A PHENOMENOLOGICAL STUDY OF THE IMPACT ON COLLABORATION AS PERCEIVED BY EDUCATORS WHILE USING SOFTWARE TO MANAGE INDIVIDUALIZED EDUCATION PROGRAMS

by

Vaughn Hammond

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A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

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ABSTRACT

The purpose of this qualitative phenomenological study was to gain a deeper, richer understanding of how educators' use of software to manage individualized education programs (IEPs) impact collaboration in the IEP process. Research questions included: (a) What are the challenges identified by educators when using software to manage IEPs? (b) What are the benefits identified by educators when using software to manage IEPs? (c) What are educators' perceptions on the impact using software to manage IEPs has on the collaboration among the IEP team? (d) What are educators' perceptions of the use of software on increasing collaboration skills? Educators from the state of Alaska participated in the study. Data was collected from interviews, focus group sessions, and observations. The data was analyzed using reflective analysis procedures. The perceptions indicate that the use of software to manage IEPs did not directly impact the collaboration of the IEP team. This could be a lack of understanding from the participants regarding collaboration or how the software was actually used.

Keywords: collaboration, software, technology, case management, Individualized Education Program (IEP), special education.

Copyright Page

Dedication/Acknowledgments Page

I dedicate this manuscript to my loving wife, Diane, and my wonderful children, Jacob and Talitha. Without their personal sacrifices and continued support I would never had made it through this program.

I would like to further dedicate this to my father. The day before he passed away, he encouraged me to pursue my dreams. With the completion of this manuscript and this degree, I am doing just that.

I want to acknowledge my dissertation chair, Dr. Randall Dunn, for all his encouragement, patience, and advice given through this process. I thank my dissertation committee, Dr. Glenn Holzman and Dr. Fred Conner, for taking time out of their lives to make sure that I stayed on the straight and narrow and for helping me through to the end.

Finally, for all the people who have been praying for me since I started back to school to achieve this goal, may God truly bless each and every one of you. Thank you for your prayers, your friendships, and your compassion.

For those who would like to follow their dreams, I pray that you would keep your eyes firmly on Him who will provide the strength, patience, endurance, and commitment to stay to the tasks that come in your path.

Table of Contents

List of Tables

List of Abbreviations

Americans with Disabilities Act (ADA)

English as a Second Language (ESL)

Individuals with Disabilities Education Act (IDEA)

Individualized Education Program (IEP)

Information Technology (IT)

No Child Left Behind Act (NCLB)

Special Education (SPED)

Virtual Private Network (VPN)

Web Accessibility Initiative (WAI)

CHAPTER ONE: INTRODUCTION

Background

Management of student individualized education programs is a task completed by every special education teacher. In many instances the special educator is required to service several schools with multiple students and professional educators within a given district. No two students will have the same requirements for assistance. Each student will then require differing sets of specialists or other resources to meet the specific needs present. The primary component of Part B of the Individuals with Disabilities Education Act (IDEA) was the individualized education program (IEP) (Fish, 2008). Educators use the IEP to keep track of a student's "(a) educational needs, (b) goals and objectives, (c) placement, (d) evaluation criteria, (e) present levels of educational performance, and (f) duration of programming modifications" (Fish, 2008, p. 8). Management of IEPs moved into the technological realm with various software packages available geared toward creation and management of the IEP. A definite gap exists in the research in understanding how educators use software for managing IEPs.

Individualized education programs are developed collaboratively. The collaboration includes the coming together of a team of professionals and the parents to provide the needed services for the individual student. Collaboration has been defined as a "style for direct interaction between at least two co-equal parties voluntarily engaged in shared decision making as they work towards a common goal" (Kennedy, 2011, p. 209 & Cook, Friend, 2010, p. 3). Rose (2011) corroborated this by stating, "a commitment to shared goals and to the process of joint working is assumed essential for effective collaboration" (Rose, 2011, p. 151). The literature shows that there is a growing need for educators to obtain collaboration skills (Cook & Friend, 2010; Kennedy, 2011;

McConnellogue, 2011; McKenzie, 2011; Rose, 2011; Sheehey & Sheehey, 2007; Sturko & Gregson, 2009; Whitbread, Bruder, Fleming & Park, 2007).

Research showed that collaborative efforts have been successful in education settings especially with the utilization of technology (Foulger & Williams, 2006; Jeffs & Banister, 2006; McLaren, Bausch, & Ault, 2007). The study by Foulger and Williams (2006) examined incorporating educational technology into other courses offered in educator training. A result of the study "showed that one very capricious factor, that of collaboration, must be cultivated" (Foulger & Williams, 2006, p. 113). McLaren and Bausch (2007) focused on strategies that could be found to improve collaboration between educators who are providing assistive technologies. One conclusion noted by McLaren and Bausch (2007) was, "joint professional development not only helps to eliminate feelings of disconnect between special and general educators, it also provides a shared language and knowledge between teachers who can later collaborate on issues they have learned about together" (McLaren & Bausch, 2007, p. 27). Not only can professional development help with bringing general and special educators closer, Charles and Dickens (2012) stated "There are several web-based tools teachers can use to successfully incorporate Web 2.0 technologies during the co-planning, co-teaching, and shared reflection process" (p. 24). Charles and Dickens (2012) elaborated further "these resources can facilitate improved communication and resource sharing between the general and special educator" (p. 25). Jeffs and Banister (2006) examined a cross-over concept for technology use by both special educators and general educators. Jeffs and Banister (2006) posited that general educators need to know more about assistive technologies where special educators need to learn more about multimedia technologies. Not only are collaboration skills a necessity for educators, but software skills are also important. Foulger and Williams (2006) stated:

> The current population of preservice teachers are more equipped with technology skills than ever before, yet many of their instructors are unable to capitalize on technology's value due to lack of vision or limited understanding of the benefits that technology can offer to teachers in training. (Foulger & Williams, 2006, p. 109)

Situation to Self

This researcher worked in the Information Technology (IT) field, specifically with collaboration applications, such as Microsoft SharePoint, for over ten years. This researcher has experience working as a member of an IEP team as a parent of a student with special needs. Technology and software are effective when they meet the needs presented.

Two philosophical assumptions were part of the framework for this study: ontological and epistemological. Creswell (2007) described ontological as the "nature of reality and its characteristics" (p. 16). This study revealed the perceptions educators have regarding the impact IEP management software has on the collaboration among the members of the IEP team. The epistemological assumption is described as the "researcher tries to get as close as possible to the participants being studied" (Creswell, 2007, p. 18). The researcher worked closely with educators in their environment to obtain a better understanding of their perceptions.

Several studies have shown the effectiveness of technology in educational settings (Irinaga-Bistolas, Schalock, Marvin, & Beck, 2007; McKenzie, 2011; Stanley, 2011). Participants provided insights on the impact using IEP management software had on the collaboration between the IEP team members.

Problem Statement

Collaboration is a skill that is working its way into the professional development or teacher preparation programs (Foulger & Williams, 2006; Irinaga-Bistolas, Schalock, Marvin, & Beck, 2007; Ludlow, 2012; McKenzie, 2009; Stanley, 2011). Software use and other technologies are proven to be effective in the classroom to enhance collaboration in general (del Puerto, & Gamboa, 2009; Seung Won, Ji Hoon, & Doo Hun, 2009; Vannest, Davis, Davis, Mason, & Burke, 2010). When educators are not receiving adequate training, opportunities for collaboration, or the use of various technologies the problem a lack effective collaboration becomes apparent. When educators are not provided the skills, opportunities, or equipment needed for success, the individual student will suffer. There is a lack of research around educators using software to manage IEPs; in addition, there is a lack of research on how using software to manage IEPs impacts the collaboration amongst the members of an IEP team.

Purpose Statement

The purpose of this phenomenological study was to gain an understanding of how educators use of software for managing IEPs in public school districts in Alaska impacts collaboration amongst the IEP team. This study investigated the advantages and disadvantages of using software to manage IEPs as shown through interaction of educators with the IEP software and each other.

Significance of the Study

This study contributes to the existing body of knowledge by focusing on the perceptions of educators on the impact of software to manage IEPs on the collaboration amongst IEP teams. Studies have been done on how software can impact educators' teaching and students' learning; other studies cover what effects the implementation of technology has in the classroom (del Puerto & Gamboa, 2009; Seung Won, Ji Hoon, &

Doo Hun, 2009; Vannest, Davis, Davis, Mason, & Burke, 2010). Recent studies on collaboration and the use of software, specifically in the medical field (Green, & Thomas, 2008) have been completed; however there have been few studies on the impact of using software to manage IEPs has on the collaboration among the IEP team.

Research Questions

Creswell (2007) stated "Qualitative research questions are open-ended, evolving, and nondirectional" (p. 107). This study examined four questions. The first two questions helped to identify the perceptions of the educators regarding using software. The last two questions helped to identify the educators' perceptions of collaboration in general and any impact software use may have on collaboration. The questions examined were:

- What are the challenges identified by educators when using software to manage IEPs?
- What are the benefits identified by educators when using software in managing IEPs?
- What are educators' perceptions on the impact of using software to manage IEPs has on collaboration among the IEP team?
- What are educators' perceptions of the use of software on increasing collaboration skills?

Research Plan

This research was a qualitative phenomenological design. Creswell (2007) described a phenomenological design as one that "seeks to understand the meaning of experiences of individuals about the phenomenon" (p. 94). Accordingly, this was the best approach for this study as the research was geared toward gaining an understanding

of educators' perceptions of the impact using software to manage IEPs has on the collaboration of the IEP team which is the phenomenon in question.

Data collection methods included semi-structured interviews with the individual participants, formulation of focus groups, and observations of the participants using the software for the development of an IEP and interaction during IEP team meetings. Reflective analysis was applied to the data gathered from the interviews, the focus groups, and observations. The process included reading through the data collected several times to identify common themes. Creswell (2007) detailed analysis into textural and structural descriptions; textural descriptions are what the participants experienced, and structural descriptions are how they were experienced (Creswell, 2007).

Delimitations

The following criteria was used to limit the number of participants. First, only educators who have been working in the field for at least two years were included. The educators needed to maintain multiple caseloads of students within a district. Sixteen educators participated in this study.

Having a small group of participants was a limitation of the study. Small groups of participants limit the generalizability of the study as the phenomenon in question may not be the same in other locations due to geographical and cultural considerations.

Educators who managed multiple IEPs across different schools added to the understanding of the complexity involved with managing IEPs. Furthermore, having educators who had been in the field for at least two years provided some experience behind the results. This allowed for the educators to have experience and become proficient with the software.

Definitions of Key Terms

1. *Educators* - related service providers, such as occupational therapists, speech therapists/pathologists, physical therapists, and psychologists, as well as certified special and general education teachers.
2. *Software* - a program which could be either browser-based or an application running on a computer.
3. *Individualized Education Program (IEP)* - the mechanism to maintain and monitor the specific needs, programs, and resources required for the individual student as defined by federal law.
4. *Collaboration* - two or more parties working together towards common goals through sharing of decisions (Cook, Friend, 2010; Kennedy, 2011; McLaren, Bausch, & Ault, 2007; Rose, 2011).
5. *Community of Practice* – groups of people who share a concern, a set of problems, or a passion about a topic (Wenger, McDermott, & Snyder, 2002, p. 4).

CHAPTER TWO: LITERATURE REVIEW

Introduction

There have been numerous studies conducted on the effects of technology in helping students achieve educational goals and on the ways that technology can be used by educators (del Puerto & Gamboa, 2009; Doering & Veletsianos, 2007; Garcia & Rose, 2007; Myhill, Cogburn, & Samant, 2008). Del Puerto and Gamboa (2009) examined using technology for second language learners. Doering and Veletsianos (2007) examined geospatial technologies used to help the learning of middle school students. Garcia and Rose (2007) examined the use of telecommunications technology for distance learning. Myhill, Cogburn, and Samant (2008) examined technology-enhanced learning communities for students with disabilities. The increase of technology and the power of computing available in the palm of an individual's hands through smart phones and other mobile devices, has resulted in the growth of online communities. These particular communities can provide a foundation and a venue for collaboration as both require more than one individual.

Technology is used to manage caseloads in various professions – the most prominent being in the medical field (Green, & Thomas, 2008). Software applications or programs have been developed to manage caseloads (More, & Hart, 2013). Several software packages exist that would help educators manage IEPs. Details of these various technologies will be examined further later in this study.

Theoretical Framework

Technology opened the door for individuals to be able to communicate in a broader way. For example, "Technology is providing new opportunities for creating professional connections within the field of education by eliminating time and space constraints" (Byington, 2011, p. 290). Friedman (2007) posited technology flattened the

world in that it leveled the playing field for various countries or groups of individuals to have broader access to information and services. Byington (2011) furthered that, "meeting online can reduce the expense of face-to-face meetings, increase accessibility, and promote an effective use of time and resources" (p. 281). The use of technology expands collaborative efforts and increases the efficiency of collaboration. Byington (2011) identified several technologies available for use including "email, wikis, discussion boards, chats, podcasts, and blogs" (p. 282). The sharing of information can be accessed more readily from just about anywhere. For the educator, technology can be used for the management of IEPs through software. It would benefit educators who are shared between schools to have access to an individual student's record from any location.

Social Theory

Amory (2010) defined collaboration as "two or more people work together to realize a common objective" (p. 71). Amory (2010) based this definition on the collaboration component of learning theory developed by Vygotsky and Piaget. This study has a component based on the collaboration of the IEP team and how this collaboration is perceived to be impacted by the use of technology to manage IEPs. The IEP team, established to assist individual students, would include general and special educators, related service providers, school administrators, and parents.

Yount (1996) described Bandura's social learning as "learning based on observation and modeling" (p. 179). Yount (1996) then described Bandura's four components of social learning process: attention, retention, production, and motivation. "The first step in the learning process is for the model to gain the attention of an observer" (p. 181). Yount (1996) further described the attention as attracted by status, competence, popularity, success, and similarity. Retention was the behavior being

encoded into the memory. The encoding could be "in the form of mental images or a verbal description" (p. 182). Production was the receiving of new information, encoded into memory, and mentally rehearsed. Motivation was also called "reinforcement" (p. 182). Motivation was the way to perform based on what was learned and subsequently reinforced – either through positive encouragement or through punishment. This study utilized the same process to focus on the participants' and their perceptions. Attention comes from the research questions which are used to get the participants thinking about their processes. Retention was enacted through the interviews, focus group sessions, and observations – the participants were called upon to review and recall their perceptions. Production would be seen in how the participants gained a deeper understanding of collaboration and how collaboration would be impacted by using software to manage IEPs. This would be followed by motivation where the participants have learned new concepts and will begin to put those into practice.

Philosophical Assumptions

This research examined the perceptions special and general education teachers and related service providers have regarding the impact IEP managing software has on collaboration. Gall, Gall, and Borg (2007) stated "Epistemology is the branch of philosophy that studies the nature of knowledge and the process by which knowledge is acquired and validated" (p. 15). Analysis of the data provided insights into the perceptions of the participants and how they were developed. This incorporated the idea of constructivism, which is defined as "social reality [. . .] constructed by the individuals who participate in it" (Gall, Gall, & Borg, 2007, p. 21). It is important for any research to take into consideration how the perceptions of the individuals were developed as this helps describe the underlying meanings. Hall (2011) discussed this approach in his research to help equalize the playing field in the realm of learning. For example, he

connected the concepts of technology and educational relationships, noting that "the interplay between learning technologies and the production of educational relationships is central" (Hall, 2011, p. 281). Hall (2011) further temporized, "social theory recognizes that human beings are not static and that their integration and adoption of technology is equally in motion" (Hall, 2011, p. 282). Both the aspect of collaboration of the IEP team and the aspect of using software to manage the IEP are dynamic. Hall (2011) stated "a critique of the place of technology in education must incorporate the social relations of production and consumption of that lived reality" (Hall, 2011, p. 282). This study examined the relationship between using technology to manage IEPs and the collaboration of the IEP team.

Categorical Review

Technology Use in Education

Studies have shown the effectiveness of using technology in education (del Puerto & Gamboa, 2009; Doering & Veletsianos, 2007; Garcia & Rose, 2007; Myhill, Cogburn, & Samant, 2008; Vannest, Davis, Davis, Mason, & Burke, 2010). Technology devices and various types of software can be effectively utilized to benefit classroom instruction and learning. Technology can enhance the learning of students (Doering, & Veletsianos 2007). Doering and Veletsianos (2007) described how geospatial technologies could help students not only grasp their own place within the world but also to help them grasp geography (Doering & Veletsianos, 2007). The concept of being able to provide real-time data could very much apply to educators needing real-time data on the students they manage. Knowing what the student is experiencing or the lessons the students are learning at any given time and potentially being accessible from anywhere could be helpful. The IEP team will require communication and collaboration to stay current.

Staying current with what the individual student learns will help to track the student's progress.

Researchers have also explored the idea that educators need to be more aware of how technology can be used has also been the topic of various research. Del Puerto and Gamboa (2007) stated, "It is indisputable that the educational arena is being influenced by the development of new technologies, and instructors are one of the groups of stakeholders most affected" (p. 139). Technology use in the classroom goes beyond what can be done for the student and also envelops what can be done for the educator. Del Puerto and Gamboa (2007) determined through their research that teachers were willing to incorporate more collaboration into the classroom. They wrote, "Collaborative scenarios such as interaction, group work, and role play were [. . .] some of the most frequently chosen activities" (del Puerto & Gamboa, 2007, p. 145-146).

Technology has made the collaborative effort easier. One study looked at a specific tool, WebSTAR, used to help faculty and pre-service teachers with collaborative learning (Garcia & Rose, 2007). The results of that study show that the tool was "successful at modeling for students how online course software could be used to promote collaboration and problem solving among classrooms at a distance" (Garcia & Rose, 2007, p. 263). Garcia and Rose's (2007) study also indicated that collaboration used to construct knowledge is a key to authentic instruction,

> Technology when used in this manner, may best be viewed as an enabler for the evolving concept of learning theory as it moves from a cognitive theory of information acquisition by the solitary mind to a social theory of participation in the construction of knowledge and meaning. (Garcia & Rose, 2007, p. 248)

Using technology could enhance the collaboration of a group of people. Myhill, Cogburn, Samant, Addom, and Blanck (2008) proposed that "many technology-enhanced

learning communities provide geographically distributed collaboration opportunities that expand the inclusion of diverse peoples and close the digital divide" (p. 157). In the case of this research, the collaboration of the IEP team could be impacted by using technology to manage the IEP.

As mentioned previously, technology use in the classroom can benefit the educator, more specifically the special educator. According to More and Hart (2013), "the use of technology in the classroom has benefited students in special education, as well as special education teachers" (p. 24). The technology usage that More and Hart (2013) discussed in some detail covers the electronic IEP. More and Hart (2013) posited "computerized or electronic IEPs are just one example of the many technologies that special education teachers can use to facilitate the delivery of a student's specialized program" (p. 24). The authors detailed some of the features that are available including an online component that allows multiple providers access to the IEP at the same time, automatic population of certain data, management of various dates such as IEP due dates, and an electronic goal bank. More and Hart (2013) stated "the time-saving features of IEP computer programs facilitate the process of writing an IEP and provide a layer of support to ensure the development of students' programs within the constraints of relevant laws" (p. 24). More and Hart (2013) discussed various recommendations on how teachers can "maximize the benefits of electronic IEP programs and [. . .] increase team member involvement during meetings" (p. 27). They recommended educators practice using the system, use a projector, create electronic goal banks, have someone else do the typing during meetings, and include the parents. The authors concluded,

> With the growing use of technology in schools, many school districts [. . .] are adopting electronic IEP tools as part of special education delivery. These programs provide useful technology that can facilitate compliance with IDEA

> requirements in IEP development while concurrently lessening the paperwork burdens for teachers. (More & Hart, 2013, p. 28)

Online Communities Defined

Wenger and Snyder (2000) defined communities of practice as "groups of people informally bound together by shared expertise and passion for joint enterprise" (p. 139). Byington (2011) defined communities of practice as "groups of individuals focused on a common area of interest" (p. 281). Communities naturally lead to collaboration efforts; technology has helped to create many of these collaborative communities online. Laru and Jarvela (2008) stated that as communities of practice work together and "over time these mutual interactions and relations build up a shared body of knowledge and a sense of identity" (p. 19). Kearns and Fey (2010) pointed out that collaboration is linked with participation of the individuals involved. Byington (2011) suggested that "email, wikis, discussion boards, chats, podcasts, and blogs" (p. 282) as well as other technology tools can be used to created collaborative communities. Online communities played a role in this study as they helped to identify aspects of how technology is used for collaboration.

One study found that "with the enhancement of eCollaboration, firms can also learn to integrate systems, enhance knowledge transfer and retention, and increase the redundancy of labor and capital" (Jones & Burgess, 2010, p. 137). Jones and Burgess (2010) defined eCollaboration as "electronically enhanced collaboration" (Jones & Burgess, 2010, p. 137). The concept of eCollaboration could be applied in the education setting with the transfer of knowledge amongst a team of educators while working together on an IEP. While the research by Jones & Burgess (2010) showed how collaboration was more effective with a facilitator or "champion", other research demonstrates how technology can enhance and improve collaboration (Dittman, Hawkes, Deokar, & Sarnikar, 2010). For example, Dittman, Hawkes, Deokar, and Sarnikar (2010)

concluded that there was significant impact on the acquisition of collaborative skills, process structuring and relational link development when a structured training was put into place. The authors stated "collaboration involves all participants at each stage of project development, while cooperation may only involve the parsing of tasks to team members to complete individually" (Dittman, Hawkes, Deokar, & Sarnikar, 2010, p. 204). There is a difference between working together and working on different tasks of the same project; both are required of an effective IEP team. Where each member has specific tasks or areas that they will focus on, the ultimate goal is providing the student with supports and resources as well as specialized instruction needed for success.

Failure Points. One of the biggest reasons that communities fail is a lack of communication. Ezz, Papazafeiropoulou, and Serrano (2009) provided insights into community failures by looking at the decision making process of a government. The researchers wrote "the exchange of information among government agencies involves many variables and many knotty areas that need to be resolved [. . .] organization, culture, and language, among other things, are the obstacles to overcome" (Ezz, Papazafeiropoulou, & Serrano, 2009, p. 214). The same holds true in educational settings. If these potential obstacles are not taken into consideration when establishing a community or collaborative effort, then failure may ensue. It is essential to identify these potential obstacles and plan for addressing them early in the process.

If individuals are not willing to participate in the community, then there is a problem. Without the community aspect in the IEP team, the individual students may suffer as a result. The students may not get the assistance they require or the student may slip through the cracks. Karagiorigi and Lymbouridou (2009), in their failed attempt to develop an online community, found that "the community did not reach a critical mass of participating users, which [. . .] is the single most important element of a virtual

community" (p. 130). Another study revealed that failure may not necessarily come from a lack of participation:

> The argument here is not that teachers lacked skill in the use of ICT [information and communications technology] but, rather, that they may have lacked specific skills or knowledge as well as held certain dispositions about online learning that predisposed them to be less positive about it. (Parr & Ward, 2006, p. 787)

A failing point is found in more than just a lack of participation; if the participants do not see the value or have a negative attitude toward the concept of being part of a community these could also lead to failure. If there is little or no participation on the IEP team the student could suffer through not getting all the assistance required.

Success Points. Online communities take some standardization to be successful. A couple of studies have been done that support this concept (Myhill, Cogburn, & Samant, 2008; Vavasseur & MacGregor, 2008). Myhill, Cogburn, and Samant (2008) focused on accessibility issues and the use of internet technologies. Myhill, Cogburn, and Samant (2008) called to attention that much can be done to help bring together those who are geographically spaced, especially those with special needs. The authors wrote "Presence awareness systems [(instant messaging systems)] and particularly group chat applications can provide a tremendous boost to geographically distributed collaborators" (Myhill, Cogburn, & Samant, 2008, p. 169). Software applications such as Facebook, Twitter, and even to some extent Microsoft SharePoint have helped to provide this awareness. The authors also wrote "Many technology-enhanced learning communities provide geographically distributed collaboration opportunities that expand the inclusion of diverse peoples and close the digital divide" (Myhill, Cogburn, & Samant, 2008, p. 157). With the variety of technologies that are available for online communities to thrive, implementing these technologies requires planning for them to be effective. The study

focused on the universal design (UD) concepts not only in the planning of the study, but for the successful planning of implementing technologies (Myhill, Cogburn, & Samant, 2008). Myhill, Cogburn, and Samant (2008) state "universal design refers to the creation of products and environments, as well as practices, programs and services that are accessible to and usable by all persons" (Myhill, Cogburn, & Samant, 2008, p. 158). Charles and Dickens (2012) offered similar insights by adopting Web 2.0 technologies to increase the communication between general and special educators. The authors' stated "Many Web 2.0 tools offer an effective means for teachers to collaborate, create, publish, and interact in a web based environment" (p. 26). The study examined several different Web 2.0 tools which could be used by educators to enhance their working together: Anymeeting, Dropbox, Zoho, Today's Meet, and Vocaroo (Charles, & Dickens, 2012, p. 26-28).

A focus on different standards, such as those from the Americans with Disabilities Act (ADA), Section 508 (federal government IT accessibility standards) or even the Web Accessibility Initiative (WAI), suggests a need for any online community to have some standardized mechanism for creation and sustainability for it to be successful. Part of the importance on standards comes to light with, "The Americans with Disabilities Act of 1990 (ADA) which prohibits discrimination and ensures equal opportunity for persons with disabilities" (www.ada.gov/2010_reqs.htm). The ADA mandate leads to Section 508 for which "requires that individuals with disabilities [. . .] have access to and use of information and data that is comparable to that provided to [those] who are not individuals with disabilities" (http://www.section508.gov/section-508-standards-guide#Purpose). The WAI "develops guidelines widely regarded as the international standard for Web accessibility" (http://www.w3.org/WAI/). Standards are needed for success.

With the institution of the federal No Child Left Behind (NCLB) mandate, many different standards continue to be implemented – especially in the areas of technology and software development. Friedman (2008) discussed the importance of standardizing the various programming languages being used in technology. He posited, "Once they were adopted as standards [. . .] software companies stopped competing over who got to control the fire hydrant nozzles and focused on who could make better hoses and fire trucks to pump more water" (Friedman, 2008, p. 83). Friedman (2008) further stated, "Once a standard takes hold, people start to focus on the quality of what they are doing as opposed to how they are doing it" (p. 83). Having standards in place will help any collaborative or online community be successful. Standards development will incur a financial cost and provision within NCLB should help, "According to the guidelines of No Child Left Behind, a minimum of 25% of all funds spent on educational technology must be allocated for quality professional development" (Vavasseur & MacGregor, 2008, p. 518). Vavasseur and MacGregor (2008) pointed out, "the International Society for Technology in Education (ISTE) has developed standards for technology integration that have now been adapted or referenced by 90% of state departments" (p. 518). Vavasseur and MacGregor (2008) continued this discussion by asserting that, "technology integration, and therefore effective professional development for technology integration, has now become an additional mandate" (p. 518). Research has shown that "through a community of practice teachers can become less isolated and more inclined to discuss new ideas, can solve problems that arise concerning technology integration, and can form a support system to foster new ideas" (Vavasseur & MacGregor, 2008, p. 519).

Communities of Practice

In a broader sense, the online community is a community of practice. Wenger, McDermott, and Snyder (2002) wrote "communities of practice are groups of people who

share a concern, a set of problems, or a passion about a topic" (p. 4). The IEP team is made up of a variety of people all working together toward the same goal to ensure the success of the individual student with a disability. The members of this team have a wide range of expertise, have varying roles and will have different perspectives regarding how to provide services, but they work collaboratively to accomplish the goal of student success. "Strengthening formal and informal relationships: strong ties from formal work relationships to get things done and weak ties to connect people inside and outside the organization to develop larger networks to have access to novel and innovative information" (Seung Won, Ji Hoon, & Doo Hun, 2009, p. 52). The strength of the IEP team from the perspective of the individual team members is realized through exposure to a variety of methods for meeting a student's needs. Individualized Education Program teams may not exactly fit into the mold of a "community of practice". Individualized education program teams are formally established by mandated law, but communities of practice "are informal – they organize themselves, meaning they set their own agendas and establish their own leadership" (Wenger and Snyder, 2000, p. 142). Individualized education program teams are more formalized and there is typically an assigned case manager. There are many aspects of the community of practice that are not reflected in the IEP team as alluded by Wegner and Snyder (2000), "They start new lines of business; they transfer best practices; they help recruit and retain talent" (Wegner & Snyder, 2000, pp. 140-141).

There are seven principles of a community of practice that can be related to the IEP team:

> 1) design for evolution; 2) open dialogue between inside and outside perspectives; 3) inviting different levels of participation; 4) develop public and private community spaces; 5) focus on value; 6) combine familiarity and excitement; and

7) create a rhythm for the community. (Wenger, McDermott, & Snyder, 2002, p. 51)

The first principle allows the team to be dynamic and changing as needed. There is not a prescriptive method to providing assistance – each individual student will have different needs and the group that is developed will need to approach each student differently. This allows for the team to also be prescriptive concerning what services are offered and how they are implemented based on the data outlined in the "present level of performance" contained within each IEP. As the student changes (or grows or matures) then the IEP must also change and adapt to meet revised student needs.

The members of the IEP team itself will need to be in open dialogue. The IEP team includes parents who may be able to offer the best insights into their own child and how they respond to different situations. This also ties into the level of participation by each member. Contributions by team members will vary due to the nature of the student's needs and the members' role in the IEP development and implementation processes.

Value will be placed on the individual student as the ultimate goal of the IEP is to ensure success for the student. Therefore, the IEP team keeps the individual student as the focus of the IEP. The value principle feeds the final two principles of combining familiarity and excitement and creating a rhythm in community. It should be natural to be excited in helping a student toward success. During the process, the individual IEP team members develop a relationship with the individual student which leads toward familiarity. As the student makes progress based on the IEP, a natural rhythm will evolve and the whole process will move from the mundane to the exciting.

A closing thought examining the IEP team as a community of practice focuses on the idea of trust. Wenger, McDermott, and Snyder (2002) believed larger groups will

have more difficulty developing trust and that trust building usually happens in private (p. 121). The authors wrote "cultural differences often make trust and deep personal relationships more difficult" (Wenger, McDermott, & Snyder, 2002, p. 121). The IEP team will need to develop trust as well as overcome any cultural differences in order to work together successfully. Trust is not the only challenge faced by the IEP team; "the challenges of working in a [. . .] virtual team can include issues with trust, communication, participation, coordination, and effectiveness" (Dittman, Hawkes, Deokar, & Sarnikar, 2010, p. 196). The best approach to deal with the issues of trust, communication, participation, coordination, and effectiveness is to "establish a formal process and facilitate better communication among team members in order to perform work and develop clear goals and objectives" (Dittman, Hawkes, Deokar, & Sarnikar, 2010, p. 196). Individualized education program teams would also benefit from being well structured.

Professional Learning Communities

Both the online community and the community of practice are broad concepts. To narrow the scope of the concept of an online community and a community of practice will involve an examination of professional learning communities. Professional learning communities (PLC) "refer to professionals in a school, typically groups of teachers, who work collaboratively to improve practice and enhance student learning" (Blanton & Perez, 2011, p. 6). When discussing a professional learning community, Brouwer, Brekelmans, Nieuwenhuis, and Simons (2012) wrote "a community is seen as a promising learning environment to support and embed collaboration into the culture of the school" (p. 319). In an effective community members are able to share ideas and work together. The IEP team can be seen as such a community as each individual member has come together to learn from each more about the student receiving services

and how best to approach what the individual requires for success. Brouwer, Brekelmans, Nieuwenhuis, and Simons (2012) further posited "when it is part of the culture of the school, collaboration is more than an occasional exchange between teachers" (p. 320). For the IEP team, the discussions should be more frequent and go deeper than just fulfilling the paperwork requirements. The involvement of the parents in the process could lead toward deeper discussions. Blanton and Perez identify six characteristics found in a professional learning community: Supportive and shared leadership; open dialogue/collaboration; shared vision, values, and goals; student centered school improvement; supportive environment; and ongoing inquiry/reflective practice (p. 7).

Professional learning communities are places where teachers learn from each other. Admiraal, Lockhorst, and Pol (2012) pointed out "teachers learned from each other intuitively, as an ongoing part of their practice" (p. 345). Admiraal, Lockhorst, and Pol (2012) further stated "teacher communities can create excellent conditions for teacher learning and a sustainable form of teacher collaboration and collaborative learning which involves certain levels of commitment and dedication" (p. 346). Within the context of the IEP team, all members should be learning from each other. This learning will not just be between the educators but will include the parents as well.

The IEP team does not fit exactly within the specifics of a professional learning community because the IEP team includes individuals outside the school, e.g. the parents. But this does not mean that IEP teams could not benefit from being a PLC. The literature has shown that when teachers are involved with PLCs student achievement increases (Blanton & Perez, 2011). Brouwer, Brekelmans, Nieuwenhuis, and Simons (2012) stated "when Stoll et al. (2006) reviewed 55 studies on the effectiveness of communities of teachers, the found growing evidence that supports the impact of communities on

teachers' professional development as well as on student achievements" (p. 320). The PLC is effective for teacher interactions and student progress.

The formation of communities becomes a necessity to show that those who have come together are not just a group. Blanton and Perez (2011) stated,

> Although teacher groups might be described as a community, they may not be engaging in actions to suggest that they are actually functioning as such, which can sometimes make it difficult to distinguish between a community of teachers and a group of teachers. (p. 13)

The authors further pointed out "four dimensions that distinguished a community of teachers from a group of teachers: (a) formation of group identity and norms of interaction, (b) navigating fault lines, (c) negotiating the essential tension, and (d) communal responsibility for individual growth" (Blanton & Perez, 2011, p. 13). The IEP team is more than just a group of people coming together. The IEP team is brought together for the purpose of ensuring appropriate and needed services are implemented for an individual student. Discussions can become full of tension as each individual provider will need to work together to ensure a well-rounded education plan is formulated; all the while the parents should be advocating strongly for their child. Every member of the IEP team will gain understanding of each role and contributions of the other members on the team.

Individualized Education Programs (IEPs)

Individualized education programs have been developed from legislation specifically the Individuals with Disabilities Education Act (IDEA) (Fish, 2008; Fish 2009; Milsom, Goodnough, and Akos, 2007; Sheehey & Sheehey, 2007). The IEP has been described as the "blueprint for services to be provided for students" (Fish, 2008; Fish 2009). The IEP team will be comprised differently for each student. Each student

has different needs which would require the necessity for different types of assistance. Therefore, there can be variation in the composition of the IEP team including special education teachers, general education teachers, related service providers, administrators, parents, and possibly others (Fish, 2008; Fish 2009; Milsom, Goodnough, & Akos, 2007; Nijhuis, Reinders-Messelink, de Blecourt, Olijve, Haga, Groothoff, Nakken, and Postema, 2007). Though there could be variation on the IEP team, there are several members who are required to be part of the team: parents, at least one general education teacher, at least one special education teacher, a representative of the school, someone to interpret instructional implications of evaluation results, at the discretion of the parents or school others who have knowledge or special expertise of the child, and in some cases the student receiving services (http://idea.ed.gov/explore/view/p/%2Croot%2Cdynamic%2CTopicalBrief%2C9%2C).

The literature pointed out that collaborative practices are important to the successful delivery of services to students (Fish, 2008; Fish 2009; McConnellogue, 2011; Milsom, Goodnough, & Akos, 2007; Nijhuis, et al., 2007; Sheehey & Sheehey, 2007). The IEP team should be working together to develop an IEP that would provide the individual student with the resources and specialized instruction required for success. Williams-Diehm, Brandes, Chesnut, and Haring (2014) pointed out, "Ideally, the IEP instrument developmental process as mandated by law is designed to enhance collaboration and communication between special education teachers, general education teachers, students with disabilities, parents, school administrators, and other related supporting agencies" (p. 4). Individualized education program teams do not always function effectively. The same authors further stated, "unfortunately, IEPs most commonly have been completed by teachers drawing information from other professionals' reports without discussing and agreeing on content" (Williams-Diehm, K.

L., Brandes, J. A., Chesnut, P. W., & Haring, K. A., 2014, p. 4). Though each individual provider may have their own idea of what is best, it is up to the entire IEP team to ensure that everyone works together. The IEP is "a road map to special education services" (Diliberto & Brewer, 2012, p. 31). Diliberto and Brewer (2012) further stated "communication and planning are the driving forces behind successful IEP meetings" (p. 31). Diliberto and Brewer (2012) described six tips to help achieve successful communication, "(a) pre-meeting planning, (b) meeting facilitator, (c) meeting agenda, (d) ground rules, (e) team member knowledge essentials, and (f) jargon usage" (p. 31). Pre-meeting planning allows for the various team members to consider different ideas to be integrated into the IEP. The meeting facilitator would be the individual to run the IEP meeting and to set the agenda. The agenda itself will be a tool where all members of the IEP team would be able to provide input on topics. The ground rules "provide team members with positive communication guidelines to follow during the meeting and promote positive interpersonal communication" (Diliberto & Brewer, 2012, p. 35). Essential knowledge ensures that each member has and understands what is required to complete an IEP. Diliberto and Brewer (2012) stated "knowing the basic purpose and process leads to a successful IEP meeting with no surprises" (p. 36). The final tip, jargon usage, is to be limited or not used at all within the IEP. Diliberto and Brewer (2012) explained "educators and related service personnel may be used to this type of language, parents are probably not" (p. 37). Diliberto and Brewer (2012) continued "the use of jargon negates clarity during an IEP meeting" (p. 37).

The IEP team is focused on ensuring success for the individual student. The participation of the student's parents on the IEP team will be part of this success. The parent is often overlooked as a contributing member of the team. Fish (2008) stated "despite federal law, many parents feel alienated because educators continue to dominate

the decision-making process" (p. 9). In another article, Fish (2009) stated "parents of students receiving special education services often do not perceive IEP meetings as positive experiences" (p. 1). Sheehey and Sheehey (2007) stated "parents and professionals have difficulty establishing a level of collaboration that will benefit the child because they are coming from very different places" (p. 3). Parents are an integral and important part of the IEP team. Gershwin Mueller, and Buckley (2014) stated "the importance of parent involvement through all educational decisions is undisputed" (p. 119). Gershwin Mueller, and Buckley (2014) went on and stated "Findings indicated that children of parents [. . .] who are involved in their child's education will likely attend school consistently, demonstrate increased academic, social, and behavioral skills, and eventually increase the probability of high school graduation or successful transition to post-secondary educational opportunities" (p. 119). Parents are essential, even though they may not have had the in depth training as service providers or educators. The exclusion of any one member from the IEP team would affect the overall collaboration. Several studies also conclude that collaboration with sources outside of education could prove beneficial and should be considered (McConnellogue, 2011 & Nijhuis, 2007). McConnellogue (2011) concluded "multi-professional collaboration might facilitate early coordinated intervention and, therefore, prevent duplication of effort, avoid confusion for parents and promote ecological interventions embedded within the curriculum" (p. 60). If the IEP team is working together and keep the end goal in sight, everyone will know what is happening, where they are headed, and how they will get there. Nijhuis (2007) summarized "collaboration between rehabilitation and educational professionals and parents is supported and encouraged" (p. 593). Nijhuis (2007) concluded "to optimize team interactions, the nature of each stakeholder group's involvement, and the roles and responsibilities of each team member in the various team interactions need to be justified

and formally settled" (p. 602). It is essential that the IEP team take the time at the beginning of each meeting to communicate each member is important, especially the parents.

There is a lack of research on managing IEP caseloads via technology. One literature review examined over 470 articles between 1970 and 2009 on the topic of special education leadership (Crockett, Becker, & Quinn, 2009). Several trends were identified through the process including "an increased emphasis on school improvement, teaching and learning, and collaboration and democratic voice, in addition to a steep rise in attention to issues of equity and advocacy for children and families" (Crockett, Becker, & Quinn, 2009, p. 55). Positive trends fell in line with many other studies; however the authors noted "despite the timeliness of the topic, we did not identify upward trends in content addressing technology use in administrating special education in this decade [2000-2009]" (Crockett, Becker, & Quinn, 2009, p. 63).

As discussed previously, research related to caseload management is typically geared toward medical contexts. Even so, there are similarities that correlate to the current research of the impact using technology to manage IEPs on the collaboration of the IEP team. One article examined a problem surrounding an electronic record management system. The issue identified was the lack of collaboration between nursing staff and physicians (Green & Thomas, 2008). The lack of collaboration could have been a result of a poorly designed system or the change in a business practice that individuals were not properly trained to implement. The same would be true for a management system used for IEPs. The use of technology could shed light on issues such as the effectiveness of collaboration between team members.

The management of IEPs is moving from handwriting out documents in triplicate and filing in locked storage cabinets to being prepared using technology and stored

digitally. A Google search for IEP software will provide over 600,000 hits on the various types of packages available. The effectiveness of these software packages comes from identifying needs and standardizing ways of reporting information. Seung, Ji Hoon, and Doo Hun (2009) stated "one critical consideration is how to strategically use human resource development and performance technology systems [. . .] for organizational learning and knowledge creation" (Seung, Ji Hoon, & Doo Hun, 2009, p. 64).

Collaboration

Collaboration is a term that has come to the forefront through several studies (Cook & Friend, 2010; Ditman, Hawkes, Deokar, & Sarnikar, 2010; Foulger & Williams, 2006; Jeffs & Bannister, 2006; Jones & Burgess, 2010; Kennedy, 2011; Llamas, 2011; Ludlow, 2012; Olivos, Gallagher, & Aguilar, 2010; Palawat & May, 2012; Rose, 2011). Collaboration finds itself in the center of the IEP process as team members need to work together to ensure the student's needs are met. The following review of the literature will examine the importance of collaboration followed by how this skill can be developed.

Implementing collaboration or development of collaborative skills, such as working as a team and sharing information, has grown (Lockhorst, Admiraal, & Pilot, 2010; & McLaren, Bausch, & Ault, 2007). Lockhorst, Admiraal, and Pilot (2010) discussed collaborative learning as a promising way to develop collaborative skills. McLaren, Bausch, and Ault (2007) discussed the need for districts to hold in-service opportunities for teachers to learn collaborative skills. Several studies show the effectiveness of collaboration in a variety of ways (Garcia & Rose, 2007; Lockhorst, Admiraal, & Pilot, 2010; McLaren, Bausch, & Ault, 2007). Within the realm of education there is a great need for collaboration especially between general education and special education teachers. McLaren, Bausch, and Ault (2007) determined six different characteristics that need to be considered for successful collaboration: "(a) mutual goals,

(b) parity, (c) shared participation, (d) shared resources, (e) shared accountability, and (f) voluntariness" (McLaren, Bausch, & Ault, 2007, p. 17).

Definition. Collaboration has been defined as two or more parties working together towards common goals through sharing of decisions (Cook, Friend, 2010; Kennedy, 2011; McLaren, Bausch, & Ault, 2007; Rose, 2011). The following informal definition works for the purposes of this study since this is the core function of the IEP team: to work together to establish goals for each individual student and to ensure those goals are being met through a variety of services.

Need. Collaboration has been necessary in the special education field for nearly "half a century" (Cook & Friend, 2010). Several studies point out that collaboration was formally recognized and mandated through the passage of several pieces of legislation: Education of All Handicapped Children Act of 1975 (PL 94-142) and the Individuals with Disabilities Act (IDEA) of 2004 (PL 108-446) (Cook & Friend, 2010 & Olivos, Gallagher, & Aguilar, 2010). The necessity of collaboration is not just limited to the various educators involved whether they are general, special, or related service providers; the necessity of collaboration extends to include the parents (Olivos, Gallagher, & Aguilar, 2010) as well as other outside sources (Kennedy, 2011; Llamas, 2011; Rose, 2011).

The IEP team is made up of general educators, special educators, related service providers, parents, and possibly school administrators and outside professionals such as psychologists or therapists. Collaboration becomes essential to the IEP team as the team works together toward common goals. For the collaboration to be successful it is important that every member understand what is happening – knowing the student, knowing the needs, and knowing the most effective way to meet those needs. Cook and Friend (2010) pointed out that there is a "strong need for continued dialogue concerning

the theory of collaboration for school professionals, its translation into appropriate practices, and its impact on outcomes for students with disabilities" (p. 3). Palawat and May (2012) took this concept a step further and illustrated that culture has an impact upon collaboration practices. They state "when professionals understand cultural and social differences, mutually respectful relationships between parents and professionals can contribute to effective collaboration in the processes of referral, evaluation, and placement of children with disabilities in special education" (p. 61).

Skill Development. The literature has established the need for collaboration specifically for the education of students with special needs. Several studies have been completed on the nature of collaboration (Ditman, Hawkes, Deokar, & Sarnikar, 2010; Foulger & Williams, 2006; Jeffs & Bannister, 2006; Jones & Burgess, 2010) with most pointing out the growing need for skills to be developed in this arena. Wepner and Quatroche (2011) stated "several characteristics have been identified that appear to lead to successful collaboration [. . .] shared vision, commitment, caring, positive interaction, and power sharing" (p. 106). One of the major collaboration skills needed is communication (Jeffs & Banister, 2006, p. 411; Jones & Burgess, 2010, p. 137-138). Jeffs and Banister (2006) described communication as "face to face meetings" (p. 414) or "dialogue [. . .] conducted online" (Jeffs & Banister, 2006, p. 414). Another collaboration skill identified is developing relational links (Ditman, Hawkes, Deokar, & Sarnikar, 2010, p. 196; Foulger & Williams, 2006, p. 108). Relational links are developed through the "relationships and trust between members" (Ditman, Hawkes, Deokar, & Sarnikar, 2010, p. 198). Collaboration skills are essential for every member of the IEP team. Educators can garner these skills through professional development programs and ideally should become a part of teacher education programs. For parents

or other specialists, having seminars either presented by the district or through a community effort could go a long way in helping people build collaboration skills.

Professional development can occur in a formal setting, structured course, or through small groups. Sturko and Gregson (2009) examined both these approaches and determined that both "provided teachers with opportunities to collaborate and grow as professionals" (Sturko & Gregson, 2009, p. 34). Admiraal, Lockhorst, and Pol (2012) indicated that "professional development of teachers in secondary education can take a variety of shapes: collective or individual development, continuing education, preservice and inservice education" (p. 360). Stanley (2011) examined factors that could affect the effectiveness of professional development amongst teacher groups. The study examined various elements of a team that would lend themselves to growth including collaboration. The author concluded that the process would be most effective when all members' expertise is honored (Stanley, 2011, p. 77). The concept that all members have a level of expertise applies to the IEP team as well. Each member of the IEP team can and must contribute to the goals and objectives that will be followed to ensure the student's needs are being met. Honoring each member's contribution or expertise is a big part of the collaboration process. One study concluded "trainees self-identified a need to develop a social structure, and harness technological infrastructure, to cultivate sustainable collaborative efforts" (Urquhart, Cornelissen, Lal, Colquhoun, Klein, Richmond, & Witteman, 2013, p. 280). The authors further stated, "trainees initiated a [community of practice] to provide a positive peer environment [. . .] to network and build relationships, develop skills, and create and share knowledge" (Urquhart, Cornelissen, Lal, Colquhoun, Klein, Richmond, & Witteman, 2013, p. 280).

There have been studies conducted that show how collaboration skills have been affected through professional development (Lockhorst, Admiraal, & Pilot, 2010;

McKenzie, 2011; Stanley, 2011; Strahan, Geitner, & Lodico, 2010; Sturko & Gregson, 2009). Sturko and Gregson (2009) pointed out that the increase in collaboration amongst the educators was dependent on the context, specifically "learning and collaboration were bound within the contexts of the teachers and their different professional development experiences" (p. 56). McKenzie (2011) focused on the professional development of related service providers and points out that "communication is an integral part of collaborative IEP teams" (p. 40). McKenzie (2011) further supported that collaboration skills are increased amongst the entire team when the entire team meets weekly to "get to know each other and build a stronger sense of collegiality" (p. 41).

Professional development for rural educators can be different due to the uniqueness typically found in this setting. These characteristics identified by Irinaga-Bistolas, Schalock, Marvin, and Beck (2007) included "low salaries; social and cultural isolation; professional isolation; diverse caseloads; lack of resources [. . .] ;lack of preservice training; significant travel requirements; [. . .] and limited career opportunities" (p. 13). The study focused on the implementation of a model named the Bridges to Success. This model utilized three components: orientation, mentoring, and professional development (Irinaga-Bistolas, Schalock, Marvin, & Beck, 2007). The participants of the study showed increased levels of confidence and competence through the model which lead to increased levels of collaboration with other professionals and participants in IEP meetings (Irinaga-Bistolas, Schalock, Marvin, & Beck, 2007). Standardized training for teachers should include ways of growing collaborative skills. Again, technology played a role in this skill acquisition. Jeffs and Banister (2006) stated:

> As students with special needs continue to be included in general P-12 classrooms, teachers (both general education and special education) are challenged to work together to meet the educational needs of every student. In

> addition, state and national standards require that teachers use computer technologies to support teaching and learning. (Jeffs & Banister, 2006, p. 408)

The literature indicated that educators were not the only group that could receive training. Whitbread, Bruder, Fleming, and Park (2007) examined the need for parents to receive training in the IEP process and collaboration skills. The premise here that while parents are encouraged to participate in their child's education including being part of the IEP process and team there is invariably misunderstanding, miscommunication, and a lack of knowledge and skills which can hinder relationships (Whitbread, Bruder, Fleming, & Park, 2007). The study included training for parents which "furnished information on special education law and processes to facilitate meaningful parent involvement in IEP development" (Whitbread, Bruder, Fleming, & Park, 2007, p. 11). Not only did this lead to a "positive outlook on future collaboration" (Whitbread, Bruder, Fleming, & Park, 2007, p. 11), but a participant commented "[this training] has given me the power of knowledge and the ability to anticipate the future with hope" (Whitbread, Bruder, Fleming, & Park, 2007, p. 11).

Professional development is one way that collaboration skills can be improved upon or learned. Educators should be taught these skills from the moment they enter into any formal training program, but there should also be professional development available either through the districts or state departments. Several studies show the growing trend of teaching educators collaboration skills from the outset (McKenzie, 2009 & Stein, 2011). Stein (2011) posited, "Classroom teachers form the front line in identifying students with learning difficulties that need to be addressed through intervention" (p. 40). Stein (2011) further stated,

> More information can be incorporated into the teacher preparation program to provide a foundation for in-service teachers to understand the pre-referral process,

> gather relevant data, make accurate referrals to the SST, and craft intervention strategies and plans to successfully address students' needs. (p. 40)

A study was done to look at professional teacher communities and how these contribute to collaboration skill development for the teachers (Lockhorst, Admiraal, & Pilot, 2010). The study pointed out that "collaborative skills should be addressed in [. . .] collaborative learning tasks, supported with technology" (Lockhorst, Admiraal, & Pilot, 2010, p. 63). That particular study, while there was discussion on teacher communities, used initial teacher training programs for the method of research. Five categories of collaboration were analyzed: participation, interaction, nature of communication, level of information exchanged, and the nature of regulative communication (Lockhorst, Admiraal, & Pilot, 2010, p. 68). These categories were used in this research to analyze the collaboration between the IEP team members; this helped to detail how the retention, production, and motivation aspects of social theory framework is used in this research. McKenzie (2009) examined several programs for educators to see how collaboration skills were being incorporated and came up with three "factors related to the experiential foundation of collaboration training" (p. 386). The three factors include: many pre-service programs incorporate collaboration between educators while at least as many do not; the majority of programs require those majoring in special education to demonstrate competency in collaboration; finally only one quarter of the institutions of higher education examined required that general education student teachers demonstrate similar collaboration competencies as the special education student teachers (McKenzie, 2009, p. 386-387).

Culture of Collaboration. Professional development is one arena where a culture of collaboration can begin to become a reality. McCombs (2010) related an instance where a district having to rethink education in light of an economic situation

stated, “We implemented a strategic plan that began with a dynamic professional development (PD) program for our teachers and administrators that would ultimately lead to unprecedented collaboration among both staff and students” (p. 11). The author went on stating “The PD program itself was a model of collaboration” (McCombs, 2010, p. 11). The success of the program described by McCombs (2010) culminated with the statement “Collaborative planning has become a cornerstone of our district’s approach to instruction” (p. 12). This was due in large part to the initial district administrative support and continued support beyond the first year; “because we have administrative support and consistent and adequate funding for PD” (McCombs, 2010, p. 12). McCombs (2010) further explained how some educators who used to dread PD sessions have come to look forward to them and “the results are evident in more than just their attitudes. By the end of the first year, test scores rose dramatically” (p. 13).

A culture of collaboration must begin first at the highest levels of education management. One superintendent told the story about starting his superintendent position with a chill as he examined the student achievement data (Smith, 2012). Smith (2012) explained that “when we jointly reviewed the data, it became clear that, although everyone in the district was working hard, we were working hard on random acts of improvement at every school and at the district leadership level” (p. 23). Smith (2012) went on to describe three major events that helped to turn the district around. He established a common mandate that every school within the district could adhere to. First he described establishing three foundational beliefs “hope is not a strategy; we don’t blame the students; and it’s all about learning” (p. 24). Secondly, Smith (2012) attended a conference where he learned about “collaboration in a professional learning community, or PLC, as a system of support for students and teachers” (p. 24). Smith (2012) brought the concept of the PLC back to his district and implemented the system

announcing that their district would become a "professional learning community district" (p. 25). Smith (2012) described the successes achieved through implementation and even after seven years there is continual improvement. There were some rough roads to travel at first as Smith (2012) stated "Those who initially believed 'this too shall pass' have come to realize that professional learning communities are part of our district's culture" (p. 27). In conclusion, Smith (2012) stated the success "would not have been possible without the focus and collaborative effort of teachers, staff, and administration working together as a professional learning community" (p. 27).

A culture of collaboration does not happen automatically. As has already been discussed, there is an investment of time that is necessary for the culture to be developed. Another facet to building a culture of collaboration is the development of relationships. Schrack (2015) wrote "building collaborative relationships often takes time and can sometimes be challenging" (p. 35). Benefits of these relationships and the time to establish varying procedures included "we are collaborating more effectively and efficiently than ever before" (Schrack, 2015, p. 36). Schrack (2015) further stated that the use of a collaborative tool "led our administration to reevaluate how we collaborate with other groups within our building in order to enhance communication" (p. 36).

A culture of effective collaboration does not necessarily need to come from the top-down approach as has already been examined. Bubb, Herzog, Terry, and Geithner (2010) examined an approach where collaborative efforts were initiated from the bottom. The authors examined the failure of an institution to integrate assessment tools and procedures. Following resistance, "the academic vice president (AVP) threw his support behind a bottom-up approach recommended by faculty members who believed that their colleagues would recognize the value of good assessment if a top-down process could be avoided" (Bubb, Herzog, Terry, & Geithner, 2010, p. 6). The authors described the

faculty attending seminars and conferences and passing on the learned information to others. Planning was done and a strategy was agreed upon to move forward. Success was "based on true cooperation between administration and faculty – that is, concrete and consistent administrative support for faculty ideas and faculty work" (Bubb, Herzog, Terry, & Geithner, 2010, p. 8).

The integration of technology could help with establishing a culture of collaboration. Cofino (2010) discussed the necessity for a "technology facilitator or coach" (p. 23). The idea of the coach comes from teachers already over loaded with an extensive list of responsibilities and with technology rapidly changing (Cofino, 2010). Cofino (2010) stated,

> bringing together the pedagogical expertise of the classroom teacher and the technological understanding of the coach not only provides consistent, embedded professional development, but also makes the most of the extensive resources [. . .] in a way that effectively meets the needs of today's students." (p. 23)

Cofino (2010) discussed the idea that "technology collaboration is anything but static" (p. 23). Collaboration is a dynamic and changing occurrence. Cofino (2010) stated "collaboration allows teachers to combine strengths, share responsibilities, and learn from each other" (p. 23). With each success in collaboration, this spreads throughout the school encouraging the "breakdown of classroom walls through the use of new forms of communication" (Cofino, 2010, p. 23). Cofino (2010) defined a cycle of collaboration including full collaboration, partial collaboration, coaching, and mentoring. Full collaboration consists of "frequent and consistent collaborative planning, learning, and assessment" (Cofino, 2010, p. 23). Partial collaboration is "regular collaborative planning, learning, and assessment" (Cofino, 2010, p. 23). Coaching consists of "occasional collaborative planning, learning, and assessment" (Cofino, 2010, p. 23).

Mentoring is “occasional conversations” (Cofino, 2010, p. 23). The cycle consists of various times when the teacher and the coach would be working together and what that would look like depending on the situation at the time. At the center of this cycle is the idea of “consistent professional development opportunities” (Cofino, 2010, p. 23).

Summary

The literature made it clear that technology made its way into education. Educators use software to enhance their lessons; students use software to enhance learning. Caseload management of individualized education programs (IEPs) can also be accomplished through various software packages. The literature shows that technology has made collaboration easier through various software packages such as WebSTAR.

The IEP team is seen as a community in that the team has come together to ensure a particular student’s needs are met. The literature discusses how communities can fail or succeed depending on aspects such as considering concepts of culture, participation, or standardization. The literature became specific with the need for standardizations through ADA, WAI, Section 508 and other legislation such as NCLB or IDEA. This is especially true regarding the IEP which focuses on meeting the needs of the student. These IEP teams function through the use of collaborative efforts.

The literature has defined collaboration as two or more parties working together towards common goals through sharing of decisions (Cook, Friend, 2010; Kennedy, 2011; McLaren, Bausch, & Ault, 2007; Rose, 2011). The literature is clear in showing collaboration skills are needed. These skills should be developed through initial program training or through formal or informal professional development programs.

The literature shows how collaboration helps facilitate the IEP process. This collaboration is enhanced through the use of software. The literature discussed how a culture of collaboration can exist and how a culture of collaboration can be formed.

However, a definite gap can be found in the literature where there is a lack of research on the impact the use of software to manage IEPs has on the collaboration of the IEP team.

CHAPTER THREE: METHODOLOGY

Introduction

The purpose of this phenomenological study was to gain a deeper, richer understanding of how educators use of software for managing IEPs in school districts in Alaska impacts collaboration. This chapter provides additional information regarding the study including details regarding the composition of the research.

Design

This study was qualitative in nature following the phenomenological approach. Phenomenology is defined as the "meaning of experiences of a phenomenon for several individuals" (Creswell, 2007, p. 238). Another way of putting this is the "study of the world as it appears to the individuals when they lay aside the prevailing understandings [. . .] and revisit their immediate experience of the phenomenon" (Gall, Gall, & Borg, 2007, p. 495). The phenomenological approach was best for this study to understand how the participants perceive collaboration is affected through the use of software to manage IEPs. Participation in the focus groups delved deeper into the experiences of the educators to discover their perceptions regarding collaboration. Transcendental phenomenology is defined as the "researcher sets aside prejudgments regarding the phenomenon [. . .] the researcher relies on intuition, imagination, and universal structures to obtain a picture of the experience" (Creswell, 2007, p. 237). Hermeneutics is defined by Gall, Gall, and Borg (2007) as "the study of the process by which individuals arrive at the meaning of any text" (p. 520). This research incorporated hermeneutics through the examination of each participant's responses to the interview questions and focus group session combined with the observations of the participant's involvement in IEP meetings and using the IEP software to manage the case to gain a broader understanding of the participants' perceptions (Creswell, 2007).

Research Questions

This study examined four questions:

- What are the challenges identified by educators when using software to manage IEPs?
- What are the benefits identified by educators when using software in managing IEPs?
- What are educators' perceptions on the impact using software to manage IEPs has on the collaboration among the IEP team?
- What are educators' perceptions of the use of software on increasing collaboration skills?

Setting

This research was conducted in public school districts within the state of Alaska. This setting was ideal for a study dealing with districts that require the use of software for collaboration due to remoteness; many of the schools within the state are not connected by conventional means of transportation. In several districts within the state of Alaska, typical modes of transportation may include a small plane, boat, dog team, snow machine, and/or ATV. Due to the remoteness of several Alaskan communities, several individuals on an IEP team may be itinerant and/or cover several schools or even several districts.

There were three different software programs used by the districts which participated in this study. The three programs included SEAS, iPlan, and FileMaker. Special Education Automation Software (SEAS), is a web based data management system for special education. "SEAS assists professionals in navigating through mandated IEP and other due process timelines" (www.iser.com/seas-software.html). The

district included in this study which utilized SEAS has been doing so for at least eight years.

The next software system utilized is named iPlan which is a sub component of SchoolMax. SchoolMax is a solution provided by Harris School Solutions (http://www.harrisschoolsolutions.com/en/solutions/family_products/). The site for Harris School Solutions does not offer any information regarding SchoolMax other than it is a student management software program. The component used by the special education case managers was iPlan which was used to manage, maintain, and create IEPs for students.

The final piece of software included in the study was FileMaker. FileMaker is a highly customizable form and database program. A district included in the study had a functioning IEP form and data management system completely built by in-house personnel. This program kept more on-going changes in state standards for education and the necessary information required for certain types of IEPs. While this was not a web based solution, the program was available to educators away from the office through the use of a virtual private network (VPN) connection.

Participants

The participants were purposefully selected. Creswell (2007) defined purposeful sampling as "the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study" (p. 125). Criterion sampling was further employed in order to ensure the participants experienced the same phenomenon. Creswell (2007) stated "criterion sampling works well when all individuals studied represent people who have experienced the phenomenon" (p. 128). All participants had at least two years using software for managing IEPs. This experience gave the educator time to work through learning the

particular software and help to minimize issues around not knowing or understanding the software; thereby not allowing the responses during the interview and focus group session to become diluted. Creswell (2007) wrote "it is essential that all participants have experience of the phenomenon being studied" (p. 128). The participants included 16 special education teachers, general education teachers, and related service professionals. A majority of the participants were from one district. There were some who were assigned to multiple schools and all carried a caseload of multiple students. All participants were female. Pseudonyms were assigned for each participant to protect anonymity and were selected from a list of 100 actors found on the internet; names were taken and assigned in the order found on the list.

Abigail

Abigail has been involved with teaching for over twenty years. Most of that time she spent teaching students with special needs as a resource teacher. The bulk of her experience was with younger students at primary elementary level (K-3).

Amber

Amber has been an educator for close to twenty years. She spent a majority of her time as a resource teacher. She did have a few years as an early elementary general education teacher for kindergarten and first grade. Amber's resource teacher experience spans all age groups. She was involved with creating a moderate/severe room for students with behavioral needs at one location due to the growing need.

Billie

Billie has been a special education teacher for twenty years; a total of thirty-four years of teaching experience. Billie started out on the East Coast working in several small rural districts. She has been at her current district for four years.

Brittany

Brittany has been an educator for seventeen years. She spent most of that time in early elementary positions. She spent four years as a general education kindergarten teacher before going back into special education for pre-school ages.

Caitriona

Caitriona has held many different positions within education for the past sixteen years. She started out as a program coordinator writing grants. She later became involved at the state level as an interim director. She considers herself a jack-of-all trades having taught everything from sex education to biology. Caitriona's recent experience includes being an ESL teacher and most recently an ESL special education teacher.

Emily

Emily has been a speech pathologist for over thirty years. A majority of that time has been spent working with high school students. She has worked for the same school district for over twenty-five years.

Emma

Emma has been an educator for over twenty years. She has worked as a speech and language professional and she has worked in a resource room. She has experience with special education for deaf and hearing as well as for speech and language. She is certified as a special education teacher for pre-K through 12th grade. She also has her ESL endorsement. She currently works with intensive students at the high school level, helping them with transitioning out of high school.

Eva

Eva has been in education for almost twenty-seven years. Most of her time in education has been as a speech pathologist. For about four of her years of experience she worked as a private contractor with several districts and she would visit rural locations to

offer services mainly in early childhood education. Eva has worked in her current district for about thirteen years as a speech pathologist.

Jennifer

Jennifer has been a special education teacher for elementary age students for over ten years. She has been at her current school for the past year.

Katharine

Katharine has been in education for the past twenty-nine years. She spent most of that time as a special education teacher. She did have some experience as a school counselor for several years in a small rural district. She has worked in her current district for fourteen years.

Kaya

Kaya has been involved with education for almost twenty years. She worked as a special education teacher (one year), a resource room teacher (seven years), worked in the central office with the Director of Special Education (seven years), and more recently back as a special education teacher (five years).

Nicola

Nicola has been in education for over thirty years. She started as a resource teacher for K-2 then expanded to K-6. She got a taste for special education when she was named an interim SPED Director until a replacement was hired. She then jumped up to the high school level for a more rounded experience where she worked for nine years before going back into special education for middle school for several years. During her time at the current district, she was the only general education and special education teacher for all grade levels (K-12) for four years. She has returned to teach high school students with disabilities for the past three years.

Rosamund

Rosamund has worked in education as an occupational therapist for fifteen years. She does have a graduate degree in early education.

Scarlett

Scarlett has been in the education field for four years. She did a couple years of student teaching. She has experience working as a para-educator for severe needs students and currently works as the special education teacher for severe needs students.

Shailene

Shailene has been working in education for fourteen years. The first half of her experience was with intermediate elementary age (fourth – sixth grades) as a resource teacher. She has been in her current district for the past seven years and is working as a special education advisor.

Sophia

Sophia has been in education for over thirty years. She spent the first ten years as a para-professional in Title 1 schools. She was a physical education teacher for one year before her current role as special education teacher.

Procedures

The process began with written planning and approval from Liberty University's Institutional Review Board (IRB) (Appendix A). Once approval from the IRB was established volunteer school districts were sought through email contacts to various districts within the state of Alaska (see Appendix F for the recruitment email). Once school districts were identified, participants were recruited by the district personnel. Consent forms were signed by those participants willing to participate. The consent forms informed each participant of the voluntary nature of the study and reminded them that they could withdraw at any time (see Appendix B for the consent form). Semi-

structured interviews (Appendix C) were scheduled with each participant. Following the interview, observation (see Appendix E for the observation protocol) of the participant using the software was performed. Focus groups (see Appendix D for the focus group session questions) were established with two or three participants depending on who was available at the various locations. Interviews and focus group sessions were digitally recorded. The researcher began to manually transcribe the digital recordings and after only completing a few decided to send a majority of the recordings to a transcription service to expedite the process. These transcripts were used in the analysis.

The data collected was analyzed using reflective analysis along with a simplified version of the Stevick-Colaizzi-Keen method as identified by Creswell (2007). Reflective analysis is described as "a process in which the researcher relies primarily on intuition and judgment in order to portray or evaluate the phenomenon being studied" (Gall, Gall, & Borg, 2007, p. 472). The method described by Creswell (2007) can be expressed as phases: a) classifying – developing significant statements from the data collected and grouping these into themes; b) interpretation – developing textual and structural descriptions and identifying the essence of the phenomenon; c) representation – present the essence of the phenomenon through tables, figures, or discussion (Creswell, 2007, p. 156-157).

The Researcher's Biography

The researcher was considered an outsider. The researcher had no prior contact with the participants in any of the districts that were part of the study. The researcher does not work for any school district nor does the researcher have any authority over anyone within the participating districts. The researcher does have extensive experience with technology and the development of software applications that specifically contribute

to collaboration. This experience helped with analyzing the data collected as well as assisted with providing direction for the focus group sessions.

Data Collection

Triangulation of data is the "use of multiple methods to collect data about a phenomenon" (Gall, Gall, & Borg, 2007, p. 460). Triangulation is used to enhance the validity of the findings. The triangulation of data collection in this study occurred through three different mediums. The first was through one-on-one interviews with the individual participants. The second collection method utilized in this research was several focus group sessions. The final collection method was observations of the participants as they used software to manage IEPs. The researcher was able to sit in on and observe participants during four IEP team meetings. The sequence of data collection began with the one-on-one interviews with each participant. Immediately following each interview, the researcher observed the participant using the software to manage an IEP. Focus group sessions and the observations of IEP meetings were scheduled for convenience and occurred after interviews and observations of using the software.

Interviews

Interviews were semi-structured in nature and were scheduled individually with each participant. A semi-structured interview is defined as "A type of interview in which the interviewer asks a series of structured questions and then probes more deeply with open-ended questions" (Gall, Gall, & Borg, 2007, p. 653). The use of open-ended questions helped to illicit responses from the participants to discuss in greater detail their previous experiences and expectations. A modified version of Cookson's (2010) and Slaven's (2011) interview questions were used to look for insights into educators' use of technology to manage caseloads. The interview questions used in this study:

1. What positions have you held in education and the duration of each?

2. Did you receive any training on collaboration? This could include teacher preparation courses or professional development (informal and formal).
3. Describe your experience using the software program to manage IEPs for students?
4. Did you receive any training on how to use the software program to manage IEPs for students?
5. Describe your relationship with other educators you work with during IEP meetings?
6. How does your relationship with other educators affect your collaboration?
7. How is collaboration on the IEP team affected through the use of the software program to manage IEPs for students?

The first question was used to get an understanding of the individual participant; and to know their own background experiences. This question helped to establish rapport with the participant.

Question two was asked to determine if any kind of collaboration training was offered. This question came from several studies which noted the importance of increasing the exposure of educators to collaboration training (Irinaga-Bistolas, Schalock, Marvin, & Beck, 2007; McKenzie, 2009; McKenzie, 2011; Stanley, 2011; Stein, 2011; Straham, Geitner, & Lodico, 2010; Sturko & Gregson, 2009; Whitbread, Bruder, Fleming, & Park, 2007). This question integrates with the importance noted in the literature for increasing collaboration skills.

Questions three and four deal with the software program used to manage IEPs. The responses to these questions helped in developing the descriptions necessary to define the phenomenon (Creswell, 2007). Understanding how the participant felt about the software was beneficial toward understanding their perception of the software.

Perceptions could also be tainted if little or no training was offered in understanding the software and its use to manage IEPs. This information together helped formulate the conclusions regarding the impact using the software had on the collaboration of the team.

Questions five and six stem from the definition used in this study for collaboration; two or more parties working together towards common goals through the sharing of decisions (Cook, Friend, 2010; Kennedy, 2011; McLaren, Bausch, & Ault, 2007; Rose, 2011). Since collaboration includes at least two people, some form of relationship will be established. Understanding how the participants related with their colleagues gave a deeper understanding of their view of collaboration. The responses to question six provided insight into the perception of the participant in how collaboration is effected by relationships.

The final question is targeted at the primary focus of this study; the deeper understanding of how software to manage IEPs impacts the collaboration of an IEP team. Each participant was given the opportunity to share their thoughts on the matter which added to the description of the phenomenon.

The interviews were conducted on site at the various schools where the participant was located. The interview took place in an office or a classroom during the normal school day. There were two interviews that did not hold to this procedure. One of these two interviews took place in a break room while the other took place in a restaurant after normal school hours. Each interview was digitally recorded using HT Recorder+ for the iPad. The interviews lasted anywhere between five and thirteen minutes depending on the talkative nature of the participant. The interviews were completed in approximately two hours.

Focus Group Sessions

The focus group sessions were unstructured interview sessions where the questions were open-ended and discussed by all participants. The focus groups were established mainly by location of the various participants at the time. The focus group sessions were scheduled at a time that would work for the most participants' availability. The use of the focus group method falls in line with what Creswell (2007) described as "advantageous when the interaction among interviewees will likely yield the best information" (p. 133). The groups consisted of either two or three participants. The groups were limited in size mainly due to participants being in the same school within a given district. Each focus group session was held in a classroom. The sessions were conducted during the research period. The focus group sessions were scheduled for a time when participants would be able to get together depending on schedules. There were a total of five focus group sessions. The focus group sessions were digitally recorded using the application HT Recorder+ for the iPad. The focus groups lasted between eight and twenty-three minutes depending on the talkative nature of the group. The focus groups were completed in approximately one and one quarter hours. The sessions discussed the importance of collaboration during IEP team meetings and on how the use of software impacts collaboration of the IEP teams. The focus group sessions helped to further develop the textural and structural descriptions (Creswell, 2007 & Gall, Gall, & Borg, 2007) which helped to further understand the perceptions of the phenomenon by the participants. The questions used in the focus group sessions were as follows:

1. What do you see as important for collaboration as part of an IEP team?
2. Would formal or informal training opportunities on collaboration skills be beneficial? Why?

3. Describe what individuals can do to enhance the collaboration of the IEP team.
4. What do you see as important in a software program to manage IEPs for students to enhance the collaboration of the IEP team?
5. How do you see formal or informal training on the software program used to manage IEPs enhance the collaboration of the IEP team?
6. Describe how the individual team member could help enhance the collaboration of the IEP team through the use of software to manage IEPs for students.

The first three questions are related as they point to collaboration. The intention in asking these questions in the order given was to help understand what a group of people would think about collaboration and what could be done to either increase the skill level or to potentially promote the idea of collaboration. These questions provided a greater insight into the perceptions of the participants with regards to collaboration as a whole especially in light of the IEP team.

Question four was used to gain an understanding of the perceptions of the group of participants regarding the software to manage IEPs. Asking this in the group helped to see what may have been missed during the individual interviews.

Question five provided the same deeper understanding in how the group of participants really saw the potential for training on using the software to manage IEPs could impact the collaboration of the IEP team.

The final question was intended to gain deeper understanding into how the participants felt about their own involvement in using the software to manage IEPs to impact the collaboration of the IEP team.

Observations

Observation in qualitative research "allows researchers to formulate their own version of what is occurring and then check it with the participants" (Gall, Gall, & Borg, 2007, p. 276). Observations of the participants using software to manage IEPs and involved in an IEP meeting helped the researcher to better understand the perceptions of the participants; this form of observation is known as the complete observer (Gall, Gall, & Borg, 2007, p. 277). The observations of the participants using the software to manage IEPs occurred directly following the one-on-one interview with each participant. The observation of the participant using the software took place either in an office or in a classroom and was conducted either by laptop or desktop depending on the situation. The researcher took notes using an observation protocol (Appendix E). This observation lasted anywhere from ten to thirty minutes depending on the interest of the participant and what they wanted to focus on. All observations of software use were completed in approximately three hours. Observations of IEP team meetings took place at the scheduled time already determined by the participants involved. The IEP team meetings took place either in a conference room or a classroom. For each IEP meeting the research took notes using an observation protocol (Appendix E). The IEP team meetings lasted between 30 minutes to just over one hour depending on the nature of the meeting. Three IEP meetings were observed. The observations of the IEP meetings were completed in approximately two and one quarter hours. The observations further helped to develop the textural and structural descriptions (Creswell, 2007 & Gall, Gall, & Borg, 2007) adding insights into the phenomenon. To help with the recording of the information from the observations, an observation protocol was used. The protocol had two columns with one side reserved for descriptive notes and the other side for reflective notes. A sketch of the setting where the observation took place was included. This protocol was based on the

protocol described by Creswell (2007, p. 135-138). A model form can be found in Appendix E. For all observations, the researcher was considered as a non-participant.

Data Analysis

The process of gathering data from various sources and examining and re-examining the information to determine meaning is called reflective analysis (Gall, Gall, & Borg, 2007, p. 472). All the data collected from the interviews, focus group sessions, and the observations were analyzed using reflective analysis as well as a simplified process identified by Creswell (2007). The method described by Creswell (2007) can be expressed as phases:

> a) classifying – developing significant statements from the data collected and grouping these into themes; b) interpretation – developing textual and structural descriptions and identifying the essence of the phenomenon; c) representation – present the essence of the phenomenon through tables, figures, or discussion. (Creswell, 2007, p. 156-157)

NVivo was used to assist with the analysis of the data collected through interviews, focus group sessions, and observations. According to Creswell (2007) this particular software can "help manage, shape, and analyze qualitative data" (p. 167). The NVivo software also helps to secure data; allows for multiple language use, merging of research done by teams, and manipulation of data. The software also has a capability of producing graphic displays of the codes and categories established by the research (Creswell, 2007). Jones and Burgess (2010) used this program as part of their study and they state "the object of NVivo analysis is to deconstruct blocks of data through fragmentation and then have them coalesce into collections which relate conceptually and theoretically and which make assumptions about the phenomenon being studied" (p. 141-142).

In order to analyze the impact on collaboration it was necessary to use a tool to identify collaboration. Lockhorst, Admiraal, and Pilot (2010) developed an instrument with five categories to measure the collaboration of participants. This instrument was used to analyze the notes taken by the researcher from the focus group sessions and from the observations. The categories identified by the instrument include participation, interaction, nature of communication, level of information exchange, and the nature of regulative communication (Lockhorst, Admiraal, & Pilot, 2010, p. 68). This information then helped to identify the perceptions of participants with regards to the effects of using software to manage IEPs on collaboration.

Interviews

The interviews were transcribed and examined. The examination provided an avenue to understand the experiences described by the participants. The transcripts from the interviews were entered into the NVivo software for assistance in analyzing the responses. Coding in NVivo involved grouping statements into groups of meaning or themes as Creswell (2007) identified listing significant statements and grouping these into meaning units or themes (p. 159). It is from these themes that the experiences described by the participants became clear. The interviews established the description of each participants' experience. Creswell (2007) identifies this process as describing the experiences (p. 159).

Focus Group

The focus group sessions were transcribed and examined. Examination of the focus group transcripts were included with the analysis of interviews and helped to add to the overall understanding of the phenomenon. These transcripts and any notes were also analyzed with the assistance of NVivo software. Creswell (2007) identified this as developing the essence of the phenomenon (p. 159). The researcher observed how each

participant responded and interacted during the group sessions which shed light on the aspect of collaboration.

Observations

Notes were taken during the observation of participants while using the software to manage IEPs and during the four IEP meetings the researcher attended. These notes were analyzed with the assistance of the NVivo software. Examination of the observations helped to confirm the reality of the perceptions as identified from the interviews and the focus group sessions.

Combining all the methods of data collection helped to describe how the phenomenon happened or providing structural description (Creswell, 2007, p. 159). Further, insights into the experiences of the participants were described and identified as the essence of the phenomenon (Creswell, 2007). The instrument developed by Lockhorst, Admiraal, and Pilot (2010) was used to evaluate the collaboration of the IEP team as portrayed through the observations.

Trustworthiness

Trustworthiness is defined by dictionary.com as "deserving of trust or confidence; dependable; reliable". Creswell (2007) equates trustworthiness with validity. Creswell (2007) identified eight strategies that could be employed by researchers to ensure validity of the study. The eight strategies are (a) building trust with participants; (b) triangulation; (c) peer review or debriefing; (d) refining working hypothesis; (e) clarifying researcher bias; (f) member-checking; (g) rich, thick description; and (h) external audits (Creswell, 2007, p. 207-209).

This study employed five of the eight strategies above in determining validity, Creswell (2007) stated "Examining these eight procedures as a whole, I recommend that qualitative researchers engage in at least two of them in any given study" (Creswell,

2007, p. 209). Trustworthy criteria is characterized as "internal validity (credibility), external validity (transferability), reliability (dependability), and objectivity (neutrality)" (Schwandt, Lincoln, & Guba, 2007, p. 12). Creswell (2007) labels the last criteria as confirmability rather than objectivity (p. 203).

Credibility

Credibility is achieved through prolonged engagement, persistent observation, triangulation of data, and member checks (Schwandt, Lincoln, & Guba, 2007). The first strategy used to achieve credibility was building trust with the participants. Trust can be established by building a rapport with the participants within the environment they are most comfortable. The researcher met with each participant at the school where they either normally worked or where their office was located. The participant was able to be at ease in familiar surroundings. The second strategy to determine credibility was triangulation of data collection and analysis. Three methods of data collection were utilized: interviews, focus groups, and observations. The third strategy for validity was clarifying researcher bias. The researcher has experience with both technology and working with educators as a parent with a child with an IEP. The researcher has experience working with technology and software that is used to enhance collaboration as well as the benefits and drawbacks associated with these. The fourth strategy employed in this research for validity, member-checking, was used to ensure the interpretation of data collected was accurate; and helped to eliminate researcher bias from the analysis. Member-checking involved working with each participant to ensure their view-point was understood and that the researcher did not read meaning into their statements.

Transferability

Transferability is identified by Creswell (2007) as "findings are transferable between the researcher and those being studied" (p. 204). Transferability is achieved

through employing thick, rich descriptions. This study used rich, thick descriptions which helped others understand the phenomenon of the study as well as the perceptions that were discovered.

Dependability

Dependability is achieved with an audit of the process results (Schwandt, Lincoln, & Guba, 2007). This research provided descriptions detailing the processes as well as the instruments utilized.

Confirmability

Confirmability is achieved with an audit of the product or the data (Schwandt, Lincoln, & Guba, 2007). The findings of the study should be able to be replicated. This study utilized descriptions, member checking, clarifying researcher bias, and triangulation.

Gall, Gall, and Borg (2007) defined triangulation as "the use of multiple data-collection methods, data sources, analysis, or theories as corroborative evidence for the validity of qualitative research findings" (p. 657). Triangulation of data collection adds to the trustworthiness of the study. Using multiple methods of collecting data ensures that an accurate picture is painted during the analysis phase. In this study, triangulation is achieved through multiple data collection strategies such as interviews, focus group sessions, and observations. Triangulation is also achieved through multiple forms of analysis with reflective analysis and member-checking, "the process of having research participants judge the accuracy and completeness of statements made in the researcher's report" (Gall, Gall, & Borg, 2007, p 644-645). During the analysis of the data collected, information was provided back to the participants to ensure that interpretations are accurate. Creswell (2007) stated that bracketing, or *epoche*, involves "the investigators setting aside their experiences, as much as possible, to take a fresh perspective toward the

phenomenon under examination" (p. 59-60). Bracketing was done through the researcher being aware his own experiences as part of an IEP team. This helped to ensure that the participants' viewpoints were understood and that the researcher's perceptions are not intermixed.

Having a small group of participants is seen as a limitation for this study as it limits its generalizability. Another limitation of this study could be multiple forms of software were utilized therefore also limiting the generalizability of the study. The phenomenon may not be the same in other locations due to geographical and cultural considerations which could be a limitation of this particular study. A final limitation for this study is that all the participants were female. This limits the generalizability of the study in that only perspective from one gender was examined.

Ethical Considerations

All participants were required to fill out and sign a consent form. This form ensured that the participant would be able to drop out of the study at any time if they no longer wished to participate. All information collected from such an instance would be completely removed from the study.

All participants had their anonymity protected. Anonymity was secured through the use of pseudonyms instead of real names. In order to keep the information intact the pseudonym was paired with the participant's actual name in a password protected Microsoft Excel spreadsheet which was stored on an encrypted and password protected USB flash drive.

All data collected was protected. Written documents were stored in a locked cabinet. All electronic documentation was stored on a password protected laptop and on a password and encrypted USB flash drive. Keeping data secure was a priority.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this chapter is to present the results and findings of the data analysis. The data is presented according to the themes identified for each category in order to answer the following research questions:

- What are the challenges identified by educators to using software to manage IEPs?
- What are the benefits identified by educators to using software to manage IEPs?
- What are educators' perceptions on the impact using software to manage IEPs has on the collaboration among the IEP team?
- What are educators' perceptions of the use of software on increasing collaboration skills?

The purpose of this research was to gain a deeper understanding of the perceptions of educators on how using software to manage IEPs impacts the collaboration of the IEP team. The phenomenon was described through the statements made by the participants. For ease of reading, the excerpts from the interviews are presented grammatically correct without fillers or interruptions.

Review of Data Analysis

The data was analyzed using reflective analysis and a simplified version of the Stevick-Colaizzi-Keen method identified by Creswell (2007). This simplified method is identified in three phases: a) classifying – developing significant statements from the data collected; b) interpretation – developing textual and structural descriptions and identifying the essence of the phenomenon; and c) representation – present the essence of the phenomenon through tables, figures, or discussion (Cresswell, 2007, p. 156-157).

The process for analysis began by setting up a project in NVivo. Under the category for Internal Sources, folders were created to help keep track of the various data collection methods. The folders were identified as interviews, focus groups, and observations. Nodes were established which would be used to code the data. Nodes are used in NVivo to help categorize statements made by the participants.

The first set of nodes created were associated with the categories identified by the instrument used by Lockhorst, Admiraal, and Pilot (2010). This instrument was developed to measure collaboration of participants and was not given a name. For the purposes of this research, the tool was simply named the Collaboration Instrument. The nodes within NVivo were named participation, interaction, nature of communication, level of information exchange, and nature of communication (Lockhorst, Admiraal, & Pilot, 2010, p. 68). The instrument was not used exactly as Lockhosrt, Admiraal, and Pilot (2010) had in their study, but the categories of the instrument became nodes as a starting point to code the notes taken from the observations of software use and the IEP meetings.

The next set of nodes established pertained to the four research questions being answered by this study. These nodes were used to code the interviews and the focus group sessions. The nodes were named as challenges using software, benefits of software, impact of software on collaboration and software increase collaboration on the team, and finally software increase collaboration skills.

The majority of the interviews and focus group sessions were transcribed by a third party. The researcher read and listened to each interview and focus group session to not only ensure accuracy of the transcription but to be immersed within the experience of each participant. After listening and reading through each session at least once the researcher began to identify phrases that fell into various categories that were established

earlier. In some instances sub-themes began to become apparent. What follows are the main nodes categorized in NVivo and excerpt statements from the interviews, focus groups and from the observations.

Themes

Nodes were created in Nvivo to provide a starting point for data analysis. As analysis occurred several themes became apparent within each node. The first five categories are associated with the Collaboration Instrument and the remaining four categories associate with each of the four research questions examined.

Participation

Participation was defined as the distribution of information (Lockhorst, Admiraal, & Pilot, 2010, p. 68). As the researcher read through the transcripts and notes on the observations concepts or statements were looked for that would show how information was distributed. The researcher took note as well for those times when it was mentioned that either information was not shared or that only one person did the communicating. Two categories were made; one being that there is a definite lack of participation while the second represented collaboration is a priority. A summary of the information is found in Table 1.

Table 1

Collaboration Instrument

Category	Sub Category	Frequency	Characteristic Statements
Participation			
	No Distribution of Information	14	Lack of availability
			No obligation for Administration to participate
	Distribution of Information	53	Collaboration is a priority
			Dialogue between all members
			Round circle – everyone shares

Note: Collaboration Instrument as taken from Lockhorst, Admiraal, and Pilot (2009).

No Distribution of Information.

One evident theme was a lack of participation. Leadership not being involved helped to define the theme. Amber, Scarlett, and Rosamund mentioned the case manager's lack of availability and whether they would engage the other specialists in the meetings (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). Caitriona stated "there is not an obligation by admin for teachers to be part of the IEP process" (Interview with Caitriona, April 2014). Another facet of how this theme was developed came from statements regarding the lack of other educators' willingness to be involved. Emily pointed out that there is a minority of teachers who just do not want to deal with the special education cases and would rather see the student taken out of the classroom (Interview with Emily, April 2014). Emily further stated that these teachers thought that taking care of special needs students was the job of the special education teacher and not part of their own responsibilities (Interview with Emily, April 2014).

Distribution of Information.

Statements including "As a whole I think everyone collaborates well because we make it a priority" (Focus Group Session with Kaya and Brittany, April 2014) are great examples of clear participation taking place. During an IEP meeting where Shailene participated the researcher noted that there was open dialogue between all members of the team, including the parent (Observation of IEP Meeting with Shailene, February 2014). During Scarlett's interview, she talked quite a bit about how her role "is to really represent the whole child" (Interview with Scarlett, April 2014). She talked about the IEP meeting as a place where "it's kind of a round circle IEP meeting where everybody just kind of shares their stuff" (Interview with Scarlett, April 2014). Shailene during her interview talked about how the various members of the team have access to the software and were able to input their goals and areas that the student would be working. Since all

these goals would already be in the IEP system, Shailene could integrate these into the goals that she worked on for the student; providing a more rounded strategy for the student. The information is entered into the system at different times and accessible by all and can be discussed if necessary during the meeting (Interview with Shailene, April 2014). Sophia had the same concept as Shailene as she related a story regarding a speech specialist who would see the goals established by others and work those into her own goals for working with the student. As Sophia stated, "it really pays to work together and the kids can get so much more" (Interview with Sophia, April 2014). During the observation of an IEP meeting which included Amber, the case manager (Amber) did the talking and that was to inform the parent of the goals that were established (Observation of IEP Meeting with Amber, April 2014). Confirming this, the general education teacher who participated in the meeting did quite a bit of head nodding only – this could be seen as participation in that the general education teacher agreed with what Amber was saying.

There was little contradiction found in the data. Participation among those on the IEP team is an aspect of collaboration. As seen from these discussions participation was taken seriously.

Interaction

Interaction was defined as the continuity or discontinuity of the discussion (Lockhorst, Admiraal, & Pilot, 2010, p.68). This category was coded by statements that would speak to the frequency of communication or anything that could be construed as blocking the communication. A summary of the information is found in Table 2.

Table 2

Collaboration Instrument

Category	Sub Category	Frequency	Characteristic Statements
Interaction			
	Frequency of Communication	85	Quick discussions throughout the year

		Email is used as a tool Meetings take place prior to IEP meetings
Blocks to Communication	25	Relationships affect collaboration Lack of communication Something hindering work Some educators do their own thing

Note: Collaboration Instrument as taken from Lockhorst, Admiraal, and Pilot (2009).

Frequency of Communication.

During the focus group session with Amber, Scarlett, and Rosamund a need for discussion and continued communication was mentioned. Amber, Scarlett, and Rosamund (2014) described working with a student for a year and "having a quick discussion [about goals] and how do we achieve that [goal] and then being able to meet up after a while" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). During this same session a statement was made that the collaboration of the team members would be "an assumption that it would just happen" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). The same group mentioned that email was a great tool for communication. Brittany discussed having several meetings with the various educators to come up with a base idea for goals and then during the IEP meeting "I wrote the goals with the parents right there [. . .] because then the parents truly had the majority of the input on the goals" (Interview with Brittany, April 2014). Jennifer stated "I interact with each of the teachers pretty much on a daily basis" (Interview with Jennifer, May 2014). Katharine also talked about touching base on a weekly basis with other educators (Interview with Katharine, April 2014). Emily discussed the idea of some back and forth happening while using the software to manage IEPs between educators; she stated

> I'll pop in there and do my part, and they'll come in and go 'What about this?' and I'll go back in and tweak it or they will write a goal and say 'What do you think?' and I can go and look at it. (Interview with Emily, April 2014)

During the observation of Shailene's IEP meeting, having the IEP projected on a screen enabled open conversation amongst everyone as all could see what was going on at the same time as the discussion (Observation of IEP Meeting with Shailene, February, 2014). The visual reference made it easy for the team to track with the discussion (Observation of IEP Meeting with Shailene, February, 2014). Technology used in this manner provides additional opportunities for collaboration to take place; the frequency of communication increases.

Abigail stated that the team usually has a conversation before the meeting (Interview with Abigail, April 2014). Brittany has conversations with the team prior to a meeting, but she took this a step further and pointed out that there has to be a "middle ground" for everyone to agree; and "it doesn't matter what my opinion is or their opinion is, we have to look at that child and work together" (Interview with Brittany, April 2014). Emma discussed the importance of meeting with the parents even prior to the IEP meetings "I think it's very important that we talked about all the tough stuff first. I may have as much as five meetings with parents or staff, or parents and staff" (Interview with Emma, April 2014).

Blocks to Communication.

Several interviewees pointed out that the relationship with others on the team can affect the collaboration of the team (Interviews with Abigail, Amber, Emily, Emma, Kaya, Nicola, and Sophia, April 2014). Abigail stated "having a relationship makes a big difference on how you collaborate and how willing they are to want to collaborate" (Interview with Abigail, April 2014). Sophia discussed the importance of the

relationships with other educators (Interview with Sophia, April 2014). Amber discussed the lack of communication as affecting collaboration (Interview with Amber, April 2014). Kaya discussed having a good rapport helps to foster trust and collaboration (Interview with Kaya, April 2014).

A few participants stated the importance of including parents in the process and that without the parents' involvement there would be a lack of the information presented (Interviews with Billie, Brittany, Emma, and Katharine, April 2014 & Interview with Jennifer, May 2014). Katharine and Billie made the point that the parents are with the child the most and would have the better understanding of the child (Interviews with Katharine and Billie, April 2014).

Some participants mentioned hindrances to the work between the special education teacher and the general education teacher. Whether this is as Abigail stated "there are those teachers who don't want a special education case" (Interview with Abigail, April 2014) or as Emily mentioned that there are some educators who just want to do their own thing (Interview with Emily, April 2014). Caitriona took this a step further and stated "there is no obligation by admin for teachers to be part of the IEP process" (Interview with Caitriona, April 2014). This leads to only "one person making the decisions, that's not a team as far as the SPED department is concerned" (Interview with Caitriona, April 2014).

Other blocks to the communication were attributed to a limit of the software program used to manage IEPs. Kaya stated "It's difficult when you've got two special educators working with the same student, because you can't be in the file at the same time" (Interview with Kaya, April 2014). Kaya further stated "I can't make any changes or adjustments when somebody else is on [the software program]" (Interview with Kaya, April 2014).

Nature of Communication

The nature of communication was defined as the content of collaboration (Lockhorst, Admiraal, & Pilot, 2010, p. 68). In coding this category the researcher was looking for any phrases or ideas that focused on what was being discussed. The researcher kept the grouping of these phrases at the level of data collection method. A summary of the information is found in Table 3.

Table 3

Collaboration Instrument

Category	Sub Category	Frequency	Characteristic Statements
Nature of Communication			
	Observations of IEP Meetings	16	IEP Presented on screen
			Easy to follow along
	Interviews	87	Goal related
			Dialogue for effectiveness
			Engage the parents
			Establish culture of collaboration

Note: Collaboration Instrument as taken from Lockhorst, Admiraal, and Pilot (2009).

Observation of IEP Meetings.

During three of the observed IEP meetings everyone was able to follow along with the presentation of the IEP and the various sections (Observations of IEP Meeting with Amber, April 2014 & Observation of IEP Meeting with Shailene, Feb 2014). In all of the IEP meetings observed, a laptop was present and any changes that needed to be done to the IEP were entered at that moment and all people attending the meeting were able to leave with a current copy of the IEP (Observation of IEP Meeting with Amber, April 2014 & Observation of IEP Meetings with Shailene, Feb 2014). The enhancement to the collaboration did not pertain to any particular software used to manage IEPs but rather in other technology that was utilized, a laptop and some form of screen for all to see.

Interviews.

Several participants talked about the various goals that were written for IEPs and those who would be responsible for writing those goals (Interviews with Abigail, Amber, Billie, Brittany, Emily, Emma, Katharine, Rosamund, Scarlett, and Sophia, April 2014 & Interview with Jennifer, May 2014). All the references talked about the collaboration that could occur on goals written by various specialists. Abigail and Emily discussed some of the dialog that occurs with questions being asked back and forth for checking the language or the content of the goals for accuracy or for effectiveness (Interviews with Abigail and Emily, April 2014).

Including the parents as part of the IEP process is mandated by law, but it was Emma who was the biggest proponent of mentioning parents' involvement in the IEP process by having open dialogue with them. She mentioned that discussions with the parents about the "tough stuff" needs to take place (Interview with Emma, April 2014). The parents should be a part of the process for a complete picture of the child (Interview with Emma, April 2014). Emma further stated that she has been in meetings where the parents were not participating because the educators on the IEP team were all talking amongst themselves and the parents seemed intimidated or frightened by the process (Interview with Emma, April 2014).

Caitriona mentioned that there was a definite possibility for miscommunication especially when not everyone was involved in the process (Interview with Caitriona, April 2014). She went on to state that "when you don't set aside time for collaboration, there is no open dialog for collaboration" (Interview with Caitriona, April 2014). If there is no culture of collaboration established within the school or the district, then "collaboration has become one of those keywords where everybody talks it up but there is absolutely no follow-through" (Interview with Caitriona, April 2014).

Communication can be done through face to face conversations, emails, or over the phone. Communication can lead to collaboration through the give and take process. The different software packages used by the participants in this study have mechanisms for communication to take place and could enhance the collaboration as long as those using the software can see those advantages or take the time to use them.

Level of Communication Exchange

The level of communication exchange was defined as the quality of the collaboration (Lockhorst, Admiraal, & Pilot, 2010, p. 68). This category was coded by looking for phrases or statements that spoke about the collaboration. There was overlap with the coding from the Nature of Communication section. The difference would be a focus on the quality rather than the type of communication. A summary of the information is found in Table 4.

Table 4

Collaboration Instrument

Category	Sub Category	Frequency	Characteristic Statements
Level of Communication Exchange			
		79	Goals for transitioning students Goals modified due to collaboration Some educators do not share what they are doing Opinions do not matter – the whole child is the focus Goals should blend and complement

Note: Collaboration Instrument as taken from Lockhorst, Admiraal, and Pilot (2009).

The focus group session with Kaya and Brittany discussed the importance of writing goals for a student who would transition from kindergarten to first grade. As a student transitions either out of pre-school into kindergarten or from kindergarten to first grade there are differences in what the curriculum focus would be like (Focus Group Session with Brittany and Kaya, April 2014). The implication here is there is a need for

quality transitions to help the student as they grow as well as solid collaboration between those managing different grade level IEPs.

During the IEP meeting with Shailene the quality of the collaboration of the team was observed. Quality of collaboration was evident with the way the goals were modified during the meeting with everyone "seeing" the information. The goals were discussed and modified as necessary and sometimes new goals were added or goals that were already completed were removed (Observation of IEP Meeting with Shailene, February 2014). This was a case where the IEP was projected up on a large screen from a laptop. Everyone was able to see each part of the IEP, in this case the goals, and to work together to ensure goals were written to meet the individual needs of the student.

Abigail mentioned that there are some teachers who do not really want to deal with special education cases (Interview with Abigail, April 2014) and they were "less likely to collaborate" (Interview with Abigail, April 2014). Amber made the point that there are some teachers who "get caught doing their own thing and they kind of forget to share" (Interview with Amber, April 2014). Caitriona pointed out that "issues fall through the cracks and no one takes ownership" (Interview with Caitriona, April 2014). Scarlett went on to discuss how there is very little collaboration on the various goals and that it goes even further when a goal is looked at by someone they state it could only be for that one area and will go and find another goal to suit them (Interview with Scarlett, April 2014). Scarlett further stated that there is no team meeting to look at what the student has accomplished and what the next year's goals should look like (Interview with Scarlett, April 2014). Brittany stated "it doesn't matter what my opinion is or their opinion is, we have to look at that child and work together" (Interview with Brittany, April 2014).

During Emma's interview, she stated on the positive side that the goals should be written so that "they blend together" (Interview with Emma, April 2014). She went on to indicate that as everyone looked at the goals one goal could be used for a particular service and be moved or copied to be included there (Interview with Emma, April 2014). Emily went a step further by stating "we are able to complement one another [. . .] and tweak it a little better and ask for more collaboration and problem solving" (Interview with Emily, April 2014).

Nature of Regulative Communication

The nature of regulative communication was defined in terms of four types of communication: evaluative – centered on feelings or thoughts; planning – centered on performance of activities; organizational – centered around the division of labor or tasks; and lastly technology – centered around technical issues (Lockhorst, Admiraal, & Pilot, 2010, p. 68). The researcher coded for this category by looking for statements that best fit into the four identified sub-categories. A summary of the information is found in Table 5.

Table 5

Collaboration Instrument

Category	Sub Category	Frequency	Characteristic Statements
Nature of Regulative Communication			
	Evaluative	18	Unscheduled updates to software locks people out
			Accessible from anywhere
	Planning	9	Hard to make time for everyone
			Staff work in own way and do not come together
			Seen as a team
	Organizational	18	Do more work up front
			Take time to work with staff
			Delegate work
	Technology	13	Ability for everyone to see the same thing
			Easier with software

Note: Collaboration Instrument as taken from Lockhorst, Admiraal, and Pilot (2009).

Evaluative.

Frustrations were mentioned and observed that the administrator of the software would make unscheduled updates to the program or only one person at a time could be in the system making changes (Interview with Abigail, Eva, April 2014 & Observation of IEP Meeting with Amber, April 2014). Frustration was evident with Amber as she was unable to get into the IEP she needed for a meeting as the administrator of the system had it locked for updates (Observation of IEP Meeting with Amber, April 2014). Fortunately the meeting itself was not affected as the system was back online just at the start time for the meeting.

A couple participants mentioned that they really liked the process especially being able to access the program from anywhere (Interviews with Abigail and Emily, April 2014). Abigail stated "I fantastically love it because it's online" (Interview with Abigail, April 2014). Emily discussed being itinerant and all over her district "I can be over at [a school] and someone [elsewhere] could go 'What do you think of this objective?' if I can't make the meeting; so it's really facilitated a lot more working together with people" (Interview with Emily, April 2014).

Planning.

The focus group session with Amber, Scarlett and Rosamund mentioned that it is key to "having time outside of instructional time" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014) in order to get together and collaborate; they point out "this is hard to get" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014).

Caitriona mentioned staff have a tendency to go their own way and not work together. She tied this separateness to the lack of collaboration (Interview with Caitriona, April 2014), whereas Emily talked about a complete collaboration with all the specialists

involved with the particular student (Interview with Emily, April 2014). Jennifer stated there was no collaboration happening with other educators, but she reasoned, "I don't collaborate with other special education teachers, I am the only special education teacher at my elementary school" (Interview with Jennifer, May 2014).

Eva made the point about working as a team. She stated "we see each other more as a team versus each taking their own portion" (Interview with Eva, April 2014). She tied this concept with the software program being projected on the wall for everyone to see and participate in the discussion (Interview with Eva, April 2014).

Organizational.

Katharine and Billie both stated that they take a greater load of the work at the beginning of the process and then slowly disperse to others as time progresses (Interview with Billie, April 2014; Interview with Katharine, April 2014). Shailene stated that by taking time to "work with staff and the more I can educate them [. . .] the easier it becomes to collaborate with them" (Interview with Shailene, February 2014). Shailene went on to discuss the delegation of various pieces of the IEP to the appropriate individuals (Interview with Shailene, February 2014).

Technology.

One of the key aspects of the technical side was the ability for everyone to see the same thing (Interview with Abigail, Brittany, Eva, and Sophia, April 2014; Observation of IEP Meeting with Amber, April 2014; Observation of IEP Meetings with Shailene, February 2014). Sophia went into a bit more detail by pointing out the capability of the software to store documents and other related information pertaining to specific IEPs (Interview with Sophia, April 2014).

Several participants made statements comparing the IEP being in a software program versus not being in one. Kaya stated "having a computer-based system is

obviously a whole lot more convenient than handwriting them" (Interview with Kaya, April 2014). Abigail stated "you don't have to do it all by hand, which we used to do" (Interview with Abigail, April 2014). Amber discussed having to write IEPs in triplicate paper and how the computer-based program was a lot easier (Interview with Amber, April 2014); Amber further stated "mistakes can be fixed quicker" (Interview with Amber, April 2014). Brittany mentioned that it would take her "an hour and half to handwrite an IEP compared to 30 minutes" (Interview with Brittany, April 2014). Katharine and Billie both stated that using the software was better than handwriting IEPs (Interview with Billie, April 2014; Interview with Katharine, April 2014).

Participants noted the ease of use of the software. Amber stated "you can fix your mistakes quicker" (Interview with Amber, April 2014). Brittany stated "once we got the system down, which happened fairly quickly because it was so easy, then it was extremely beneficial" (Interview with Brittany, April 2014). Emma stated "another great thing about this system is that if we do forget things, there's a red mark" Interview with Emma, April 2014). Scarlett stated "[The software program] [. . .] is intuitive and I appreciate that you can go down a list and you just boom, boom, boom like it's very clear" (Interview with Scarlett, April 2014). Brittany, contrasting Scarlett's statement, stated that this same software program "was a little bit of a learning curve" (Interview with Brittany, April 2014). Caitriona stated "[The software program] is not user-friendly. It's very complex, and it's its own beast" (Interview with Caitriona, April 2014).

Challenges Using Software – Q1

This category was created to relate to the first research question: What are the challenges identified by educators to using software to manage IEPs? Statements were coded that identified any challenges participants exhibited or discussed. Several sub categories were identified.

Time.

During the focus group session with Caitriona and Emma, the statement was made “using cumbersome technology could pull away from time that could be spent problem solving” (Focus Group Session with Caitriona and Emma, April 2014). Billie and Katharine stated that “you are trading off chunking up your time in one way to meet, to enter information” (Focus Group Session with Katharine and Billie, April 2014). Billie and Katharine further stated “also have the time built-in for [collaboration] because it’s just always hard to find time to meet [. . .] because we’re all busy and it’s hard to find some additional time to set up collaborative meetings” (Focus Group Session with Katharine and Billie, April 2014). Amber, Scarlett, and Rosamund discussed setting aside days for the purpose of collaboration “there is no in-service, that purpose is to sit down and do collaboration” (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014).

The session with Jennifer and Nicola brought to light “sometimes the software program runs very slow” (Focus Group Session with Jennifer and Nicola, May 2014). Kaya and Brittany stated “the biggest thing is time” (Focus Group Session with Kaya and Brittany, April 2014).

When it comes to communication, time is a factor that should be considered. It takes time to get people together, it takes time to develop relationships or rapport to open up and share thoughts with others. Time is a commodity that affects collaboration.

Complexity.

The complexity of the software includes aspects of the software program itself being large and covers many topics; as well as the program is confusing and there is no real consistency as it is constantly changing.

Several participants noted, and the researcher made a comment in an observation, that the main page for one of the software programs was complex with quite a bit of information displayed (Interview with Rosamund, April 2014, Interview with Scarlett, April 2014; Observation of Software Use with Brittany, April 2014). Caitriona stated that one of the software programs was "not very user-friendly, very complex, and it's its own beast" (Interview with Caitriona, April 2014). Other statements made include "difficult to maneuver" (Interview with Katharine, April 2014) and "I would think after three years I would feel a little more comfortable with it" (Interview with Billie, April 2014).

Another frustration noted during the participant interviews was the constant changing of the program (Interviews with Brittany, April 2014, Interview with Rosamund, April 2014, Interview with Scarlett, April 2014). One focus group stated "it would be great if it stayed the same for more than a week" (Focus Group Session with Brittany and Kaya, April 2014). Kaya and Brittany further stated "if you're going to have training, you have to leave [the software program] alone for people to figure it out [. . .] it wouldn't do any good to be trained on this tomorrow because in two days it will be completely different" (Focus Group Session with Kaya and Brittany, April 2014).

Locked Out.

This category was formulated by various statements made concerning not being able to use the software due to something keeping people out. Brittany and Kaya stated "I think [the administrator] has blocked it out more" (Focus Group Session with Brittany and Kaya, April 2014), locking down functionality. Kaya and Brittany stated that a parent had waited with them for 20 minutes before they were able to track down an administrator to unlock an IEP (Focus Group Session with Brittany and Kaya, April 2014). Brittany further stated "I can't do the IEP because it's blocked out" (Interview

with Brittany, April 2014). Kaya stated "we are not able to collaborate when we're blocked out of everything (Focus Group Session with Brittany and Kaya, April 2014).

There could be problems with the software, which could lock people out. Emily stated "[the software] kicks us out and we lose everything" (Interview with Emily, April 2014). Kaya described "the servers are down" (Interview with Kaya, April 2014).

A system lock was observed at the beginning of an IEP meeting. The researcher made the notation "the system was locked down for maintenance and the case manager wasn't able to pull up the IEP" (Observation of IEP meeting with Amber, April 2014). The administrator of the program locked the system to install changes.

Many participants noted it was frustrating to not be able to get into a record to work on their part because someone else was already in the system (Focus Group Session with Brittany and Kaya, April 2014; Interviews with Abigail, Brittany, Eva, Katharine, and Kaya, April 2014). Brittany and Kaya stated "two of us can't be in [the software program] at the same time" (Focus Group Session with Brittany and Kaya, April 2014). Abigail stated "you might have an IEP, you would need to change something, and someone else is working on it. You can't get into it and it's very frustrating" (Interview with Abigail, April 2014). Brittany stated "I'm the case manager and they can't touch [the IEP]. Which is a little frustrating if we're trying to collaborate, if it's blocked out like that" (Interview with Brittany, April 2014). Eva stated "[The software program] doesn't have that capability for all three of us to be working on it" (Interview with Eva, April 2014). Billie stated "somebody else is working on [the IEP] at the same time that you want [. . .] and you can't get on" (Interview with Billie, April 2014). Kaya stated "it's difficult when you've got two special educators working with the same student because you both can't be in the file at the same time" (Interview with Kaya, April 2014).

Brittany stated “there’s so many blocks [. . .] we have to get permissions to go into this area [of the program]” (Interview with Brittany, April 2014). Kaya stated “there are certain things you can’t do without permission from [the administrator] or the school [psychologist], and sometimes they’re not available so you’re stuck” (Interview with Kaya, April 2014).

Lack of Training.

Brittany and Kaya stated “if you’re going to have training, you have to leave it alone for people to figure it out. It wouldn’t do us any good to be trained on this tomorrow because in two days it’d be completely different” (Focus Group Session with Brittany and Kaya, April 2014). They further stated “it’s pretty hard to have training when you’re switching it up every week” (Focus Group Session with Brittany and Kaya, April 2014). During the observation of Brittany using the software not only would training help people get around, but there would be difficulty learning something that was constantly changing (Observation of Software Use with Brittany, April 2014).

Brittany stated that the program “has a bit of a learning curve” (Interview with Brittany, April 2014). Rosamund also stated “and the learning curve was kind of steep because there wasn’t any real formal training” (Interview with Rosamund, April 2014). Observation of Rosamund using the software program noted the frustration of not knowing how everything works together (Observation of Software Use with Rosamund, April 2014). Emily made the statement “there’s a lot of hit and miss, trying it out, and it doesn’t work, then trying to figure it out or go to colleagues” (Interview with Emily, April 2014). Rosamund stated “there was not enough training” (Interview with Rosamund, April 2014). Rosamund further stated that there was “no manual, like an example” (Interview with Rosamund, April 2014). Katharine stated “it would have been

probably helpful if [the administrator] would have given us a manual to go with [the software program] to do an IEP" (Interview with Katharine, April 2014).

Lack of Customization.

Several statements and observations made regarding the lack of customization was able to be done or not taken advantage of in each of the programs. The Functional Behavioral Assessment (FBA) was not meaty enough and very minimalistic and not very helpful for development of goals (Observation of Software Use with Abigail, April 2014). The goals used canned language (Observation of Software Use with Kaya, April 2014). Further the goal index was linked to key words. Kaya made the statement that "we get trained in school to write good goals, this is like micro-managing" (Observation of Software Use with Kaya, April 2014). Basing the goals on certain key words could lead to poorly formed goals (Observation of Software Use with Scarlett, April 2014).

Any goals or objectives that were modified could not be saved in a bank to be reused in the future (Observation of Software Use with Nicola, April 2014). Further the banks of canned goals were maintained by the software program vendor (Observation of Software Use with Nicola, April 2014).

Not User Friendly.

Statements were made that indicated the software programs may not be very easy or intuitive. Amber stated "in order to archive everybody has to update their final progress [. . .] 'cause if you archive before that you have to go back into and find the archive and that's kind of a pain" (Interview with Amber, April 2014). Caitriona stated "[The software program] is not user friendly. It's very complex and it's its own beast" (Interview with Caitriona, April 2014). Kaya stated that the software program "is not as user friendly as others" (Observation of Software Use with Kaya, April 2014).

Billie stated “I find it difficult at times to maneuver” (Interview with Billie, April 2014). Rosamund stated “I don’t like all the buttons on the front page; and when they get added and we don’t get told about it” (Interview with Rosamund, April 2014). Not knowing that functionality has changed causes additional frustration. Sophia pointed out there is no way to get back to the home page once started on the IEP (Observation of Software Use with Sophia, April 2014). The more time spent on trying to navigate through the system is less time spent on working the actual goals and objectives.

Nicola mentioned that because goals were not saved in a bank they would need to be retyped every time (Observation of Software Use with Nicola, April 2014). Nicola also mentioned that several test scores are kept in a different software program and needed to be entered manually into [the software program] (Observation of Software Use with Nicola, April 2014). The goals not saved in a bank to be retrieved later could lead to inefficiencies in the process.

Shailene indicated there are no notifications for others involved with the IEP (Observation of Software Use with Shailene, February 2014). Shailene further indicated there were issues with formatting the IEP for printing. The inconsistency adds to the amount of time needed to produce the IEP and be readable (Observation of Software Use with Shailene, February 2014).

Pre-Population Not Correct.

Some of the software programs offer automatic updates on some information or carry-over features from previous years. These auto-populations aren’t always accurate. Abigail pointed out that the pre-populated data for a new IEP is not always correct (Observation of Software Use with Abigail, April 2014). Caitriona mentioned that the cover page of the IEP doesn’t always update with current information (Observation of Software Use with Caitriona, April 2014).

Benefits of Software – Q2

This category was created to relate to the second research question: What are the benefits identified by educators to using software in managing IEPs? Statements were coded that identified any benefits participants exhibited or discussed. Several sub-categories were identified and are presented here.

Visibility.

One aspect of visibility included multiple individuals being able to access the same record to see the work others have done. Amber, Scarlett, and Rosalund stated "look online and see what everyone is doing" (Focus Group Session with Amber, Scarlett, and Rosalund, April 2014). Amber, Scarlett, and Rosalund further stated "but here you can just go and look [. . .] I don't need to really talk to that person I just have to look and see what their goals are" (Focus Group Session with Amber, Scarlett, and Rosalund, April 2014). Caitriona and Emma stated "we can all access it" (Focus Group Session with Caitriona and Emma, April 2014). Caitriona and Emma stated "just having those extra eyes on that really saves going back for any editing or writing the full minutes" (Focus Group Session with Caitriona and Emma, April 20140. Jennifer and Nicola stated "I can show it up on a committee board" (Focus Goup Session with Jennifer and Nicola, May 2014). Brittany and Kaya stated "I did a rough draft [of an IEP] and was able to ask someone else to go in and take a look at it" (Focus Group Session with Brittany and Kaya, April 2014). Amber stated "so when I pull [the IEP] up I can see her present levels, it's not like she has a written copy that I have to go down and get from her" (Interview with Amber, April 2014). Eva stated "we're able to complement one another [. . .] and tweak [the IEP] a little better and ask for more collaboration and problem solving" (Interview with Eva, April 2014). Shailene stated "I can let the other people know [the IEP] is ready to go and they can work independently adjusting their

goals for a draft [. . .] because we all have access to the same thing" (Interview with Shailene, February 2014). Sophia stated "we are all looking at the same screen and we all know what parts of the IEP have to be filled in and by whom" (Interview with Sophia, April 2014).

Another aspect of visibility was a way of locating information. Through the observation of the software used, it was observed that there were multiple ways of locating and searching for student IEPs (Observation of Software Use with Abigail, April 2014 & Observation of Software Use with Amber, April 2014).

Emily stated "it's easier to have the software [. . .] because they're online we can go in at our leisure and work on [IEPs] independently or side-by-side with a special ed. teacher" (Interview with Emily, April 2014). Emily further stated "I'm itinerant, so I'm all over the district [. . .] if I can't make a meeting [. . .] [the software] really facilitated a lot more working together" (Interview with Emily, April 2014).

Pre-Populated Data.

As stated previously, some software programs automatically populated student data. Kaya and Brittany stated "I could 'click' and put [the goal] in there and I didn't have to retype it out" (Focus Group Session with Kaya and Brittany, April 2014). Kaya and Brittany further stated "I could go into your bank and put [the goal] in the student the way you like it without having to talk to you" (Focus Group Session with Kaya and Brittany, April 2014). Amber stated "[the software program] produces a copy of the original [IEP] so some of the information doesn't change" (Interview with Amber, April 2014). Brittany stated "everything transfers from year to year" (Interview with Brittany, April 2014). Abigail noted that the software program will check for the most current student information whenever the IEP is opened (Observation of Software Use with Abigail, April 2014). Abigail also noted that various test scores are populated in the

appropriate location on the IEP (Observation of Software Use with Abigail, April 2014). Amber mentioned the test scores populating the IEP (Observation of Software Use with Amber, April 2014). Shailene described that test scores that are kept in [student management program] can be populated directly into the IEP software (Observation of Software Use with Shailene, February 2014). Amber pointed out that the target scores for AIMS were available on the IEP (Observation of Software Use with Amber, April 2014). Nicola mentioned that the prepopulated goals are tied to state standards (Observation of Software Use with Nicola, April 2014).

Associated Documentation.

The educators were able to have the IEP stored in the software program along with several other documents associated with the same record. Caitriona and Emma stated "every year is archived with every document" (Focus Group Session with Caitriona and Emma, April 2014). Emma further stated "what I like about [the software program] is it's not just the IEP itself, but it's all the other paperwork that special [education] teachers have to do" (Interview with Emma, April 2014). Emma showed that all the additional documentation can be accessed while in the IEP (Observation of Software Use with Emma, April 2014). Sophia added to this concept with the statement "when you go to write your IEP, you have a lot of your documentation done on that side [of the software] to be able to plug that in and you have a nice history of the student" (Interview with Sophia, April 2014). Sophia went on "it automatically saves everything so from year to year you've got that in there and it's a great program" (Interview with Sophia, April 2014).

Usability.

Several statements were made to show the various software programs added to the overall process. Caitriona and Emma stated "I think everything, professional

development, technique, computer formats for the IEP [. . .] always looking for ways to do it better" (Focus Group Session with Caitriona and Emma, April 2014). Katharine and Billie mentioned that it does not matter what is used "it still comes out with an IEP" (Focus Group Session with Katharine and Billie, April 2014). Emma showed that the software program provides a single location for all the information necessary for a student (Observation of Software Use with Emma, April 2014).

Abigail stated "you don't have to do it all by hand" (Interview with Abigail, April 2014). Amber further stated "having to write [the IEP] on triplicate paper to this and any computer based system is a lot easier" (Interview with Amber, April 2014). Billie stated "it's better than writing [IEPs]" (Interview with Billie, April 2014). Kaya stated "having a computer based system is obviously a whole lot more convenient than handwriting them" (Interview with Kaya, April 2014). Amber further stated "you can fix mistakes quicker" (Interview with Amber, April 2014). Brittany stated "my timeframe in doing an IEP went from an hour and half doing a handwritten copy to maybe thirty minutes doing one in [the software program]" (Interview with Brittany, April 2014). Brittany also stated "it's extremely beneficial because everything transfers from year to year" (Interview with Brittany, April 2014). Eva mentioned "[the IEP] is accessible on your computer [. . .] and when you type into it, you don't have to retype it again" (Interview with Eva, April 2014). Sophia stated "[other team members] can get them to me and I'll type them in, but the really great thing is they can go in and put their own reports, and their test reports, and their goals" (Interview with Sophia, April 2014). Brittany pointed out that pre and post test results can be entered into the system to show and check student growth (Observation of Software Use with Brittany, April 2014).

Amber described that "[The software program] is very user friendly [. . .] and it is the state's forms" (Interview with Amber, April 2014). Kaya stated "[the software

program] is fairly easy to navigate" (Interview with Kaya, April 2014). Scarlett stated "[The software program] for me was a little more intuitive and I appreciate that you can go down a list and you just boom, boom, boom like it's very clear" (Interview with Scarlett, April 2014). Shailene stated "in some ways it makes it easier" (Interview with Shailene, February 2014).

The software program allows for multiple ways to locate a student (Observation of Software Use with Abigail, April 2014). Furthermore the software programs help to minimize time in searching for relevant cases (Observation of Software Use with Shailene, February 2014). The software programs allowed for a filter based system to show a listing of only those students IEPs the logged on individual has access to.

Amber showed that the program provides examples of various items on the IEP such as how to fill out sections or even wording on typical goals (Observation of Software Use with Amber, April 2014). Amber further indicated a feature of the software that would indicate if a goal was good based on key words (Observation of Software Use with Amber, April 2014). Scarlett stated that the goals within the program are tied to rubrics for measurability (Observation of Software Use with Scarlett, April 2014). Scarlett went on to show the goal index is based on key words and could lead to not well formed goals (Observation of Software Use with Scarlett, April 2014). Sophia mentioned that various goals are tied to standards (Observation of Software Use with Sophia, April 2014). Nicola pointed out that there are several templates for various other documentation used for different types of IEPs including an Evaluation Summary and Eligibility Report (ESER) or an IEP Transition (Observation of Software Use with Nicola, April 2014). Shailene indicated ways the software could be used to store custom information for reuse on other records (Observation of Software Use with Shailene, February 2014).

Location.

The software programs offered a different take on how collaboration can be performed. There is no longer a constraint due to physical presence. Caitriona and Emma stated "space and place with the computer system and with our environment makes all the difference for collaboration" (Focus Group Session with Caitriona and Emma, April 2014). Katharine and Billie stated "we not necessarily always have to meet face to face" (Focus Group Session with Katharine and Billie, April 2014). Abigail stated "I fantastically love it because it's online" (Interview with Abigail, April 2014). Amber stated "[the software program] is on our own servers [. . .] it's not web-based [. . .] it's faster [. . .] we know when scheduled maintenance is to happen" (Interview with Amber, April 2014). Rosamund stated "we are able to use [the software program] at home if we're working late" (Interview with Rosamund, April 2014). Nicola described that the software is web based (Observations of Software Use with Nicola, April 2014).

The idea of location is taken a step further in that the individual educators no longer need to be constrained to their office in order to work on an IEP. Emily stated "much easier to have the software [. . .] in the sense that because [the IEPs] are online we can go in at our leisure and work on them independently or side by side with the special ed. teacher" (Interview with Emily, April 2014). Emily further stated "I'm itinerant, I'm all over the district [. . .] so I could be over at [one school] and somebody [at a different school] could ask for suggestions [. . .] if I can't make the meeting [. . .] [the software program] really facilitates a lot more working together with people" (Interview with Emily, April 2014).

Impact of Software on Collaboration – Q3

This category was created to relate to the third research question: What are educators' perceptions on the impact using software to manage IEPs has on the

collaboration among the IEP team? The researcher coded statements that referred to the impact using the software had on collaboration. Caitriona and Emma stated "In a simplistic view, my view is that how can a team member enhance collaboration through the use of software" (Focus Group Session with Catiriona and Emma, April 2014) and yet further in the discussion they stated "just having those extra eyes on that really saves me going back for any editing" (Focus Group Session with Caitriona and Emma, April 2014). Katharine and Billie made the statement "the software itself is getting to the end result [. . .] you have the IEP and you use the IEP for collaboration" (Focus Group Session with Billie and Katharine, April 2014).

Negative.

There were statements where there is no impact on collaboration through the use of software. Amber, Scarlett, and Rosamund stated "when I think of our IEP process, I don't put collaboration [. . .] those two words are not synonymous" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). Jennifer and Nicola stated "we've used three different IEP software programs. I wouldn't say any of them really have necessarily enhanced collaboration" (Focus Group Session with Jennifer and Nicola, May 2014). Amber stated "I don't think [the software program] really affects our collaboration much" (Interview with Amber, April 2014). Caitriona stated "there is no collaboration on the IEP software" (Interview with Caitriona, April 2014). Jennifer stated "I would say the software contributes very little to the collaboration aspect" (Interview with Jennifer, May 2014).

Other statements were made to suggest that collaboration takes place either before or after the use of the software, not during the use of the software. Amber, Scarlett, and Rosamund stated "the IEP software is there, but the only thing you can do to enhance it is to say 'read over the IEP [. . .] see if we need to tweak [. . .] but collaboration takes place

before that" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). Billie stated "I think a lot of it takes place before we even get to the software and before we are sitting in the meeting" (Interview with Billie, April 2014). Katharine and Billie further stated "we've used many different [software programs] and they all came out with an IEP [. . .] that's what you collaborate with [. . .] not necessarily putting information into it" (Focus Group Session with Katharine and Billie, April 2014).

Jennifer and Nicola stated "all of them have pretty much been utilized just as a means of completing paperwork" (Focus Group Session with Jennifer and Nicola, May 2014). Katharine and Billie stated "I see using the software as something I do independently" (Focus Group Session with Katharine and Billie, April 2014). Nicola stated "the only real collaboration [. . .] as far as the software is between me and [co-worker] [. . .] otherwise it's just like a typewriter" (Interview with Nicola, April 2014). Kaya stated "we have some frustration as far as [collaboration] is concerned but again it's not with individuals, it's with the program" (Interview with Kaya, April 2014). Rosamund stated "what we do is go [into the software program] and write our goals and then we can look at each other's goals so that's as close as a collaboration tool" (Interview with Rosamund, April 2014).

The culture of collaboration could play a part on whether the use of software will impact collaboration. Abigail stated "I don't think here in this district we've ever had collaboration" (Interview with Abigail, April 2014). Scarlett stated "it needs to be a discussion with me [. . .] I don't think that's a matter of software, I think that's a matter of how the district comes together" (Interview with Scarlett, April 2014).

Brittany stated "if I'm the case manager, somebody else is not allowed to look at [the IEP] [. . .] which is a little frustrating if we're trying to collaborate" (Interview with Brittany, April 2014). Nicola mentioned that not everyone has access to the software; she

stated “The physical therapist, occupational therapist, and school psychologist don’t have access to the program” (Observation of Software Use with Nicola, April 2014).

Positive.

There were those who did see the software impacting collaboration. Amber, Scarlett, and Rosamund stated “if speech writes a goal and we’ve embedded something we can look at it and say ‘that’s what I was getting at’” (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). Amber, Scarlett and Rosamund further stated “in that sense the IEP program promotes collaboration because we can’t sit down and physically meet” (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). Amber, Scarlett, and Rosamund further stated “and that way the software program helps because I can look online and see what everyone’s doing” (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). Kaya and Brittany stated “we do collaboration well for what we are given” (Focus Group Session with Kaya and Brittany, April 2014). Kaya and Brittany further stated “as a whole I think everybody collaborates well because we make it a priority” (Focus Group Session with Kaya and Brittany, April 2014). Brittany stated “once I put [IEP] in there I can call and say ‘can you look at this’ [. . .] we don’t have to actually have a meeting, we could just do it through the computer” (Interview with Brittany, April 2014). Emily stated “I’ll pop in there and do my part and they will come in and go ‘what about this’ and I’ll make some tweaks” (Interview with Emily, April 2014). Katharine stated “if someone’s already done some work you can see what they’re going to say. It’s not like everyone’s working in isolation and then we come to a meeting” (Interview with Katharine, April 2014). Amber showed that even though the software will only allow one person to edit at a time, there is a chat feature that can be used for collaboration (Observation of Software Use with Amber, April 2014).

Caitriona and Emma stated “it’s for the team to be on board with how to use the system so that they can go in and I know that with [the administrator] in the meetings they are looking at the IEP” (Focus Group Session with Caitriona and Emma, April 2014). Billie and Katharine stated “that could enhance collaboration because it’s building relationships, having to go to another person for assistance” (Focus Group Session with Katharine and Billie, April 2014). Kaya and Brittany stated “if somebody gets stuck on something our collaboration is finding another person who can help us get through the problem” (Focus Group Session with Kaya and Brittany, April 2014). Eva stated “I think [the software program] promotes teamwork, in my opinion, but there could be some better tweaks to it [. . .] so it could be a good platform for collaboration” (Interview with Eva, April 2014). Scarlett stated “I think part of the collaboration [. . .] is just the culture of the district” (Interview with Scarlett, April 2014). Shailene stated “[the software program] does promote collaboration by eliminating the middle man” (Interview with Shailene, February 2014).

Software Increase Collaboration Skills – Q4

This category was created to relate to the fourth research question: What are educators’ perceptions of the use of software on increasing collaboration skills? Statements were coded that were exhibited or discussed by the participants. One focus group session made the statement “we know how to collaborate, we just don’t have time” (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014).

Negative.

Kaya and Brittany stated “there is no collaboration [. . .] we don’t ever have opportunity to collaborate” (Focus Group Session with Kaya and Brittany, April 2014). Jennifer stated “I’m the only special education teacher at the elementary school, I don’t really collaborate with other special education teachers” (Interview with Jennifer, May

2014). Jennifer's statement was not meant as a general negative statement about collaboration, just in the instance that she does not have any other special education personnel to collaborate with.

Several statements were made that indicate a higher level of action is needed for improvement to collaboration to take place. Amber, Scarlett, and Rosamund stated "maybe for the district [. . .] be good for them to have formal training on the importance of providing opportunities for collaboration with teachers" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). Amber, Scarlett, and Rosamund stated "I don't feel like that collaboration word in the IEP process [. . .] and so I think the training that we have is just how to use the program" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). Katharine and Billie stated "I've had a lot of training, but when everybody else doesn't have that and it's not the culture of the school [. . .] I had a hard time tying in collaboration with the software" (Focus Group Session with Katharine and Billie, April 2014).

Other statements suggest no relationship between collaboration and the software programs used to manage IEPs. Jennifer and Nicola stated "I wouldn't say any of [the software programs] used have necessarily enhanced collaboration [. . .] all of them were utilized as a means of completing paperwork" (Focus Group Session with Jennifer and Nicola, May 2014). Jennifer and Nicola further stated "I don't know that training with the software program would necessarily help if we don't use the software program to collaboration much" (Focus Group Session with Jennifer and Nicola, May 2014).

Positive.

Several statements describe the relationship between the software and collaboration skills. Jennifer and Nicola stated "I had to take a full semester course on collaboration and I gained a lot of information from that" (Focus Group Session with

Jennifer and Nicola, May 2014). Katharine and Billie stated "I think that could enhance [. . .] collaboration because it's building relationships" (Focus Group Session with Katharine and Billie, April 2014). Amber, Scarlett and Rosamund stated "it helps the collaboration in terms of developing the IEP" (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014).

Eva stated "I can help navigate the program during an IEP meeting with other educators" (Interview with Eva, April 2014). Amber pointed out that the program offers a chat notification system (Observation of Software Use with Amber, April 2014).

Summary

A number of categories were identified in the data collected of this study. These categories aided in describing the phenomenon of the impact using software to manage IEPs has on the collaboration of the IEP team.

The instrument identified by Lockhorst, Admiraal, and Pilot (2010) for determining the level of collaboration provided insight into how collaboration was viewed by the participants. The first category examined was broken down into two themes: first No Distribution of Information and second Distribution of Information. The first theme saw comments made regarding the lack of interest from district administration in the IEP process. Some teachers just do not want to deal with special education students in their classrooms. The second theme saw statements made that collaboration happens because it was made a priority. Open dialog and with access to the software program, information can be easily seen and discussed as needed.

The category of Interaction was broken down into two themes, frequency of communication and blocks to communication. Frequency of communication was described by several comments about how various teams converse on a regular basis to discuss items pertaining to the IEP. Having the IEP projected on a screen was beneficial

for everyone to see what was happening and editing could be done right there ensuring by the end of the meeting everyone would leave with the most current copy of the IEP. The second theme integrated comments around the relationships people have with others and how this could affect the collaborative process. The mandate for parent involvement was one key factor in the development of the IEP.

The Nature of Communication focused on the content of what was discussed. Laptops were observed in all the IEP meetings attended which helped those who attended the meetings to follow along in the discussions and provide editing on the fly. Discussion focused on the writing of the goals and how these were done in some cases with collaborative work and some just using canned language. When everyone is not involved in the process miscommunication can happen.

The Level of Communication Exchange had some overlap with the above section and involved statements speaking about the collaboration. Discussion about the importance of goals as they relate to transitions occurred. Observations of IEPs showed that some communication either did not happen at all or was simply a nodding of the head agreeing with whatever was said by the case manager. Further some educators just want to do their own thing and do not want to have to deal with special education cases. This section closed with the need to infuse the services provided for a student as seen in how the goals are formulated by combining or keeping communication lines open.

The Nature of Regulative Communication was broken into four sub themes; evaluative, planning, organizational, and technology. Evaluative defined frustrations coming to light with how the system locks people out or when unscheduled maintenance occurs. Planning included how some educators make a priority to get together and collaborate. The main point is to work together as a team. Organizational had some educators doing a great deal of work up front, or working with other staff to help them

understand the process. Technology indicated an advantage by having the IEP displayed on a screen. Several educators mentioned how much better having the IEP in a software program was over having to hand write them. Comments were made that the software program used was intuitive or user friendly.

The next four categories pertained to each of the research questions; challenges using software (Q1), benefit of software (Q2), impact of software on collaboration (Q3), and software increase collaboration skills (Q4). The first category was broken into seven themes, time, complexity, locked out, lack of training, lack of customization, not user friendly, and pre-population not correct. The perception of time showed either the slowness of the software program or just using a cumbersome piece of technology takes time to understand. Several participants mentioned the lack of time to sit down for collaborative efforts. Complexity was indicative in how often the software program changes and just how much information was crammed into the program. Being locked out of the program due to the limit of how many people can be editing a record or just not having permissions was discussed. The frustration of the system being down for unscheduled maintenance was an issue. Lack of training was also an issue as there did not seem to be ongoing training available. Some participants indicated receiving initial but not ongoing training. Lack of customization was mentioned in that in some software programs the custom goals written could not be saved to a bank to be used later or by others. Not user friendly tied in with the complexity with being cumbersome to perform tasks that should be easy. Navigation seemed to be an issue. Pre-population not correct was attributed as the program not correctly pre-populating some of the data pertaining to the student. Some data on the IEPs would not transfer.

The next category of the impact of software on collaboration was broken down into five themes; visibility, pre-populated data, associated documentation, usability, and

location. Visibility was that many people were able to access a student's record to either make modifications or to be able to see what others were doing. Having some of the data pre-populated saved considerable time not having to type the information. This was indicated with one program having banks of information that could be used. Creating new IEPs each year became easier as information would transfer from year to year and be customizable in the current year. Associated documentation described various other documents or information that would be included with an individual student's record; items such as test scores or billing for Medicaid. Usability described how easy it was to use the program. A comparison was made between having to handwrite the IEP verses having the IEP in a software program. The program was able to keep all the information regarding the IEP in one location accessible by all those who needed access. Location was about being able to access records from just about anywhere. People were not required to go and get someone else to look over items, they could just go into the program and pull up the student.

The impact of software on collaboration was observed both as negative and positive. Negative aspects include using the software and collaboration are not synonymous. The program was just a means of keeping paperwork. Positive aspects included being able to work on goals with others collaboratively. The software would enhance collaboration because one could see what other people were doing.

Software increasing collaboration skills was also broken down by the negative and positive aspects. Negatively, people already knew how to collaborate, there just was not any time. A culture of collaboration is needed at the district level. Several participants indicated that software does not enhance collaboration, it is used to store documentation – the end result. On the positive side, some participants saw the software program as enhancing collaboration through the building of relationships.

CHAPTER FIVE: DISCUSSION

In Chapter Four, the participants' own perspectives were revealed with regards to the impact using software to manage IEPs has on the collaboration of the IEP team. The process helped to describe the phenomenon from their perspectives. My experience working with educators and technology helped me get close to the research and assisted in understanding the perspectives of the participants. This chapter will discuss aspects of the impact IEP management software has on the collaboration of the IEP team, explore recommendations for practice of those findings, and offer suggestions for future research.

Summary of Findings

Collaboration has been defined in this study as two or more parties working together towards common goals through the sharing of decisions (Cook, Friend, 2010; Kennedy, 2011; McLaren, Bausch, & Ault, 2007; Rose, 2011). Discussions with the participants made it clear that this definition was on target. In some instances, collaboration existed only as a means to discover if someone else was completed so they could get in and do their part. If collaboration is not exhibited in upper levels of management collaboration will not really be taken seriously by educators and related services staff. Caitriona made the statement "I think collaboration has become one of those keywords where everybody talks it up but there's absolutely no follow-through" (Interview with Caitriona, April 2014). Most participants agreed that collaboration is important and needs to take place, but the practice itself is lacking. One of the major reported barriers to collaboration was time. Katharine and Billie stated "we are all busy and it's hard to find some additional time to set up collaborative meetings" (Focus Group Session with Katharine and Billie, April 2014).

The use of software to manage IEPs was something that most participants agreed was very useful and better than the old way of having to hand write the IEP. Brittany

stated “my time frame in doing an IEP went from probably an hour and half doing a handwritten copy to maybe 30 minutes doing one in [the software program]” (Interview with Brittany, April 2014). Several participants made comments regarding the complexity of the various programs or in other cases the lack of customizability. General consensus from participants show that more training in how to effectively use the various software programs should be established and in some cases people mentioned having a user guide or manual would be beneficial.

The perceptions identified in Chapter Four show that the software does not impact collaboration. However, there are some aspects either built-in to the various software programs that could lend themselves to collaborative efforts. One such aspect is the built-in notification that someone else is already in the IEP. The notification system could be used by the team members to work together if necessary; this would only be collaboration between a couple of members and not the entire team, but it does allow for the building of ideas or as Amber, Scarlett, and Rosamund stated “if speech writes a goal and we’ve embedded something, we can go and look at it” (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014). An idea that came out of the observations of IEP meetings was that if the IEP could be presented on a screen through the use of a computer or laptop, the entire team could see the IEP, personally follow the committee discussion, make any needed modifications immediately and print off a final copy of the IEP at the conclusion of the meeting for each committee member. The idea of presenting the IEP on a screen is a concept that not only was seen in practice, but was discussed by many of the participants but would only be effective if the individual educator takes the initiative and brings the laptop to the meeting and puts the laptop to use.. In order for collaboration to be practiced by the individual educators, collaborative practices will need to be seen from the top down in management; as Scarlett stated “I think part of the

collaboration, whether it's the software or not, is just the culture of the district" (Interview with Scarlett, April 2014).

Discussion of Findings

A gap was identified in the literature; very little research had been done on the impact using software to manage IEPs has on the collaboration of the IEP team. This study began to fill that gap in the literature. The findings from Chapter Four can be addressed through discussion on collaboration, technology, and the impact technology could have on collaboration.

Collaboration

As already mentioned, collaboration was evident by statements and observations from the participants through this study. Collaboration was seen through the use of the Collaboration Instrument based on the tool developed by Lockhorst, Admiraal, and Pilot (2010). The Collaboration Instrument was defined by five categories: Participation, Interaction, Nature of Communication, Level of Information Exchange, and Regulative Communication. Each of these five categories showed some aspect of collaboration happening. Most participants indicated they participated in some form of collaboration with other educators before, during, or after an IEP meeting. A few participants mentioned that some educators just do not like to be involved with special needs students. Emily stated that these educators are "in the minority" (Interview with Emily, April 2014). Several participants included the necessity to involve the parents. Involving parents would be expected as this is mandated by law through the IDEA legislation. Emma pointed out one of the possible reasons parents do not feel a part of the process was that the specialists were all talking amongst themselves and basically ignoring the parents (Interview with Emma, April 2014). It is critical that each IEP committee member participate in the IEP development process to ensure that the plan developed by

the team fully meets the needs of the student. Caitriona stated by not including everyone in the IEP development process is a possibility for miscommunication (Interview with Caitriona, April 2014). The literature pointed toward the lack of communication as a failing point for communities (Ezz, Papazafeiropoulou, and Serrano, 2009; Karagiorigi and Lymbouridou, 2009). Parents are the most likely to fully understand their own child and should be advocates for them. Gershwin Mueller and Buckley (2014) stated "the importance of parent involvement through all educational decisions is undisputed" (p. 119). Parents are to be an active part of the IEP team (Fish, 2008; Fish 2009; Milsom, Goodnough, & Akos, 2007; Nijhuis, Reinders-Messelink, de Blecourt, Olijve, Haga, Groothoff, Nakken, and Postema, 2007). This will require parents to be involved, included, and perhaps even given opportunities to learn more about the special education process (Whitbread, Bruder, Fleming, and Park, 2007).

Even though collaboration is present according to the Collaboration Instrument, the contradictory statements made by several participants that collaboration does not happen should be discussed. I would posit to suggest that there is a breakdown in the line of communication; or as several participants note there may not be a culture of collaboration in the school district. This study was rooted in the idea of social learning (Amory, 2010; Hall, 2011; Yount, 1996). The IEP team is a group of people working toward the same goal of providing services to a particular student. The IEP team could also be defined as a community. This smaller community is part of the larger community within a particular school, within a particular district. The culture of the community will affect aspects within that community (Seung Won, Ji Hoon, & Doo Hun, 2009; Wenger and Snyder, 2000). If there is no collaborative element within the culture, then collaboration will not be seen within the community, "I think that when you have a school culture that doesn't have a focus on collaboration [. . .] they chose to go their own

separate ways" (Interview with Caitriona, April 2010). When collaboration is not modeled at the top echelon's within a district and filtered down to individual schools, then collaboration will not be seen within smaller groups such as the IEP team. The failure of collaboration with a lack of modeling was described in the literature (Bubb, Herzog, Terry, & Geithner, 2010; McCombs, 2010; Schrack, 2015). Smith (2012) discussed the importance of everyone working together, including the administration. Schrack (2015) discussed building of relationships between educators. Schrack (2015) further stated the role of the administration in the process "to reevaluate how we collaborate with other groups within our building in order to enhance communication" (p. 36). Even a study showing how a culture of collaboration can be formed from the bottom-up, the administration was supportive for allowing this to take place (Bubb, Herzog, Terry, & Geithner, 2010).

The role of communities was also discussed. One study discovered in the literature discussed the failure of a community due to not reaching a "critical mass of participating users" (Karagiorigi & Lymbouridou, 2009, p. 130). Through talking with the participants of this study the same could be said; several participants pointed out the lack of working together or a lack of sense of community (Interview with Abigail, April 2014; Interview with Amber, April 2014; Interview with Caitriona, April 2014; Interview with Emily, April 2014; Interview with Emma, April 2014; Observation of IEP meeting with Amber, April 2014). These same discussions with the participants gave a hint to another aspect of a failure of communities in the literature; that the participants do not see the value of collaboration (Parr & Ward, 2006). Team work was discussed frequently and identified by staff as a behavior that may enhance collaboration. Caitriona pointed out that staff were going their own way and not working together which lead to a lack of collaboration (Interview with Caitriona, April 2014).

Other reasons were given that could explain why participants would state that collaboration was not taking place. These reasons include a lack of communication or simply just not having the time to communicate. The literature discussed the necessity for collaboration (Cook & Friend, 2010; Ditman, Hawkes, Deokar, & Sarnikar, 2010; Foulger & Williams, 2006; Jeffs & Bannister, 2006; Jones & Burgess, 2010; Kennedy, 2011; Llamas, 2011; Ludlow, 2012; Olivos, Gallagher, & Aguilar, 2010; Palawat & May, 2012; Rose, 2011), and according to the participants' collaboration benefits students with disabilities. The participants also indicated there just does not seem to be enough time to devote to collaboration efforts (Focus Group Session with Amber, Scarlett, and Rosamund, April 2014; Focus Group Session with Kaya and Brittany, April 2014).

Technology

The review of the literature for this study showed the increase of technology use and its effectiveness in education (del Puerto & Gamboa, 2009; Doering & Veletsianos, 2007; Garcia & Rose, 2007; Myhill, Cogburn, & Samant, 2008; Vannest, Davis, Davis, Mason, & Burke, 2010). Where technology in education can help to connect students to other students or to their teachers, the technology to manage IEPs helps to connect those responsible for developing the IEP. Cofino (2013) discussed the use of technology to enhance collaboration. Technology can provide a more efficient means of getting all team members current copies of an IEP shortly following an IEP meeting. I made a notation that the IEP could be changed during meetings and eliminate interpretation issues and to be able to provide everyone with a current copy prior to leaving the meeting (Observation of Software Use with Shailene, February 2014). I further noted that the parents' information or suggestions could be entered into the IEP and become part of the record at that moment (Observation of Software Use with Sophia, April 2014).

Several participants made the point that the software is just a tool to create IEPs and not specifically for collaboration. Collaboration happens either before the IEP is worked on in the system or collaboration happens after the IEP has been created and the team is going over the document. Katharine and Billie made statements that the software program does not impact collaboration and yet they also stated collaboration could be enhanced because there are relationships being built having to go to other people for assistance (Focus Group Session with Katharine and Billie, April 2014). Kaya and Brittany made the same observation that the collaboration comes from having to track someone down to help get through the problem (Focus Group Session with Kaya and Brittany, April 2014). The dichotomous statements could stem from a lack of understanding of collaboration or could be a lack of vision to see just how the technology can be used to enhance collaboration or a combination of both ideas.

The participants would all agree that the use of the various software programs to manage the IEP was a lot simpler than handwriting each IEP. The literature supported the time saving efficiencies of electronic IEPs (More & Hart, 2013). Along this line of thinking was the idea that the software programs would actually free up time for other activities. With time being a block to collaboration as mentioned previously, the software programs offered ways to cut down on time. Each program had some form of data pre-population. This data ranged from demographic information about the individual student to various test scores. When the IEP is due for review, all the information from the previous IEP is brought into the new version which can then be edited to reflect current information. A few participants also commented that the amount of time necessary to complete an IEP was reduced when compared to having to write the IEP manually.

A few participants talked about being able to access the program from home or from different locations. The idea of being able to access the program from any location was taken a step further when the statement was made "I don't need to really talk to that person, I just have to look and see what their goals are" (Focus Group Session with Amber, Scarlett, and Rosalund, April 2014). Each software program used by the participants offered the ability for more than one person to access an individual IEP. In some cases, only one person would be allowed to edit the IEP at one time, but this still offered a collaborative tool through a built-in messaging component. I made a note that the messaging component in the software can enhance collaboration and promote clarity (Observation of Software Use with Amber, April 2014).

The participants of this study may not have been able to see how the use of technology can aid in the collaboration because of a lack of understanding of the particular technology used. For each software program, initial training was provided when the program was first introduced, but very little follow up training was provided. Confirmation was not given if new educators were given any training on the software program. In several cases there was mention that a user's manual would be beneficial. If technology is something that is constantly changing, then it would stand to reason that as the various programs are changed additional training would be required for the users to be able to continue to use the software effectively. Additionally, as the technology is understood through constant training to keep up with changes, collaboration could be enhanced and not hindered. Mentioned previously, time is one of the contributing factors to blocking communication. Several participants indicated that their time is not spent well trying to get the software program to work properly or to navigate to the areas that need attention. Not only is there a need to have time to collaborate, but there needs to be time to get into the software program and do the work that is necessary. Time becomes

even more of a challenge when the software program is down for maintenance or if the program itself runs slow due to other factors such as environment or location. The necessity for scheduled maintenance periods becomes essential. Not only would these periods need to be on regular basis, but should be clearly communicated and consistent. If the need for unscheduled maintenance is necessary, some form of notification should be done so all who would be using the program could plan accordingly or not flounder around getting frustrated because they cannot get their work done.

Impact

Interestingly a clear division was found in the interviews and focus groups with the participants, and the contrasting statements that were made. During the focus group session with Caitriona and Emma, the question was asked "how can a team member enhance collaboration through the use of software" (Focus Group Session with Caitriona and Emma, April 2014)? A bit further in the discussion the contrasting statement "just having extra eyes on that really saves me going back for any editing" (Focus Group Session with Caitriona and Emma, April 2014) shows collaboration taking place.

Several participants made the point that the software is just a tool to create IEPs and not specifically for collaboration. Collaboration happens either before the IEP is worked on in the system or collaboration happens after the IEP has been created and the team is going over the document. Katharine and Billie made statements that the software program does not impact collaboration and yet they stated collaboration could be enhanced because there are relationships being built having to go to other people for assistance (Focus Group Session with Katharine and Billie, April 2014). Kaya and Brittany made the same observation that the collaboration comes from having to track someone down to help get through the problem (Focus Group Session with Kaya and Brittany, April 2014).

The literature was clear regarding technology and the benefits for both student and educator (del Puerto & Gamboa, 2007; Garcia & Rose, 2007; More & Hart, 2013). What the findings show in this particular study is that the collaboration of IEP team members is not necessarily impacted by any specific software used to manage IEPs. However, there are specific facets within each software package used in this study that could promote collaboration. More and Hart (2013) pointed out "these features increase access to documents for multiple service providers, allow teachers to maximize work time and generate reports of student progress, and help school districts maintain compliance with laws and regulations" (p. 24). The notification and chat element built in to the software could be used for multiple team members to collaborate. The ability to logon to the program from any location and see what others have been working on could impact collaboration. A final consideration would be that each software program stores the IEP in an electronic format. This combined with the ability to be able to pull up an IEP from any location could enhance collaboration simply by using a laptop and a projector during an IEP meeting. This would present the IEP to everyone; who in turn would be able to go through the meeting interacting from the same document, editing in the moment, and coming away with the final product saved and potentially printed at the end of the meeting.

Recommendations for Practice

Several recommendations for practice exist for various groups of people. The first group identified would be district superintendents. Top management within a district absolutely should understand the importance collaboration can have throughout a district including the small group of IEP team members. Each decision made by the administration should take into consideration the impact on collaboration within the district down to individual level. One of those decisions would be to determine which

technologies should be used to manage IEPs. The impact on collaboration should be taken into consideration while examining various IEP management technologies.

Various school administrators not only support decisions made at the higher levels, but need to have a clear understanding of what is happening in their own schools in order to help upper management make informed decisions. Administrators will need to take the opportunity to be involved with the IEP meetings as required members of the IEP team. Administrators should take an interest in how the software is actually being used and through discussions with various team members evaluate software effectiveness. Those discussions could go a long way in determining how the software impacts collaboration. As long as technology is being used, it will be essential to have a regular, consistent training program in place to ensure that those using the software can maintain understanding – especially when changes are made. User guides or manuals will be a big help with the training and provide a valuable resource as follow up questions surface. Manuals can either come from the software vendor who designed the software or be developed in-house by resident experts.

For those who are using the software to manage IEPs, it will be important to maintain an understanding of the software uses and capabilities. Individual educators will need to strive toward working together more to increase the collaboration of the team. Educators should communicate clearly ideas to upper management. Explanations of what is not working and offer suggestions for improvement will be necessary. Communicating with every member of the IEP team, including parents, will need to take place and in all cases as mandated by law. Open a dialog with the parents as they should be considered one of the most valuable participants in the IEP team.

For the parents, several recommendations for practice should be considered. Understand that there may be issues with various software programs which can hinder the

process of putting together an IEP. These issues with the technology cause additional stress on the educators and parents should have some understanding. Hart and More (2013) discussed that "teachers need to be aware of the impact that a computer and possibly a projector can have on parental participation at IEP meetings" (p. 27). Hart and More (2013) continued "the technology involved in the IEP process may intimidate some families" (p. 27). This does not mean that the parents become push-overs. Parents should be willing to ask tough questions of all the educators working with their child, whether that be the special education teacher, general education teacher, other professionals, or even administration of the school – parents should be taking an active role in the whole process. The parent is the best advocate for their child until that child has learned or is able to advocate for themselves. This means that each parent should know and understand the laws around what services should be available for the child with special needs. Parents should advocate in their districts for more general training for parents to help them better understand the IEP process and the laws governing the process.

The final group of people to address will be software developers. Developers of software packages to manage IEPs should take into consideration those people who would use the product on a daily basis. This study exposed some practices that should be avoided or could definitely use improvement. To be avoided would be the maintenance of the software outside of established maintenance timeframes. This would mean that having a scheduled maintenance window should be made know to all the users of the software so they can plan accordingly – notices on the main page of the application would be beneficial. Improvements include having a user manual and regular training on the software. The manual should cover a majority of what users will experience and need to know to enter and manage an IEP while the trainings could take certain sections and

dive deeper; perhaps incorporating those who have already learned that particular piece of the software well.

Recommendation for Future Research

Future research should address the limitations identified within this study. One limitation identified regarding the participants was they were all taken from school districts within the state of Alaska. Choosing districts from within Alaska provided the opportunity to look at more rural districts. Future research should include a variety of districts as rural districts do not necessarily imply collaboration exists nor identify if collaboration is better suited in rural districts. Addressing the cultural limitations would also be a consideration for future research. A larger geographic region could provide opportunities for more educators being shared across schools or possibly even shared across districts. Educators who are shared could provide different insights into how collaboration happens. Insights could be found into how the culture of various districts can play into the concept of collaboration.

This study used a purposeful sampling of convenience to gain participants. As a result of the purposeful sampling there were sixteen participants in this study. All participants were female. This study did not have the intention of looking at one particular gender nor was any literature looked at for gender differences where collaboration is concerned. This study does not generalize that all female educators would respond in the same manner. Another recommendation would be to increase the number of participants in the study and include both genders. Examinations of differences in genders where collaboration is concerned and where using technology is involved could be done. Studies could go as far as to look at the perceptions of technology use where gender is concerned.

This study included three different software packages which were used among the participating districts. The limitation exists in this study due to not necessarily focusing on a particular software; it was not the software itself being examined but the impact using software could have on the collaboration. Another recommendation would be to examine the effectiveness of different software packages. Examining how different software could promote collaboration better or what would be easiest to customize. There are a number of ways to look at the software in question. Future studies should look at what features are available that would enhance or provide opportunities for collaboration.

Future studies could examine the culture of collaboration in various districts. The culture could be examined from different perspectives. These perspectives could include the administration to the various educators and possibly even including parents and those students receiving services. A study looking at how connected the parents feel to the IEP team and how that impacts the collaboration of the team could be explored. A study of the culture of collaboration could show a connection between how collaboration is promoted within a district and how collaboration is handled at various levels within a district.

Various studies could be performed to examine the IEP process itself and how software impacts that process. Answering questions such as, “Does the software offer enhancement or disruption in the process?” could provide an avenue to pursue. An aspect of that study could look closely at the implied purpose of the software and how the software is actually being used. The purpose could be seen through the eyes of the variety of stakeholders including administration and educators. Examining the software designers guidelines or to talk to whoever created the software package could provide additional insights.

Further studies on collaboration could be conducted. A focus on the definition of collaboration, how do others define collaboration and how does that measure up to a more formal definition.

I asked the question regarding training and how this impacts collaboration. A study could be done to examine the impact training could have on collaboration. The training could take many different forms from training on collaboration skills to training on how to use various software packages. Several studies could be conducted each with a different focus on the type of training provided and who on the IEP team participates.

The studies mentioned above could even go beyond the IEP team and into how a school or a district could establish a collaborative learning environment or even to go a step further and explore collaboration between districts. An idea that was noted during an observation was that the information collected in the electronic version of an IEP could be securely communicated electronically to a different district if a student were to move from one district to another.

Conclusion

A gap in the literature exists in how using software to manage IEPs can impact the collaboration of the IEP team. The purpose of this phenomenological study was to gain a deeper understanding of the perceptions of educators' on the impact using software to manage IEPs would have on the collaboration of the IEP team. This study employed various means of collecting data including transcribed interviews, transcribed focus group sessions, and observed use of software and observed IEP team meetings.

This study begins to fill the gap in the literature by bringing to light some insights into collaboration and how educators see collaboration and its relationship to various software packages. Collaboration is essential for successful communities; the IEP team is a community with the goal of ensuring the success of the student. Participants of this

study stated that being able to use the software from any location was very beneficial. Most participants did not indicate that software use enhances collaboration. Participants discussed the relationships they have with other educators showing that a community does exist. Perhaps all that would be needed is some guidance to show the connection between the community and collaboration.

One of the simple methods of enhancing collaboration did not come from any particular software package used; simply being able to project the IEP up on a large screen viewable by everyone present impacted collaboration. Everyone was able to see what was happening and at the end of the meeting all parties left with a current copy of the IEP.

Collaboration is a concept that has been discussed in literature and is generally considered to be highly important. Technology is a concept that has been in the literature for quite some time with many studies showing how technology impacts education in a variety of ways. The gap that has been identified in how using software can impact collaboration is an area that is now slowly being closed. This study has taken a step in that direction.

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APPENDIX A – IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

November 4, 2013

Vaughn Hammond
IRB Approval 1688.110413: A Phenomenological Study of the Impact on Collaboration as Perceived by Educators while Using Software to Manage Individualized Education Programs

Dear Vaughn,

We are pleased to inform you that your above study has been approved by the Liberty IRB. This approval is extended to you for one year. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Please retain this letter for your records. Also, if you are conducting research as part of the requirements for a master's thesis or doctoral dissertation, this approval letter should be included as an appendix to your completed thesis or dissertation.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

Fernando Garzon, Psy.D.
Professor, IRB Chair
Counseling

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APPENDIX B – Consent Form

CONSENT FORM

A Phenomenological Study of the Impact on Collaboration as Perceived by Educators While Using Software to Manage Individualized Education Programs

Vaughn Hammond
Liberty University
School of Education

You are invited to be in a research study of the perception of the impact of using software to manage IEPs has on the collaboration of the IEP team. You were selected as a possible participant because you met the requirements of having worked with the IEP software for at least two years and a member of an IEP team. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Vaughn Hammond, Doctoral Candidate, School of Education, Liberty University.

Background Information:

The purpose of this study is to gain a deeper understanding of how educators' use of software for managing IEPs impacts the collaboration of the IEP team. The four questions being examined are: 1) What are the challenges identified by educators to using software to manage IEPs; 2) What are the benefits identified by educators to using software to manage IEPs; 3) What is the perception of educators about the impact of using software to manage IEPs has on the collaboration of the IEP team; and 4) What is the perception of educators use of software on increasing collaboration skills?

Procedures:

If you agree to be in this study, I would ask you to do the following things:

- Participate in a one-on-one interview with the researcher. This interview will be digitally audio recorded and transcribed. You will be provided a copy of the transcript and asked to comment on the accuracy. The interview should take no longer than 45 minutes.
- Participate in one focus group session. This session will also be digitally audio recorded and transcribed. You will be given a copy of the transcript and asked to comment on the accuracy. The focus group session should last no longer than 90 minutes.
- Be observed by the researcher while using the software to manage your portion of the IEP. This observation may take up to 30 minutes. This observation will not include viewing of any student specific information.
- Be observed by the researcher as part of an IEP team meeting, subject to the prior written permission of the parent(s). This observation could take as long as the IEP team meeting is scheduled.

Risks and Benefits of being in the Study:

The risks associated with this study are no more than what would be encountered in everyday life.

The benefits to participation are becoming self-aware of your own collaboration skills.

Compensation:

You will not receive any compensation for your involvement with this study.

Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records.

The privacy and confidentiality of each participant will be handled with a coding system using pseudonyms in place of actual names. The researcher will maintain this list on a secure laptop or iPad to which the researcher only will have access.

Any digital recording will be maintained on a secure device which will only be accessed by the researchers. All recordings will be deleted after three years.

All documents collected for this research will be stored in a locked cabinet or electronically on a secure laptop accessed only by the researcher. All data and documentation collected will be deleted after three years.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University, the Matanuska-Susitna School District, or the State of Alaska. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to withdraw from the Study:

Participants can withdraw from the study at any time. An email to the researcher indicating the desire to withdraw from the study would be sufficient to withdraw from the study. Any data collected from the withdrawn participant will be removed from the study. Any audio recordings will be edited to remove any data collected from the withdrawn participant.

Contacts and Questions:

The researcher conducting this study is Vaughn Hammond. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at (907) 957-0642 (cell) or vmhammond@liberty.edu. You may also contact his advisor Dr. Randall Dunn, School of Education Liberty University at rdunn@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24502 or email at irb@liberty.edu.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

_____ I consent to audio digital recording of interviews

_____ I consent to audio digital recording of the focus group session

_____ I consent to allow the researcher to observe my use of the IEP software, this observation will not include viewing of any student specific information

_____ I consent to allow the research to observe an IEP team meeting, subject to the prior written permission of the parent(s)

Signature: ____<original signatures on file>_____ Date: _____

Signature of Investigator: _<original signature on file> Date: _____

IRB Code Numbers: 1688.110413

IRB Expiration Date: November 4, 2014

APPENDIX C – Interview Questions

1. **What positions have you held in education and duration of each?**

   This question will help establish some context for the individual participant.

2. **Did you receive any training on collaboration? This could include teacher preparation courses or professional development (informal and formal).**

   There were several studies that pointed to the need for increasing educator exposure to collaboration training (Irinaga-Bistolas, Schalock, Marvin, & Beck, 2007; McKenzie, 2009; McKenzie, 2011; Stanley, 2011; Stein, 2011; Straham, Geitner, & Lodico, 2010; Sturko & Gregson, 2009; Whitbread, Bruder, Fleming, & Park, 2007).

3. **Describe your experience using the software program to manage IEPs for students?**

   This question will be helpful in knowing how the participant feels about the software being used. This particularly could be useful in determining the perception of the participant.

4. **Did you receive any training on how to use the software program to manage IEPs for students?**

   Perceptions of the participants could vary depending on whether training was received or not on how to use the software program. Having this information will help in formulating the conclusion on the effects of using the software on collaboration.

5. **Describe your relationship with other educators you work with during IEP meetings?**

   Collaboration begins with people working together. This is established

through the definition of collaboration used in this study; two or more parties working together towards common goals through sharing of decisions (Cook, Friend, 2010; Kennedy, 2011; McLaren, Bausch, & Ault, 2007; Rose, 2011).

6. **How does your relationship with other educators affect your collaboration?**

   The relationships that the participants have with other educators will affect their collaboration. Having this information will help to understand responses to using the software and how that affects collaboration.

7. **How is collaboration on the IEP team affected through the use of software to manage IEPs for students?**

   This will allow the participant to express their perception of the effects of using software to manage IEPs for students would have on their collaboration with the entire team.

APPENDIX D – Focus Group Questions

1. What do you see as important for collaboration as part of an IEP team?
2. Would formal or informal training opportunities on collaboration skills be beneficial? Why?
3. Describe what individuals can do to enhance the collaboration on the IEP team?
4. What do you see as important in a software program to manage IEPs for students to enhance the collaboration of the IEP team?
5. How do you see formal or informal training on the software program used to manage IEPs enhance the collaboration of the IEP team?
6. Describe how the individual team member could help enhance the collaboration of the IEP team through the use of software to manage IEPs for students.

APPENDIX E – Observation Protocol

Length of Activity: 60 minutes	
Descriptive Notes	Reflective Notes

Appendix F – Recruitment Email

As a graduate student in the School of Education at Liberty University, I am reaching out to various school districts within Alaska to seek participants for research as part of the requirements for a Doctorate in Education (Ed.D.). The purpose of the research is to gain a deeper understanding of how educators' use of software for managing Individualized Education Programs (IEPs) impacts the collaboration of the IEP team.

I am writing to you to request permission to conduct research in the [school district name] by inviting educators to participate in the study. I can work with you or whomever you designate to recruit participants. Overall I am looking for 10-15 participants and I don't expect all of these to come from your district. The participants should be educators who use the software program used by your district to manage IEPs and have been doing so for at least two years. These could be general education, special education, or specialist educators.

Participants would be asked to be involved with a one-on-one interview, a focus group session, observation of the participant using software to manage IEPs, and possibly observation of an IEP team meeting. The gathering of data would be kept anonymous and there would be minimal risk. Data collected will be used to determine the perception of educators. An informed consent form will need to be filled out and signed by all participants; this study is completely voluntary and any participant who would want to discontinue would be able to do so at any time. I also understand that I may be required to fill out consent forms or additional consent may be required for me to observe IEP team meetings. For clarification, at no time will data specific to any student be captured; observations of use of software to manage IEPs is how the educator uses the software and how that impacts their ability to disseminate information during an IEP team meeting. The observation of the IEP team meeting is how the team interacts as a result of the software used to develop and maintain IEPs.

I have included several attachments with additional information for this research. Included is the formal approval I have received from the Liberty University IRB allowing me to pursue research participants. I have also included a short introductory letter which could be used in recruiting participants as well as the consent form.

If you have any questions, please do not hesitate to let me know. I have included my cell number below and you also now have my email.

I look forward to hearing from you.

Vaughn Hammond
Doctoral Candidate
(907) 957-0642