student-led IEP meetings before?

Sasha: Yes.

Interviewer: Would they be able to do that?

Sasha: I have one that might because he likes the feeling of being in control, but I don't think he'd have any idea what to talk about. We would kind of be like, "Hey, why don't we talk about your strength in math." "Well, I don't know, what do you think you see?"

Interviewer: Uh huh.

Sasha: You know, it's more along the lines of like I have rarely seen so far – like I said only being a short-term teacher as of right now, I mean I haven't seen any kids that have wanted to be in an IEP meeting. I had one kid that said, "Oh, bummer." Because we had to reschedule one of them. "Hey, it's okay because we're going to change it." He's like, "Oh, I don't want to go." And I'm like, "Oh, well what was the bummer for?"

Interviewer: Right.

Sasha: And I don't think with the kids that I have, I don't think that they understand what it is. I mean I have told them that this is so we can make you read better or this is to make it so we can understand what we're reading. And they look at me like, "You are one crazy lady." Okay…(laughs) but I try…

Although Sasha did not implement student led IEPs as a part of her IEP meeting format, she recognized that one of her students might benefit from leading his IEP as he would feel more in control. She also felt he would need more support to learn how to lead parts of his IEP meeting. The last teacher I interviewed, Terra, indicated that although she had not tried student led IEP meetings, it was something she had learned about in one of her university classes and one way that her students could participate more in their meeting. When I asked Terra if she had her students lead any aspects of their IEP meetings, she responded,

No, but I do think that is one thing that I would really like to – I do have… my students are very aware of their IEPs. And they always do the Profile Page; they always do their own what they would like for their future, their goals. But I would really like for them to have a little more input into their IEP or maybe even help with

their Modifications Page. I mean I have – the honest truth is that I just took a class that brought that up – so it actually is something that I really want to implement.

Based on this data, it is clear that one of the teachers was clearly concerned with the feelings of her students and the stigma attached to receiving special education services. Other teachers were concerned with the level of participation in the IEP meeting and how the IEP software impacted student led IEP meetings. The next section describes the participants' perceived impact of the IEP software on IDT functioning.

Theme 4: IEP Software Impacts and Constraints on IDT Functioning

Before I could analyze the theme that I had discovered regarding the impact of IEP software on the IDT, I first had to analyze what teachers experienced working in collaborative teams. Issues surrounding the theme of collaboration and working as a team versus working alone or in isolation surfaced when teachers were asked to comment on what elements they thought were important for a successful IEP process. This theme also arose when teachers described a positive and negative IEP meeting in which they had participated. Lastly, the theme of collaborative teamwork also appeared when teachers provided recommendations for improving the IEP process. In this section, I will first discuss how teachers view collaboration as it related to the IEP process and document. Then, I will examine the role of IEP software on the IDT from a teacher perspective only as other members of the IDT were not included in this study.

Specifically, results indicated that working as an effective IDT was instrumental when developing the IEP document prior to and during the IEP meeting. Alyssa stated that collaboration was important among staff such as therapists and administrators as well as with parents in order to have a successful IEP process. When asked what recommendations she

had for improving the IEP process, she again noted she would like more time to collaborate with IEPs. Heidi noted the importance of collaborating with the team prior to the IEP meeting when developing the IEP draft document and stated,

> I think really having a team model is important so it's not just me writing the IEP as a special ed. teacher, but it's also me collaborating with the regular ed. teacher and the parents, with the student, with all the service providers, if there are any, and then coming up with the draft. And then bring it to the IEP team and sitting down and saying what we think. Really making sure everyone has input. I think just communicating with each other is important in the process.

Heidi and Toni also noted that everyone on the team should have equal input and that effective communication between team members was crucial to the IEP development process. Heidi also stated that sometimes she felt like she did not always collaborate as much as she thought she should with general education teachers. One of the reasons she stated was due to a lack of time during her duty day. She noted it would be nice if she had more time to develop the IEP document as a team prior to the IEP meeting instead of having to always meet after school or during lunch.

Sasha described a positive IEP meeting that she had participated in where all the team members had contacted the parent prior to the IEP meeting and then met as a group to decide what would be in the best interests of the student. Ann also thought convening before the IEP meeting with team members was advantageous. She described a meeting that she thought had gone well,

> Most of my IEP meetings are positive. The ones that go really, really well are done ahead of time so that when you get to the IEP meeting, the teacher has done the

annual goals, the first page, present levels, the modifications and the accommodations just for the actual meeting, the flow of it in general.

Lastly, Terra stated that an IEP Specialist was an important element in the IEP process. In her experience, the IEP Specialist would facilitate the meeting, write certain portions of the IEP document and ensure everything in the IEP document was correct. While an IEP Specialist is not a mandatory team member of the IDT, some school districts prefer to have an IEP Specialist attend the IEP meeting, especially if the meeting is anticipated to be difficult or complex for whatever reason. These specialists typically have the ability to write compliant IEP documents and often disseminate information to teachers and administrators on new changes to the IEP document because of changes in IDEA. IEP Specialists will be discussed further in chapter five.

Sasha and Kerry both noted the importance of having information entered into the IEP document prior to the IEP meeting. Kerry suggested that teachers needed to be held accountable for completing things on time. Time was also an important consideration for Kerry when I asked whether she ever felt pressured to complete and finalize the document prior to leaving the meeting. Kerry's school district mandated that the IEP be finalized and a copy provided to the parent at the end of the meeting before the parent leaves. Her school district also mandated that the prior written notice (PWN) that entails what key programming issues were proposed and by whom not be completed prior to the IEP meeting. Kerry replied that this was indeed an issue,

> Yes, I feel that there is pressure to finish it before we leave and at times to get as much as we can before we even have the meeting. And so they'll have the last part, which I believe is the Summary – not the Summary of Services – but the Prior

> Written Notice kind of already completed where they accept or reject. So they will have parts typed, but they won't have the thing checked. And so I think that's kind of pushing it a little bit.

This quote suggests that Kerry might feel uncomfortable having the PWN completed prior to the meeting. The "thing" that Kerry refers to is a check mark box that states a programming issue has either been accepted or rejected by the school district.

Sasha also stated it was important to have things completed on time but also that it was important to have team members stay for the duration of the IEP meeting. She stated she participated in an IEP meeting where two members left the meeting early. This put Sasha in a predicament in that she was left to explain an idea related to occupational therapy that was out of her area of expertise. She described this situation as "a little disturbing."

Sasha related an experience that she had at an IEP meeting that was not positive and that involved a team member who failed to prepare for the meeting. This team member had not entered any information into the document prior to the IEP meeting, was typing it in during the meeting, and would ask to stop the meeting so that they could finish typing their information. Sasha stated later in the interview that it might be a good idea for team members to have "five or ten minutes" during the IEP meeting to be able to go in and make any edits to their entry if so desired. I explained to Sasha that the law states that IEPs should not be completed prior to the IEP meeting and that the document needed to be worked on together and developed as a team. She thought about what I had said for a brief moment and quickly replied,

> But see the only time that I ever had an IEP like that was I think once, and it was recently. Everything else I had was, "Hey you put your stuff in." "Okay, I've got it

> in – go ahead and take a look." Let me know if we are going to change anything so that way I'm prepared in the meeting. Other than that it's not – I mean I don't want to say what I'm doing is not following up to code fully – but I don't know that there's a lot of people that I have worked with that are ready and willing to bring me the draft and say hey why don't we type this up now that we have this and we've decided on this. A lot of it is pretty much pre-done and I think that can cause a little bit of stress on the parent too like I was talking about before. It's already put in the IEP so it's basically without being finalized, it's finalized. Unless someone wants to go in and change in which, like I said, when you have three people in there, it's hard to change it.

With the aforementioned approach Sasha described for developing the IEP document, it was clear that team members appeared to be working individually on the document instead of collaboratively as a team. Sasha also alluded to the perceived impact and stress this could cause for a parent attending the meeting. When I probed further about this perceived stress and whether she thought a parent would speak up if they wanted something changed or edited that was already on the IEP document, Sasha contemplated,

> …I think that can be intimidating for a parent because you've got six people that work together, and then you as a parent. Are you going to want to fight with six people? Or are you going to be like okay, let's just go with it, and I'll just kind of figure it out on my own.

Conclusion

This dissertation has investigated the perceptions and experiences of special education teachers using IEP software to develop IEP documents for students receiving

special education services. Another aim of this investigation was to assess how special education teachers' experiences of the IEP process using IEP software compared to those claimed by the purveyors of IEP software. The results of this study demonstrated that special education teachers had plenty to say about the IEP process and document. Many of the participants provided thoughtful feedback about their experiences with IEPs and students receiving special education services that demonstrated they had vast knowledge about an important aspect in their field of work. Teachers seemed to me to be passionate with regard to educating their students in an effective and efficient manner, and it was clear they wanted to make a difference in the lives of the students they teach.

Teachers also reported benefit by being able to easily access an IEP document and work on the document wherever an internet connection exists. Conversely, some teachers indicated they were often frustrated by slow internet connections, losing work they thought had been saved and other technical difficulties. Overall, teachers stated they were concerned with student confidentiality and how their students' identifying information was being stored on the Internet and who had access to the information.

Teachers discussed the technical assistance and training they had received and how they ultimately learned to operate the software program, which was different in most cases. Some teachers indicated they received adequate training while others stated they had to learn on their own and in some instances, unconventionally. Specifically, the results of this study indicated that teachers express benefits to using IEP software. They reported that the software can be used as a tool to develop a legally correct IEP that is thorough in that no sections of the IEP document can be omitted. The software allows teachers to produce an IEP free of spelling errors and that is easy to read. In addition, teachers expressed that the

computer software allowed them to individualize all aspects of the IEP document and produce a document that was meaningful and appropriate for their students. Teachers however, also had concerns with regard to producing a legal IEP document that conformed to IDEA (2004) requirements and how this often produced paperwork that was too lengthy and too technical.

Teachers were also concerned regarding the level of parent participation during meetings as parents were not permitted to type any information into the document during the meeting or in the draft stages when preparing the document. Some participants questioned whether the majority of parents even understood the paperwork they were given or the IEP meeting process or if they simply agreed with what was being discussed. Participants indicated they would like for parents and students to be more involved in the IEP process. Many teachers in this study however questioned whether their students understood the function of the IEP document and IEP meeting process and only one teacher stated she had her students lead their IEP meetings. Teachers indicated they often felt they were working in isolation when developing the IEP document as opposed to working more collaboratively together in terms of interdisciplinary teamwork. Lastly, while teachers stated they were aware of the need to develop a legally compliant IEP document (i.e., no components of IEP goals missing, all sections of the document completed) it was also clear they understood the importance and necessity of upholding the spirit behind special education laws (i.e., ensuring goals were accurately aligned to students' needs, working together as a team to develop the IEP document, ensuring parent and student involvement).

Chapter 5: Discussion

Introduction

The purpose of this study was to understand the experiences and opinions of eight special education teachers using IEP software to author the IEP document for students with disabilities. This was investigated using semi-structured interviews that were part of a phenomenological qualitative research design. As a result, this study has identified teachers' experiences and opinions with regard to the IEP software. This study has also identified the teachers' perceptions of the impact the IEP software has had on their practice as special education teachers and the perceived impact on students, parents and working collaboratively as an IDT. In this chapter, I will summarize the findings and offer conclusions regarding the two major research questions of the study. These research questions were:

1. What are the perceptions and experiences of special education teachers using IEP software to develop IEP documents for students receiving special education services?
2. How do special education teachers' experiences of the IEP process using IEP software compare to those claimed by the purveyors of IEP software?

This study makes a unique contribution to the literature on the IEP process and document. No published studies have examined teachers' experiences using IEP computer software to author the IEP document. This study also adds to the knowledge base of one important aspect of special education and provides important information for teacher preparation programs and teachers with regard to using IEP software to develop a student's IEP document. As a result of this study, four themes emerged from the interviews and follow-up questions that made up the bulk of data within the study: IEP software impacts and constraints on teacher;

IEP impacts and constraints on parents; IEP software impacts and constraints on students; and IEP software impacts and constraints on IDT functioning.

In this chapter, I will first discuss the major findings from this study and subsequent implications for pre-service and in-service teachers. This will be done in relation to the relevant claims made by the purveyors of IEP software that were analyzed in chapter one. Major findings from this study will also be discussed separate from the software purveyors' claims. It is important to note that because research on IEP software programs from the teacher perspective is virtually nonexistent, it will not be possible to discuss findings from this study in relation to previous research on this topic. Whenever possible, major findings from this study with regard to the IEP process and document will be discussed in relation to previous research on these topics and their relevance to special education services. As part of the discussion, I will offer my own perspective on implications for practice. Next, I will discuss the strengths and limitations inherent within this research study. Lastly, I will recommend future directions for this line of research.

Summary of Major Findings

Student confidentiality. One of the more significant findings to emerge from this study is that teachers were concerned with how secure their students' personal information was being protected as it was stored on the Internet. After analyzing software purveyors' websites, nine of the nineteen (47%) stated they took the security of student information into consideration when designing their software. Basic security features included data encryption (i.e., secure sockets layer technology) between the purveyor and the user's web browsers to help ensure security. Another security feature offered was that teachers only had user-level access to certain students (i.e., students actually on their caseload or at their school). The last

feature available was permanent storage of completed evaluation and IEP data and documents on a secure server.

Based on personal experience and as reported by one of the teachers interviewed, before teachers are able to use the TIENET™ software, they had to sign an employee request for access form. This form serves a variety of functions with the main purpose being a confidentiality agreement. The agreement form states that teachers must adhere to FERPA and not disclose student information to people without a legitimate educational interest. It defines people having a legitimate educational interest as members of the IEP team and other education personnel. It also states that it is illegal to view student-specific special education information without a legitimate educational interest. Teachers must also agree that they understand the IEP software program maintains an audit log of who views a particular page of a student's record and that this information may be used against the teacher if they are accused of violating "legitimate educational interest."

The majority of teachers interviewed in this study showed concern with regard to students' privacy and confidentiality and overall security of the IEP document and related paperwork stored on-line. Teachers appeared well aware of federal laws such as FERPA laws that govern access to educational records and that protect student privacy. While teachers took student confidentiality matters very seriously, they did not seem to be familiar with the security features of the software. Knowing the security features inherent with the software they were using might help address teachers' concerns regarding student confidentiality. One way to handle this concern would be to discuss student confidentiality and security features of the IEP software when teachers are being trained on the software, in a training manual or in F.A.Q. on the software.

Standards and benchmarks. Another central finding from this study was that teachers appreciated the fact that the software had their school districts' standards and benchmarks available for them by using the pull down menus. They reported this was helpful and saved time for most of the participants as they did not have to reference paper copies of the standards when aligning the standards to their student's IEP goals and objectives. Only one teacher found the system for aligning standards with IEP goals cumbersome and made a recommendation to only have access to a student's grade level standards so as not to have to wade through so much information or accidentally make a mistake by choosing the wrong grade level standard for a student. The purveyors of software programs suggest that teachers will save time by having access to the standards and district benchmarks. The majority of teachers reported this was indeed the case which adds support to the purveyors' claims about standards and benchmarks.

IEP goals and objectives. When I first learned as a teacher that I would be using IEP software to develop my IEP documents, I was hesitant in that I questioned whether the software would truly allow me to individualize my students' IEPs. Margolis and Free (2001) also noted that teachers can have the tendency to often be hesitant or undecided when it comes to using IEP software. One reason stated was that teachers may not have any experience using computers or they may fear the software will not allow them to individualize their IEP document. Some IEP computer software programs have been referred to as rigid or formulaic in nature due to what are often referred to as boilerplate (i.e., generic) statements from which a teacher may select (Kowalski, Aiello, McCall, & Lieberman, 2009; Margolis & Free, 2001; More & Hart, 2013). The software that teachers used in this study used drop down menus throughout the IEP and specifically when it came to developing a

student's IEP goals and objectives. Drop down menus could be considered a rigid characteristic in that teachers are forced to make a selection from a list of choices.

The most obvious finding to emerge from this study is that the majority of teachers indicated the IEP software was actually very helpful for completing their students' IEP goals and objectives thus increasing the compliance of the documents. One of the reasons stated included having the ability to help ensure all components of the goal were properly included in that the software had four separate text boxes that served as a template for each component of the goal (i.e., conditions, specific behavior, criteria, and evaluation procedure). The software would not allow the teacher to finalize the goals' page without entering information into each text box, which allowed all of the components to be addressed. One of the teachers realized, however, that just because the boxes were filled out and complete, this did not equate to enhanced content of the IEP and thus might not be of high quality or even appropriate for the student. This suggests the teacher must understand and be competent with regard to the IEP goal development process and how it relates to a student's present levels of performance before they are able to design appropriate goals for a student using the IEP software. This also illustrates that teachers are aware of the difference between simply meeting compliance mandates versus actually ensuring the content of the IEP document lives up to the spirit of special education law.

Another reason that teachers found the IEP software helpful when developing goals and objectives was that the drop down menus contained prefabricated goals and objectives based on the area of student need. I did not get a sense that teachers viewed the drop down menus as rigid, as teachers stated they could adjust and individualize IEP goals and objectives as they desired. Teachers stated the software allowed them to either choose goals

and objectives from the drop down menus or simply customize their own. Goals that were customized could be saved and added to the goal bank. Teachers also found this helpful in that it saved them time when brainstorming and developing goals for future students with similar academic or support needs.

One teacher cautioned, however, that by being able to choose goals through the use of pull downs, things can go a little too quickly and that teachers may not actually stop to think and to ensure the goal selected truly meets the needs of the student. Another teacher cautioned that using the prefabricated IEP goals may lead to cookie cutter IEPs which would result in students having identical IEP documents. These cautionary notes on goal development are important because they again illustrate the tension between simply complying with the law that governs the development of the IEP document and then actually meeting the spirit behind the law. [As I see it, teachers need to show some professional judgment when deciding to use the drop down IEP goal suggestions or deciding to adjust the goals or customize their own. In my opinion, IEP computer software does not have the capacity to develop appropriate goals and objectives for a student's IEP document. In my view, it is a student's IDT that writes the most appropriate goals and objectives for an individual student. Thus the IEP software can be thought of as a tool to aide in the IEP writing process but should not be viewed as a replacement for professional judgment.]

Training and technical assistance. While this study did not try to ascertain how much time it took to learn how to use the computer software, it did shed light on how teachers were trained to use the software. This study has found that generally teachers indicated they received training in three different formats. Some teachers were trained to use the IEP software during their pre-service preparation program that typically took place during

their student teaching with their cooperating teacher. Some teachers received training as in-service teachers either by their head special education teacher or through school district professional development. Still, other teachers reported they received no formal training and described how they learned to use the software in a “learn as you go” format. The results of this study suggest there is a need for a more standardized procedure for learning to use the software. The results also indicate that there needs to be better communication regarding when changes are made to the software throughout the school year and the training that is necessary based on these changes.

In-service training on how to use computer IEP software could be provided in a number of ways. At a minimum, special education teachers and IDT members could be trained as a group prior to the start of the school year during in-service training from the school districts’ IEP Specialists or related Program Support Specialists. The training could be hands-on with a case study or student profile provided and teachers coached on how to write the IEP page by page using the IEP software. Once the training was over, teachers ideally would have access to onsite support in the form of a head special education teacher, instructional coach or administrator that could answer any questions and provide guidance. Teachers from the present study received mentoring during their first year of teaching from more experienced special education teachers. This mentoring could include additional training on the IEP process and document, and mentors could help teachers learn to use the IEP software.

Another important finding from this study was that teachers did not have a training manual when first learning to use the IEP software or when they encountered problems with its use. Enell (1983) suggested that a training manual or guide be prepared for users of IEP

software and described an adequate guide as one that has examples of completed forms as well as descriptive information. Only one teacher who used the SEAS™ software indicated she received a training manual. The rest of the teachers who used TIENET™ with the exception of Heidi, who said she received a makeshift blurry photocopy, stated they did not receive a copy of a training manual. One of the teachers was told the training manual could be found on TIENET™ but did not look for one and another teacher thought she might be able to find one online.

The TIENET™ manual suggests that if teachers are looking to get help with using the software, teachers should contact their head special education teachers. The manual also suggests the best resources at teachers' schools are others who are more experienced with TIENET™. When employees submit a request for access to use the software in addition to signing the confidentiality agreement, users must also document who they received training from and the training date. Teachers in this study who indicated they did not receive any formal training should not have been provided access to the IEP software. Teachers appear to be given access to the IEP software without receiving the necessary training. Why this is happening is unclear at this time.

The majority of teachers interviewed in this study were not aware that a training manual could be found within the IEP software. An important implication for teachers is that when they are first trained on the IEP software, they should be encouraged to click on all buttons on their home page so they can see what features and technical assistance is available. By simply clicking on the buttons of my homepage, I learned many new features about the IEP software I had been using all this time. This suggests that even experienced

users of IEP software can learn more about how to use the software in the most efficient manner possible.

Student Involvement in the IEP Meeting and Impact of IEP Software

While one of the purposes of this study was to understand teachers' experiences using IEP software to develop the IEP document, teachers were also asked how the software affected their students' participation in the IEP meeting. Most of the teachers commented on aspects of student involvement not necessarily related to the software. For instance, they discussed how a student may feel overwhelmed or not understand an IEP meeting, or not want to attend a meeting or be able to tolerate sitting through an entire meeting. This would suggest that students could potentially benefit from some direct instruction around the purpose of the IEP process and how they can participate in this process. Students of teachers interviewed in this study were described as not being involved or somewhat involved in that one teacher had her students discuss parts of the student profile page, for example their goals for the next year and in the future. IDEA 2004 states that the student attend the IEP meeting as appropriate and also mandates that students be involved in transition planning. It does not offer suggestions, however, as to how the student should be involved in the IEP process. Neither the State Public Education Department nor the school districts the teachers were employed by provided any direction or recommendations on student participation in the IEP process or student led IEP conferences. So it appears the decision as to the degree of student involvement in his or her meeting is often left to the student's sponsor teacher.

Based on the interviews I had with teachers, it became apparent that they wanted their students to have more involvement and input into their IEP meeting and document. Only one teacher discussed having her students lead certain aspects of their IEP meeting and the

difficulty associated with interfacing the IEP software with a student's PowerPoint™ presentation. This teacher found that she had to flip back and forth between the two platforms. With this approach and without having observed an actual IEP meeting, one might speculate that the emphasis might be more on entering the information into the IEP document than on the student's presentation. One solution for this might be to have the information from the student's PowerPoint™ entered into the document prior to the IEP meeting in draft form. The student could present their information and the teacher could then review the IEP document to ensure what had been entered was indeed accurate. Another solution might call for using two computers and projecting both the student led presentation and the IEP document at the same time.

Regardless of the solution, I believe that teachers must focus on ways which support students to engage in the IEP process by helping them understand their IEPs and the rationale behind them. PowerPoint™ presentations have been identified as a very popular way of having students participate in their IEP meeting and templates have been created for students to develop their own PowerPoint™ presentation to show at their IEP meeting (Stanberry, 2010). The templates can be useful for students and teachers without a lot of experience with student led IEPs, as students can tailor the templates by adding their own words, graphics and sound clips. Currently, most students enjoy using computers and know how to use a computer and click a mouse.

There are many ways that students can be involved in their IEP meeting that do not involve a PowerPoint™ presentation (Mason, McGahee-Kovac, & Johnson, 2004). For instance, students can be involved in their IEPs by sending out invitations to the IEP meeting, introducing themselves and others they know at the meeting, talking about what they like or

don't like at school, sharing information about their disability and how it impacts their educational experience, discussing strengths, needs, interests and preferences, providing information on their present levels of performance and asking questions about their goals and objectives, reviewing modifications and accommodations that may be necessary, and so forth. The activities that students can participate or lead can be as simple or as sophisticated based on the student's level of functioning. The bottom line is that teachers must actively seek out ways they can increase the participation of students in the IEP process if students are to learn self-determination and self-advocacy skills, skills that will be important throughout their lives (Wehmeyer, 1998). My recommendation would be that the purveyors of IEP software involve students with disabilities in the design and development stages of their software. By doing so, students may have more say and be in a better position to participate in their IEP meeting.

Impact and Constraints of Software on Parents

Teachers were asked to comment on how they thought the IEP software affected the role that parents play in the IEP process. Parents were not interviewed as part of the research study, so the information that was provided can be considered indirect or second- hand information but provided illumination on this topic nonetheless. Participants indicated they thought it was beneficial that the software allowed the document to be projected which enabled the parent to be able to view and follow along with the rest of the team. One participant stated parents might not feel they are as involved in the IEP meeting because they did not have access to the IEP software and cannot type their information into the document. The IDEA 2004 requires that IEP teams ensure meaningful parental involvement and that they are actively involved in the decision making process (IDEA Regulations, 2006, 34 CFR

§300.322(a-f), parent participation). I would suggest that this problem might be alleviated by giving parents access to the software and allowing them to log in to their child's IEP when the document is in draft form. With the exception of parents, all members of a student's IDT are given login information to access and develop portions of the IEP document. Parents might feel more involved in the process if they were allowed to enter information related to their child's strengths, goals for the future, academic support needs, present levels of performance and IEP goal development as well as accommodations.

Participants stated that coming to the IEP meeting with the IEP in draft form may be another reason that prevents parents from fully participating in the IEP process. A number of participants suggested the parent may feel intimidated in making any changes to a draft IEP document during an IEP meeting as they may perceive the document as a final draft. This could constitute an action as defined by the IDEA 2004 that "significantly impeded the parents' opportunity to participate in the decision making process regarding the provision of a free appropriate public education to the parents' child" (Part B, §615(f)(3)(E)(ii)(II)). While it is permissible for staff to meet in advance of the IEP meeting and create drafts of sections of the IEP, I would suggest that special education teachers need to know that it should not be presented at a meeting with the parents as a final draft. Parents should be encouraged to have much input in the IEP process. IDEA requires parents have the opportunity to participate in meetings with regard to the identification, evaluation and educational placement of the student and the provision of a FAPE (Part B, §614(a-f)). Teachers should also convey clearly to parents that the draft reviewed during the IEP meeting is a working document and contains only initial recommendations for review and further discussion. More and Hart (2013) have suggested that teachers send a typed copy of the

proposed IEP marked “draft” to the parents for input prior to the IEP meeting. With this approach, parents would have the opportunity and be in a better position to prepare questions and recommend meaningful changes to the document if necessary.

Lastly, some participants stated that an IEP meeting can have the tendency to feel impersonal. This was said to happen when an IDT member was more focused on typing the information into the computer than having a reciprocal conversation or discussion with regard to the student and his or her needs. This finding is consistent with the findings of Hummel and Degnan (1986), who cautioned that IEP software has the tendency to mechanize and depersonalize the IEP process. Davis (1985) suggested people may find having a computer at an IEP meeting not only intimidating but that it also may “create an impersonal or cold atmosphere” (p. 3). More and Hart (2013) have speculated that family members may perceive a computer and projector as an obstacle to open communication. These authors have suggested that teachers move away from the computer or set the computer aside in order “to make the meeting seem like more of an open conversation” (p. 28). If the computer or projector is inhibiting conversation or productive teamwork, changes to the IEP document could also be made on the draft paper copy and then entered into the software at a later time (More & Hart, 2013). As one participant from this study indicated, the computer should be viewed as a tool for generating the IEP document instead of a means unto itself.

While not specifically related to the IEP software and the role that parents play in the IEP meeting, participants indicated the IEP document and process can be too long and confusing for parents. One problem identified in the literature is that IEP documents that have been developed with computer software have a propensity for including many goals and objectives with just a push of the button (Giangreco, Dennis, Edelman & Cloninger, 1994).

The aforementioned authors suggested this can set school personnel up for promising more than can actually be accomplished, and can be frustrating for everyone involved. Instead, it has been recommended that school personnel work closely with parents to prioritize the most important learning outcomes that may be reasonably attained within one year's time.

Another important finding from this study was that teachers questioned whether parents truly understood the IEP process and document or simply agreed to what was being presented. Participants stated they did not think the document was presented in a manner that was parent friendly and contained much technical jargon specific to the field of special education. The aforementioned findings are consistent in the literature with regard to parent involvement in the IEP process (Jones & Gansle, 2010). The aforementioned authors have suggested teachers need to explicitly check for parent understanding during the IEP meeting and actively solicit parent input. Members of the interdisciplinary team need to make sure the parents can understand the actual document by clearly explaining or removing educational jargon or any technical terms (More & Hart, 2013). Participants suggested the parent receive an actual hard copy of the IEP document as well as a one to two page parent friendly version of the document with just the essential information (i.e., present levels of performance, needed services and supports, goals and objectives). This parent friendly version of the IEP document is commonly referred to in the literature as a "program-at-a-glance" and is often given to general education teachers.

Giangreco, Dennis, Edelman and Cloninger (1994) suggested, "The brevity of the Program-at-a-Glance and its categorization of content (e.g., priorities, other learning outcomes, and general supports) offers a sharp contrast to a 25-page IEP" (p. 294). Although participants suggested it would be a good idea to provide parents with a parent friendly

version of the IEP, none stated they are actually doing this in practice. One reason for this might be because of the extra time it would take to generate this additional paperwork that is not required by law. Some of the computer software programs that I reviewed stated they had the capability to provide a parent friendly version of the IEP document in addition to a complete version. This is an important discussion for school districts contemplating which software purveyor to purchase. An important consideration for the purveyors of IEP software and school districts as suggested by Wilson, Michaels and Margolis (2005) is that as a critical stakeholder in the IEP process, parents should be involved in not only the design process but ultimately which IEP software is adopted.

Impact and Constraints of Software on IDT Functioning

The IDEA 2004 is very clear on who makes up a student's IDT and the role that each team member plays in developing the IEP document. The IDEA 2004 legislation is also clear on the role that collaboration plays in the IEP process. IDEA 2004 calls for IEP teams that consist of members with different insights, talents and strengths. It also stipulates that based on a student's evaluation results, the IDT collaborates to write an IEP for an individual child, one that will provide a free and appropriate public education. Collaboration is not only required by law, it is also thought of as effective practice in the field of special education and as Friend (2000) asserted is "a powerful tool schools can use to achieve their goals" (p. 130). A critical finding from this study was that while some of the teachers indicated that they often met prior to the student's IEP meeting to collaborate with IDT members in developing the IEP document, some teachers reported the IEP was often developed in isolation. The teachers who developed the IEP document in isolation had entered information into the IEP document without consulting with other IDT members prior to the IEP meeting. One teacher

stated that although she had been taught to develop the IEP as a team the software was not conducive to a teamwork environment. Other teachers who developed the IEP document in isolation stated the IEP was often viewed by team members as a finished product rather than a working draft document and that any change to the IEP document seldom occurred.

Teachers reported that information should be entered into the IEP document prior to the meeting and that team members that did not have the information entered appeared unprepared. IDEA 2004 suggests that IEP goals and objectives, as well as the IEP document, be developed collaboratively as a team. If IEP goals and objectives are drafted with no changes made at an IEP meeting, one has to wonder if a team process is actually being used to develop a student's goals and objectives, which are at the heart of a student's educational program. One also has to question whether IDTs are actually working together and sharing information about the student and if they are working together to write the IEP document as suggested by IDEA 2004. Based on the results of this study, it is unclear at this time whether computer software encourages IDT members to work in isolation versus a collaborative team when developing the IEP document. It is apparent however that some teachers feel tension between simply complying with the law and also living up to the spirit behind the law.

Confirmation of Purveyor Claims

As stated earlier, purveyors of IEP software claimed the following benefits:

1. Increase federal and state compliance.
2. Will save the teacher time and increases staff efficiency.
3. Cost effective, schools will save money.
4. Easy to learn and use.
5. Produces a high quality IEP and increases the accuracy of a document.

This study helps confirm a number of the claims made by the IEP software purveyors regarding the benefits for teachers who use IEP software to develop their students' IEPs. This study was unable to confirm whether the software was cost effective or would save schools money as this claim was not referenced in any of the interviews. It is also hard to ascertain whether the claim by the software purveyors that their software is easy to learn can be confirmed as a result of this study. One reason for this is the teachers did not report a uniform method of receiving their training on how to operate the software. Another reason is that the majority of teachers did not receive training on the IEP software that might be considered comprehensive. The majority of teachers stated, however, that once they did learn to use the software they found the software easy to use and navigate. Teachers also stated they liked that the software could be easily accessible from anywhere that had an internet connection but were also concerned with the security of their students' data. Some teachers discussed their frustration with regard to not being notified of the changes that had been made to the software.

One claim made by software purveyors that was confirmed as a result of this study pertained to the software's ability to increase the precision of the IEP document while improving federal and state compliance. Teachers reported having access to a spell checker was one way that errors were decreased and the accuracy of the document enhanced. Teachers also confirmed that the software prevented them from inadvertently skipping a section of the IEP document which helped ensure all required components of the IEP were addressed. Some teachers acknowledged that the software was helpful for ensuring all components of a goal were included and that the wording was correct. While the precision and accuracy of the document was said to be improved by using the software, it is unclear

whether the software allows teachers to produce a high quality IEP. Teachers stated that the software can be viewed as a tool and suggested that teachers need to bring with them the necessary skillset in order to produce a high quality IEP document.

Another major benefit claimed by the majority of IEP software developers is that teachers will save time and staff efficiency will be increased when writing the IEP document. This claim was confirmed by the majority of teachers that participated in this study. Teachers reported they saved time by not having to enter demographic information as most of the first page of the IEP document was already filled out. A savings in time was also noted in that supporting documents such as diagnostician reports, FBAs and BIPs were all located online and in one place so teachers did not have to look for the information in filing cabinets and students' confidential files. All but one of the teachers stated that having the standards and benchmarks built into the IEP software saved time as they did not have to reference and wade through separate documents located in binders. Having the standards and benchmarks embedded into the software allowed one teacher to better align and choose her students' IEP goals. Teachers also stated that having access to IEP goal templates and goal banks saved them time as these tools provided ideas for writing goals and using the same goals for a student who had similar needs. One teacher noted a savings in time as she did not have to locate related services staff to get pages for a student's IEP document as everything was located on-line. The same teacher, who was also her school's head special education teacher, reported an increase in efficiency by using the software's reporting tools to view the due dates of upcoming IEPs and re-evaluation reports. She also noted the reporting tools were much more efficient than the spreadsheets she had developed herself to complete the same function. The reporting tools also allowed her to quickly see if students received related

services as well as how many hours of service they received. Another teacher reported that because she can type more quickly than writing by hand, she was more apt to provide additional detailed information in her IEP documents. Conversely, only two teachers reported losing their work after they thought it had been entered but did not state how often this occurred.

Strengths and Limitations

A major strength of this study was that it allowed teachers the opportunity to relate their experiences using IEP software to author their students' IEP document. Up until now, no studies have documented teachers' experiences of using IEP software. The feedback obtained from special education teachers was provided in a manner that was thoughtful and by teachers who were passionate about their jobs, and more importantly, the children for whom they provide services. Teachers appeared vigilant about the need to design IEPs for their students that were not only compliant, that is met the letter of the law but that also met the spirit of the law. Teachers were also empathetic of their students' parents and it was clear from the interview data that teachers wanted parents to understand the IEP process and identified the need for a parent friendly IEP document.

In retrospect, there are also several limitations that influenced the current study. Mertens and McLaughlin (1995) stated, "it is not possible to design and conduct the perfect research study in special education" (p. 109). As with any research, the findings of this study were limited by a number of variables. The major limitations of this study that must be considered when interpreting the results are as follows:

1. The sample employed in this study only included female special education teachers and all but one of the teachers was Caucasian.

2. This study included a small sample size of only eight teachers and was representative of only a small subset of school district employees.
3. Data from this study represent a single point in time due to time limitations. This study did not address teachers' perceptions or experiences with IEP software over time.
4. This study was limited to collecting social validity data from only one source, that is, special education teachers who generally work closest with their students and their Individual Education Programs. Other sources of social validity data that were not investigated included other IEP multidisciplinary team members as well as other stakeholders (i.e., students, parents, related services staff, administrators, educational assistants, student teachers).
5. Lastly, observations of IEP meetings as well as the actual writing and processing of IEP paperwork using computer software were beyond the scope of this research; therefore, observations were not conducted. The focus of this study was to report what teachers had to say about their experiences using IEP software.

Recommendations for Future Research

Although this study addresses a gap in the research literature regarding teachers' experiences of using computerized IEPs, there is still much to investigate and learn. Currently, there is very little known about the benefits and drawbacks of using computer software to author the IEP document. Further research in this field regarding the role of IEP software in the special education IEP process and how participation by IDT members can be maximized would be of great help when looking for ways to improve the IEP process. Sustained research must also focus on how IEP software can be used to develop better IEP

documents for students and is vital if students are to be provided a FAPE. The following section outlines some of my recommendations for future research as a result of completing my dissertation research.

Although observations of IEP meetings as well as the actual writing and processing of IEP paperwork using computer software was not a component of this study, future research should address the need to conduct actual observations in an effort to learn how using a computer and IEP software impacts the functioning of the IEP team process. This study also examined the experiences of using IEP software from only one perspective. I would recommend that future study in this area include all of the participants on an interdisciplinary team, which would provide a better understanding of how the software impacts other professionals (i.e., related services staff, counselors, nurses, social workers, general education teachers, administrators) who work directly and indirectly with the student. Including other professionals might further confirm or disconfirm some of the claims made by the software purveyors.

As parents are important members of their child's IDT, it would also be important to explore their experiences using computers and IEP software when developing their child's IEP. This might provide a clearer understanding of parent involvement as well as how to garner more parent involvement in the IEP process when computers are used to develop the IEP document. Also as Wilson, Michaels and Margolis (2005) noted, IEP computer software provides a virtual avenue for parents with access to an internet connection to participate in their child's IEP meeting. To what extent this enhances parent participation in comparison to such methods as videoconferencing and/or speaker phone remains unknown at this time.

Future research should therefore concentrate on the investigation of the prevalence of IEP web meetings and the impact that this has on the IEP process.

Arguably the most important stakeholder in the IEP process is the student receiving special education services. Future studies need to determine how the IEP software affects student participation during the IEP meeting, especially if student led IEPs are being considered. Currently, there are no suggestions in the literature for conducting a student led IEP conference using IEP software. There is a need to better understand how the IEP software can interface with programs such as PowerPoint™. An equally important consideration for future research would be how the IEP software affects a student's actual educational programming. This might challenge Reynolds' (1988) assertion that, "The "checklist," or mimeographed individualized education plan (IEP), is antithetical to differentiated instruction, yet it is becoming more common, as are computer program checklists that do little more than add an authoritative look to these bogus documents" (p.326). Almost thirty years ago, Ryan and Rucker (1986) called for further research to investigate the actual efficacy of the IEP document and currently we still do not have an answer to this fundamental question.

As this research included a small sample size from only one geographic area, it is inappropriate to extend the results of this study to teachers throughout the nation. A larger sample size may have provided a greater variety of responses and therefore more information about teachers' experiences of using IEP software to author their IEPs. More broadly, future studies should be conducted that use a larger sample size from different geographical locations and from different types and sizes of school districts (e.g., rural, suburban, large, small), which would allow for a comparison of responses. One way to accomplish this might

be to send out on-line surveys to teachers. Research is also needed to study teachers' experiences of using IEP software over time. Longitudinal studies could examine how teachers' perceptions fluctuate from the moment a teacher learns to use the software compared to different stages of their career. This type of study could also shed light on how teachers' attitudes towards the IEP process and document change over time. Although this study helped better inform how special education teachers came to learn to use the software, it was difficult to ascertain exactly how much teacher time was spent trying to learn to use IEP computer software. Additional research is warranted and could be conducted to study the time it takes special education teachers to learn how to write an IEP using special education software.

With so many different companies selling IEP software, school districts have many choices when considering what software to purchase. Currently, it is not understood how school districts decide what software program is purchased. Further research might investigate what are some of the criteria as well as the rationale behind the criteria when considering what software is ultimately adopted. This would help school districts be in a better position in that it may take some of the guess work out of choosing a legitimate (i.e., comprehensive) purveyor of IEP software. It is also not known how many school districts in the nation have adopted computer software to author the IEP document and how many districts are using the traditional paper and pencil format. The most recent literature we have on the aforementioned phenomenon was conducted almost thirty years ago (Burrello, Tracy, & Glassman, 1983). More information on IEP software adoption rates would help us to establish a greater degree of accuracy on this matter and help understand why certain districts have not adopted the technology. By studying why school districts have not adopted the IEP

software, we may be able to learn more about the barriers inherent with this approach. Lastly, a comparison study could be conducted of schools that have adopted IEP software and those that have not in order to have a better understanding of the outcomes associated with using the IEP software.

Conclusion

The IEP process has to be based on the student's needs and on an individual basis. Teachers from this study did not perceive the computer software as setting limits as they did not report they felt restrained in their ability to individualize students' IEP documents. Teachers stated they could develop IEP documents free of spelling errors and in an efficient manner, which produced a document professional in appearance. Teachers stated the software helped them in remembering to address all sections of the IEP document and thus were able to produce a procedurally compliant and consistent IEP document. While participants stated the software helps with the preparation and completion of the IEP document, one must take into consideration that the contents of the document will only be as good as the professional judgment exercised when developing the IEP document.

Teachers also stated a benefit of the IEP software was that the IEP document could be projected onto the wall during a meeting, which allowed team members to follow along with what was being discussed. While some teachers were able to meet prior to the IEP meeting to collaborate on a student's IEP document, other teachers stated they developed the IEP document in isolation and did not feel like there was much of a collaborative team model employed in the development of the student's IEP document. One teacher stated that historically, the software provided information on the student's past IEP and was useful for future educational programming. This was important because most participants focused on

how they used the software as it related to the IEP process in terms of increasing IEP compliance and overall efficiency instead of using the software as a tool for instructional planning. This is also important as it suggests IEP computer software has the potential to transform the way special education teachers can access information on their students when it comes to educational planning instead of being relegated to searching through paper files for needed information. With this approach, the information needed with regard to an individual student is right at the special educators' finger tips.

In order to make the best IEP software available for special education teachers and IDT members, purveyors of software should work closely with professionals as well as family and students receiving special education services. Together, they can ensure the software developed is not only legally defensible but that it also meets the needs of the software users and the student receiving services. In this age of technology and information overload, IEP computer software provides an effective avenue for ensuring a school's compliance with the IEP process and a way to effectively manage the IEP development and implementation process. While IEP computer software may not be *the* "silver bullet" needed to simplify the IEP process and document and reduce the amount of special education paperwork, it does have the potential to improve IEP development for teachers. Perhaps one day, as a result of these improvements and advancements in the IEP process and special education legislation, IEP development won't be described as a "…legalistic, labor intensive process that taxes the resources, patience, and collaboration skills of even the most dedicated professionals and parents" (Wilson, et al., 2005, p. 37). Undoubtedly, IEP computer software and related technology will continue to advance from the boilerplate software described in the 1980's. Regardless of how sophisticated the software becomes, high quality and effective

IEPs will always be dependent on teacher erudition and the user's intrinsic ability to exercise professional judgment while remaining true to the individualization requirements of IDEA (2004).

List of Appendices

Appendix A: Recruitment Letter

University of New Mexico
Teachers' Experiences Using an IEP Software Program for Students with Disabilities
Volunteers Wanted for a Research Study
Share your important story!

The purpose of my research study is to investigate teachers' experiences using an IEP software program for students with disabilities. I am a graduate student looking for teachers who have authored IEPs using on-line IEP computer software, for example TIENET™. To be eligible to participate, you must be a licensed special education teacher who has authored IEPs with IEP software at least one time. If you will agree to meet with me at a mutually convenient location and participate in an interview (no more than approximately 1 hour of your time) and possibly a follow-up interview or conversation by telephone or electronic mail, I would really appreciate it!

I am a graduate student, so you will receive no compensation for your participation in this research study. But I hope that the opportunity to share your experiences with an interested person will be of benefit to you and will certainly benefit the field special education. If you have any questions, or would like additional information please call Evan Borisinkoff at 505-507-5462 or e-mail me at borisink@unm.edu.

Thank you for your consideration!

Appendix B: Consent Form

Informed Consent Form – Participating Classroom Teacher

I (Evan Borisinkoff) from the Department of Educational Specialties, Special Education Program at the University of New Mexico am conducting a research project exploring teachers' experiences with Individual Education Plan (IEP) software. This research project is being completed in partial fulfillment of the requirements for a doctoral degree in Special Education at the University of New Mexico and I will be using the results of this study for my dissertation. The purpose of this qualitative study is to describe how teachers perceive the role of using IEP software for their students with disabilities. Specifically, it looks at teachers' experiences of using the software to author IEP documents. You are invited to participate in a research project. You were identified as a possible participant in the study because you responded to a flyer that was posted or that has been distributed in the College of Education that sought out research participants. As such you have particular knowledge of the perceived impacts of using this software to develop your IEP paperwork.

This research will employ an interview to reveal how teachers perceive using IEP software to author IEPs for their students. Data collection will begin with an interview (approximately 60 minutes) with me at a mutually convenient time and place to address the questions outlined above. I will audiotape the interview and then have the interview transcribed by a professional transcriptionist so I can analyze it for initial, emergent themes and issues. If necessary, I may contact you by phone or e-mail to help clarify information and provide further detail. The data collection phase in which the above activities are expected to take place is estimated to be approximately 1 to 2 months. You will receive no compensation for your participation in this research study.

There is minimal risk and discomfort to your participation. All information that is provided will be kept confidential, all data will be stored in a locked filing cabinet to which only I have the key, and you will be identified using an assigned pseudonym. The interview will be conducted at a mutually acceptable time and place. Participants may benefit from this research by being provided the opportunity to reflect on how they use IEP software to author their IEP documents. This research will also serve to provide a better understanding of the impact of IEP software in relation to writing IEPs for students who receive special education services.

Any information obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. You will be identified by an assigned pseudonym throughout the entirety of the data collection and reporting procedures. All data (including interview audio recordings, transcribed data and field notes) will be kept within a locked filing cabinet to which only I have a key for a period of 1 year after the dissertation has been successfully defended before being destroyed. Lists matching participant names and pseudonyms and all identifying data will be destroyed within 4 weeks of the dissertation's approval. Every attempt will be made to safeguard confidentiality; there is minimal risk of loss of confidentiality.

You may choose whether to participate in this study or not. If you volunteer to participate, you may withdraw at any time. You may also refuse to answer any questions you do not want to answer and still remain in the study. If you have any questions or concerns about the research, please feel free to contact me, Evan Borisinkoff, at 505-507-5462 or my faculty advisor and Dissertation Committee Chair, Distinguished Professor Ruth Luckasson at 505-277-6510. If you have other concerns or complaints, contact the University of New Mexico Human Research Protections Office at 505-272-1129. You will be given a copy of this signed consent form for your records.

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been provided a copy of this form.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES YOU HAVE DECIDED TO PARTICIPATE HAVING READ THE INFORMATION ABOVE.

Sincerely,

Evan D. Borisinkoff, M.Sc.

_____
Printed Name of Teacher

_____ _____
Signature of Teacher Date

_____ _____
Printed Name/Signature of Investigator Date

Appendix C: Interview Protocol

Opening Statement: Thank you for agreeing to meet with me today. As you know, I'm conducting research into teacher's experiences with using IEP software to author their student's IEPs. The information you provide me with is valuable as there is currently a lack of information with regard to the aforementioned. Over the course of the next few months I may need to contact you by phone or e-mail so we can talk further about your thoughts and experiences about using IEP software. Throughout the research process you will be identified with a pseudonym so your true identity will never be revealed. All of the notes I take, audio-recordings, demographic information, and transcripts of this interview will be locked in my office and used as part of my data analysis. Please be advised that you are free to withdraw your participation in this research at any time. The results of this study will be published in my dissertation and will also be submitted for potential publication in professional journals. In the next couple of months I will encourage you to comment on my themes, ideas, findings, analysis and conclusions.
Do you have any questions or comments before we begin?

1. Tell me a little about your work as a teacher.

2. From your experience, what are the elements you think are important for a successful IEP process?
    i. Can you give me an example of a really positive IEP meeting you participated in?
    ii. Can you give me an example of an IEP meeting that did not go well?

3. Tell me about the IEP software that you use to write your IEPs.
    i. Have you written IEPs without using software?

4. Do you think that the use of IEP software helps ensure a successful IEP process?
    i. What aspects of the IEP software help accomplish this?
    ii. Give me an example of what you mean by ….?
    iii. (If applicable) is this different to your experiences writing IEPs by hand? Please explain and/or give examples.

5. Have you experienced any challenges using IEP software?
    i. What aspects of IEP software can lead to less positive outcomes?
    ii. Do you think any parts of the IEP should not be computerized?
    iii. (If applicable) is this different to your experiences writing IEPs by hand? Please explain and/or give examples.
6. Do you think IEP software has an impact on the role parents/families/guardians/student with disabilities play in the IEP meeting?
    i. Do you think that this role has changed with the advent of IEP software?
    ii. (If applicable) is this different to your experiences with parents/families/guardians/student with disabilities when writing IEPs by hand? Please explain and/or give examples.
7. What recommendations would you have for improving the IEP process?
8. Do you have any other thoughts about the use of IEP software in the IEP process?

Thank you for participating in this discussion. This has helped me better understand your personal thoughts and ideas with regard to using IEP software. Would you like to see a copy of the results of my study? Do you have any last questions? Thanks again for participating and I may be contacting you by telephone or by e-mail soon if I need clarification on some of your thoughts or have further questions. Is that okay?

Appendix D: Survey

Some basic information about you:
Gender
Ethnicity

About your teaching experience:
Number of years taught:

Number of years with Bachelors degree:

Number of years with Masters degree:

Specialization of Masters degree:

Special education service delivery model (inclusion, segregated classroom, resource room):

Age of students:

About your work as a special education teacher:

Approximate number of IEPs written in career:

Written IEPs by hand? How long?

Written IEPs by computer? How long?

What software programs have you used to write IEPs for students?

How would you rate your proficiency with each of these programs? (minimally proficient, competent, extremely competent)

Please estimate about how long it took you to learn to use each of these programs.

Appendix E: Software Features and Claims as Reported by Purveyor

Purveyor of software	*Save time, increase staff efficiency	Custom forms	*Cost effective	Manages all aspects of IEP	Technical support
Easy IEP™	X	X	X		
e-IEP Pro™	X	X	X	X	X
Encore™	X	X		X	
EXCENT™	X	X	X	X	
Genesa™	X	X			
Goal View™	X	X			X
IEP Online™	X	X		X	X
IEPWriter™	X	X	X	X	
Infinite Campus Inc.™	X	X			
Live IEP!™	X	X	X		X
netIEP™	X				
OASYS Online™	X	X			
SEAS™	X	X	X	X	X
SEM™	X	X		X	X
SEMS™		X		X	X
SpedTrack™		X			
TIENET™	X	X		X	
WEB IEP™		X			
Welligent™		X		X	X

Appendix E (Continued)

Purveyor of software	*Improves federal/ state compliance	Security	Goals, objective, standards, bank	Tracks IEP progress	Built in reporting tools	*Produces a quality IEP/ increases accuracy	*Easy to learn/ use
Easy IEP™	X				X		
e-IEP Pro™	X				X		
Encore™	X		X	X	X	X	X
EXCENT™	X				X	X	
Genesa™	X	X	X			X	X
Goal View™	X		X	X	X	X	
IEP Online™	X			X	X	X	X
IEPWriter™	X	X	X		X		X
Infinite Campus Inc.™	X	X	X				
Live IEP!™							X
netIEP™	X	X	X	X	X		X
OASYS Online™	X	X	X		X		X
SEAS™	X		X		X		X
SEM™	X	X					X
SEMS™	X	X	X	X	X	X	X
SpedTrack™		X	X		X		X
TIENET™	X				X	X	X
WEB IEP™		X					
Welligent™							

*denotes a beneficial claim made by a purveyor

Appendix F: Participant Demographics

Name	Gender	Age	Ethnicity	Highest Degree	School setting	Years taught	Approx. # of IEPs written	Proficiency	Position/Student status/Other
Heidi	F	25	Caucasian	B.A.	Elem. Inclusion	3	50	competent	Ph.D. student
Ann	F	25	Hispanic	B.A.	Elem. Segregated	3	80-100	extremely competent	head special education teacher
Kerry	F	24	Caucasian	B.A.	Middle Segregated	3 mths	3	competent	1st year teacher
Toni	F	46	Caucasian	M.A.	Elem. Inclusion	16	200	competent	Ph.D. student
Jill	F	31	Caucasian	M.A.	Middle Inclusion and Segregated	9	90	extremely competent	head special education teacher
Sasha	F	25	Caucasian	B.A.	Elem. Segregated	1	8	extremely competent	2nd year, teacher, E.B.D.
Alyssa	F	23	Caucasian	B.A.	Elem. Segregated	1	6	competent	2nd year teacher, ISP
Terra	F	53	Caucasian	B.A.	Middle Segregated	3	15	minimally proficient	3rd year teacher, ISP

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