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Effects of Software Use on the Preparation of the Individualized Education Programs (IEP’s)

Nancy Ann Beukema
Western Michigan University
EFFECTS OF SOFTWARE USE ON THE PREPARATION OF THE INDIVIDUALIZED EDUCATION PROGRAMS (IEP'S)

by

Nancy Ann Beukema

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EFFECTS OF SOFTWARE USE ON THE PREPARATION OF THE INDIVIDUALIZED EDUCATION PROGRAMS (IEP'S)

Nancy Ann Beukema, Ed. D.
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Special educators are required to process paperwork mandated by federal regulations for students with special needs. The Individuals with Disabilities Act of 1997 (IDEA '97, Public Law 105-17) requires the evaluation of students with special needs occur as frequently as their non-disabled peers. An annual review is also mandated for each student's individualized educational program (IEP), in order to reevaluate the future goals and objectives of the IEPs. A student identified as needing special education services is one who needs specially designed instruction and this instruction must meet the specific individual needs of that student. IDEA '97 mandates the need for an individualized educational program (IEP) for all eligible students and requires special educators to develop the IEP. Other responsibilities for the special educators include developing the triennial IEP, annual IEP, progress reports, parent letters of notification, transition plans, and more.

In conjunction with federal regulations, this study asks whether the use of technology can ease the process of developing the IEP. Can the IEP, using the computer software package, issue a more federally compliant document or IEP?
Further, selected special educators were evaluated over their use of the computer-generated document versus the Traditional paper and pencil modality. Is time beneficial in using the electronic IEP as opposed to the Traditional modality? Further, are attitudes different among special educators, in regards to writing IEPs, according to the modality used?

The three modalities studied include: 1. a computer software package entitled IEP Writer, 2. another computer software package entitled Tranquility and 3. the Traditional paper forms and pencil modality of writing the IEP. The two software programs use similar modalities to create the IEP.
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Dedication

I would like to dedicate this to my closest and dearest friend, Nancy B. Sanford who has stood beside me as I worked on this tedious project and has picked up the many extras that I was not able to accomplish due to my time constraints. Without her continued support and encouragement, I would not been able to complete this project.
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CHAPTER I

INTRODUCTION TO STUDY

Problem

The Individuals with Disabilities Act of 1997 (IDEA '97) requires that educators assess the specific individual needs of the student and develop an official document detailing the special educational program for the students in special education (Bateman & Linden, 1998, Epsin, Deno, & Albayrak-Kaymak, 1998, Heward, 2000, Gibb & Dyches, 2000). This document is only a small part of the daily routine of the special educator and the other professionals and parents who are actively involved in the planned program of the student in special education. Everyone involved with the student in special education are mandated by this law and need to document the steps and progress of the student.

Increased paperwork has occurred because of the growing number of students entering special education and the federal regulation demands (U.S. Department of Education, 1999). Further, IDEA '97 mandates the need for an individualized educational program (IEP) for all eligible students and requires special educators, as part of a multidisciplinary team (MET) to develop the IEP. (Council For Exceptional Children 1997a, 1997c, Idealaw, 1997a, 1997b, 1997c, 1999a, 1999b, Michigan Department of Education, 1998). Several information technology theorists (Kosakowski, 1998, Nash & Morox, 1997, Mitra, 1998) propose that complex
paperwork demands might be more effectively and efficiently handled with the use of technology. That is, computerized tools to assist with the recording, storage, and reporting of the information. There is a growing trend of special educators, and related school administrators, looking to the use of technology to help automate the paperwork requirement (Johnson, Brady, Shenkle, & Amidon, 1997, McGuckin & Stiroh, 1998). The study examines if technology used by special educators and their school systems impact the preparation of IEPs. More specifically, the use of computer software package would issue a more federally compliant document or IEP. Further, special educators were evaluated over their use of the computer-generated document versus the Traditional paper and pencil modality. Another component examined was if there was a time factor beneficial in using the electronic IEP as opposed to the Traditional modality. The last component examined was the attitudes of the special educators different among special educators, in regards to writing IEPs, according to the modality that they used to develop the IEP.

IDEA '97 mandates that the evaluation of students with special needs occur as often as their non-disabled peers. An annual review is also required of each student’s individualized educational program (IEP), in order to reevaluate the present and future goals and objectives of the IEPs. A student identified as requiring special education services is one who needs specially designed instruction and this instruction must meet the unusual needs of that student (Hallahan & Kauffman, 2000, Heward, 2000, U.S. Department of Education, 1999). A multidisciplinary team is comprised of parents, student, special educators, general educators and any other interested involved with the needs of the child is mandated to evaluate each of these
students’ IEPs at least every three years or more often if there is a specific need for changes in the student’s program. Parents, students and special educators must review each of the current three-year programs annually. The annual review usually means that there will be changes in the IEP on an annual basis if not more frequently (Idealaw, 1997a, 1997c, Jones, 1995a, National Information Center for Children and Youth With Disabilities, 1996, 1998, Silverstein, 1999). A tremendous amount of paperwork is required just to fulfill the legal obligation of creating, reviewing, and modifying an IEP for each student. IDEA ‘97 mandates the need for an IEP for all eligible students and requires special educators to develop the IEP. The responsibilities for the special educators include developing the triennial IEP, annual IEP, progress reports, parent letters of notification, transition plans, and more.

Specifically, the information required for the renewal of the IEP by every special educator involves keeping paperwork documentation on when, where, why, how and to what success each student who has participated in the designated goals and objectives that were agreed to by the multidisciplinary team at the last time an IEP was prepared or reviewed (U.S. Department of Education, Office of Special Education and Rehabilitation Services (OSERS), 2000, Idealaw, 1997a, 1997b, 1999a, Edelen-Smith, 1995).

The Individuals with Disabilities Act of 1997 (IDEA ‘97) mandates that the evaluation of students with special needs occur as frequently as their non-disabled peers and the increased paperwork is a major issue for special educators. As more and more federal legislations become enacted (U.S. Department of Special Education, Office of Special Education and Rehabilitation Services (OSERS), 2000, Bateman &
Linden, 1998, Boyle & Weishaar, 2001, Gorn, 1997, Wright & Wright, 1999), the more frequent the special educator is required to chart and document, sometimes as often as daily, the student's activities as it relates to their described educational program. Further, teachers need to calculate and determine any academic growth by the their students towards to the goals that have been described in the student's individualized IEP. Special educators and anyone providing services to the student are required to prepare reports for the student's file, for the school's records, for the student's family, and for other participating agencies on the amount of academic progress the student has shown over the past recording period. Special educators are spending extended time needing to document participation, achievement, decline and change in the IEP on a regular basis. Further, they need to document special programs and related records on each child they serve in their classroom (Weishaar, 1997, LaPointe, 1999, Knoblauch, 1998).

In summary, managing the required paperwork is a major problem for special educators. Technological aids, which can assist them, must be studied. Can these aids reduce time needed for special educators to handle required paperwork while conforming to the reporting and recording processes in keeping with the laws currently governing students of special education? Can technology aids accommodate the range of technological skills and capabilities of special educators? Will the attitudes of special educators differ toward their use of these technical aids in place of the paper-modality?
Special Education in the United States

In the United States, all students eligible for special education are entitled to a free and appropriate education (Public Law 105-17, 1997). This law is also referred to as IDEA '97, the Individual with Disabilities Education Act. Further, students identified as needing special education are required to have a current individualized educational program (IEP). This IEP outlines their individualized program of study.

The IEP is the mainstay of IDEA. The student’s special education program is directed and monitored by the IEP. Goals and objectives, educational placement, length of the school year, and the criteria for the evaluation of the document, are all parts that contribute to the entire IEP (Gibbs & Dyches, 2000). For students with disabilities, this is the process that formalizes the free and appropriate public education (FAPE) for each of them. “The IEP is so important that the failure to properly develop and implement it may render a student’s entire special education program invalid in the eyes of the courts” (Yell, 1998 p. 167).

The development of the IEP is a collaborative effort between parents and school personnel. This process is done to ensure that the students’ special education program will meet their individual needs as well as a mandate of the federal regulation. The IEP also meets federally mandated criteria such as communication, management, accountability, compliance and monitoring, and evaluation (IDEA Regulations, 34 C.F.R. § 300 Appendix C:1)

The IEP is defined in IDEA, 20 U.S.C. § 1401(a)(20), as a written statement for a child with a disability that is developed and implemented in accordance with the
requirements of the law. An IEP must be developed for each student in special education. Also, the IEP must be in effect before special education and related services are provided to the eligible student in special education (IDEA Regulations, 34 C.F.R. § 300.342(b)). Development of the IEP is an ongoing process in which a multidisciplinary team or IEP team establishes an individualized program of study for each student. This includes a written document that delineates the special education and related services that will be provided to every eligible student. The IDEA contains extensive procedural and substantive requirements that schools must follow when developing the IEP.

A written IEP prepared for each student with a disability must include present levels of functioning: the long- and short-term goals of the student, the extent to which the student will not participate in the general education classroom curriculum, services to be provided, plans for initiating and evaluating those services, and needed for transition services including from school to work or to continued education (Gibbs & Dyches, 2000, Gorn, 1997). According to IDEA ’97, the intent of the IEP is to show individualization and accountability in the program for every student of special education (Idealaw, 1997a, 1997c, National Information Center for Children and Youth With Disabilities, 1996, 1998, 2000, Hallahan & Kauffman, 2000, Heward, 2000, Yell, 1998).

Purpose of the Study

The purpose of the study is to determine if various modalities that were used to develop the IEP saved time for the special educators as well as if one of the
modalities created a more compliant IEP according to federal legislation. The study ascertains that special educators can use technology aids (software applications) to develop and write an individualized educational program (IEP) for the students with special needs who are eligible for special education services. This study also measures the proper compliance of the preparation of the IEPs to compliance according to federal legislation regarding the individualized educational program (IEP) for the present level of performances, annual goals and short-term objectives. The researcher investigates the attitudes of teachers of special education toward the process of writing an IEP. Further, the study explores the time it takes teachers to develop a sample IEP, using the use of technological aids (software programs) as well as the Traditional "pencil and paper" modality of writing IEPs.

Theoretical Approach to Data Collection

The need for the educator, special educator and the multidisciplinary team (MET) to develop the IEP for the student in special education has long been a concern (U.S. Department of Education, 1999, National Information Center for Children and Youth with Disabilities, 1996, Michigan Department of Education, 1998, Silverstein, 1999, Rodgers, 1995, Jones, 1995a, Heward, 2000). This process has proven to be a time consuming process (Gibb, & Dyches, 2000, Espin, et al, 1998, Bateman & Linden, 1998). The documentation is a statement of the student's level of performance, as well as the planned course of his educational program. The IEP needs to address the program, least restrictive environment placement,
assessment, involvement with general education, goals, objectives and all the other needs addressed by IDEA '97 (Idealaw, 1997b, 1997c).

This information needs to be collected and assembled into the document called the individualized educational program (IEP). Depending on the student and their needs, the special educator or general educator sets up the program along with the multidisciplinary team (MET), which consists of the parents, student, administrator, psychologists, and any other educator that may work or be involved with the student.

The IEP is a joint effort of all the individuals included on the multidisciplinary team (MET). This document is intended to be the best program that can be planned for the student and will be offered by the school district. Parents and or any member of the MET have the right to appeal this planned program or IEP if they do not feel that it is in the best interest of the child. Hopefully all IEP's are group consensus developed for the student in question (Bateman & Linden, 1998, Council for Exceptional Children, 1997a, 1997b, 1997c, Davis & Bates, 1997a, Edelen-Smith, 1995).

This study only addresses the needs of the special educators who generally evaluate the student and make recommendations for the present level of performances, goals and objectives for the student at the individualized educational program meeting. This similar process needs to be completed by a general educator or servicing parties if the student will be involved in special education in any manner. Again, this study does not look at the time and efforts, which are put forth by the other individuals of the multidisciplinary team.
Research

The researcher did an extensive search of the literature including the ERIC, First Search and numerous other educational search engines to obtain the materials available for this study. The researcher searched the literature using keywords such as: computerized - IEPs, technology - IEP, software - IEP and numerous combinations of word searches. Very limited information was found to support the various technical modalities used to develop the IEP. There was nothing found by the researcher that indicated that the level of compliance of the IEP had anything to do according to the federal legislation with the modality used to create the IEP. Thus, producing a more compliant IEP using a computer software package versus the Traditional paper and pencil modality.

The researcher was also interested in the attitudes of the special educators when they used the software packages to develop the IEP and keep track of the information required on each student. Special educators are required to document student process as well as maintain records on the student, thus adding a large amount of paper work every time there is a need to recreate the required forms. The researcher believed that attitudes for developing the IEP would be more positive by the special educators who were able to easily access the necessary demographic and programmatic type information with a simple keystroke on the computer. This study has three research questions:

1. Can using the computer software package issue more federally compliant IEPs compared to a Traditional paper and pencil modality?
2. Is time beneficial in using the electronic IEP as opposed to the Traditional modality?

3. Are attitudes different among special educators, in regards to writing IEPs, according to the modality used?
CHAPTER II

LITERATURE REVIEW

History of Special Education

Until 1975, children with disabilities were often excluded from school according to Wright and Wright, 1999. When allowed to attend, children with many different disabilities were often lumped together in generic special education classes. Because school segregated children with disabilities from normal children, special education classes were often held in undesirable, out of the way places like trailers and school basements. The term special education means specifically designed instruction, at no cost to parents, to meet the unique needs of a child with a disability, including (a) instruction conducted in the classroom, in the home, in hospitals and institutions, and in other settings; and (b) instruction in physical education [20 U.S.C. § 1401(25)]. Since 1975 children in the United States have been entitled to special education services. The Public Law 94-142, entitled Education for All Handicapped Children Act of 1975 (EHA) stipulates that all handicapped children “have a right to education, and it establish a process by which state and local educational agencies may be held accountable for providing educational services for all handicapped children” (U.S.C.A.N. 1975 p. 1427). Since 1975, EHA and all the subsequent reauthorizations has guaranteed that all eligible children and youth with disabilities
would have available to them a free and appropriate public education (FAPE).
Additionally, a program of study had to be designed to meet the unique educational needs of every student.

Public Law 94-142

The reauthorization of the Education for All Handicapped Children Act of 1975, Public Law 94-142, in 1990 renamed EHC the Individuals with Disabilities Education Act (IDEA). Public Law 94-142 has been amended and changed many times with the latest amendment being Individuals with Disabilities Act of 1997 (IDEA '97). Public Law 105-17 is also known as Individuals with Disabilities Act of 1997 (IDEA '97). As a result of the reenactment of the legislation, children will have a free and appropriate public education (FAPE), related services designed to meet their specific and unique needs, prepare them for employment, independent living and to ensure that the rights of the children with disabilities and their parents are protected.

The Education for All Handicapped Children Act (Public Law 94-142, 1975) was initiated for the following reasons: (1) an increased awareness of the needs of children with disabilities, (2) judicial decisions that found constitutional requirements for the education of children with disabilities, (3) the inability of states and localities to fund education for children with disabilities, and (4) the theory that educating children with disabilities will result in these children becoming more productive
members of society and thus lessening the burden on taxpayers to support nonproductive persons (Jones, 1995b).

The United States Congress followed the enactment of Education for All Handicapped Children Act (P.L. 94-142) with the Individuals with Disabilities Education Act, which mandates the provision of a free appropriate public education for children with disabilities. In order to meet objectives, IDEA provides federal assistance to states and local authorities (Jones, N.L., 1995b). The law is reauthorized every 5 years.

**Individuals with Disabilities Act (IDEA) Legislation**

IDEA is founded on six principles: zero reject/child find, nondiscriminatory testing, individual education program, least restrictive environment, procedural due process, and parent participation. These principles must be followed by every school district funded through IDEA '97 (Idealaw, 1997c).

**Eligibility for Special Education Services**

IDEA '97 provides strict procedures for assessing students to determine their eligibility for a special education program. There are five general legal guidelines that summarize the assessment procedures (Idealaw, 1997d). These are:

1. Discrimination in assessment is not allowed; (a) the test instruments must not be prejudice, culturally or racially biases; (b) every attempt to assess the student in their native language should be made; (c) the
assessment instrument must not be discriminate on the basis of the disability.

2. The assessment must identify all of the student's educational needs, and see whether they are linked to the student's disability category.

3. Assessments must be comprehensive and use a variety of sources from a variety of professionals; (a) students will be assessed in all related areas of the suspected disabilities; (b) assessments must gather functional and developmental information; (c) information from parents must be gathered.

4. The assessments administered by the trained professional must be valid and reliable.

5. Rights of the student with a disability and their parents must be protected during the assessment period; (a) parents must be notified in writing when a child is referred for an evaluation, receive information on their parental rights and give informed consent prior to the evaluations; (b) parents must have the opportunity to examine records and participate in meetings when the identification, evaluation and educational placement of their child is being discussed; (c) the child's progress toward the special education goals must be provided to parents at least as often as in regular education.; (d) a reevaluation must be conducted at least every three years.
Assessments

Children with disabilities must be included in general state and district-wide assessments, with appropriate accommodations, if necessary; (a) a student not able to participate in these assessments must be determined by the IEP team; (b) the team must write on the IEP why the assessment is not appropriate. (Boyle & Weishaar, 2001, pp. 4-8). Prior to the reenactment of the Individuals with Disabilities Education Act of 1997 (IDEA ‘97), the law did not specifically address general curriculum involvement of disabled students. Changes were made according to the definition of a child who requires special education services. A child with a disability now means a child: (i) with mental retardation, hearing impairments (including deafness) speech or language impairments, visual impairments (including blindness), serious emotional disturbances (hereinafter referred to as ‘emotional disturbance’) orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and (ii) who, by reason thereof, needs special education and related services (20 U.S.C. § 1401(3)). “The 1997 Amendments shifted the focus of IDEA to one of improving teaching and learning, with a specific focus on the Individualized Education Program (IEP) as the primary tool for enhancing the child’s involvement and progress in the general curriculum” (Idealaw, OSEP Doc. IDEA ’97 Final Regulations Major Issues, p. 1).
Discipline

Prior to 1997, the statute only specifically addresses the issue of discipline in a provision that allowed personnel to remove a child to an interim alternative educational placement for up to 45 days if the child brought a gun to school or to a school function. IDEA '97 incorporated prior to court decisions and Department policy that allows schools rules as long as there is not a pattern, and children with disabilities can not be long-term suspended or expelled from school for behavior that is a manifestation of his or her disability and services must continue for children with disabilities who are suspended or expelled from school (Idealaw, OSEP Doc. IDEA '97 Final Regulations Major Issues)...

Special education is a specially designed instruction or program that meets the unusual needs of an exceptional student (Hallahan & Kauffman, 2000). According to the Twenty-Second Annual Report to Congress, approximately 8.75 percent of the student between the ages of six and 21 fall into the classification of special education. Of all of these students in special education, it was noted the approximately 4.5 percent of the students were in the learning disabilities category (U.S. Department of Education, 2000, p. A-35).
Individuals with Disabilities Act 1997 (IDEA '97)

Legislative Changes

The legal aspects of the Individuals with Disabilities Act of 1997 (IDEA '97) are discussed in relationship to the needs of the student in special education and the requirements that the special educators need to abide by. Some of the critical changes that took place with the enactment of IDEA '97 were that: (1) participation of children and youth with disabilities in State and district wide assessment (testing) programs; (2) the way in which evaluations are conducted; (3) parent participation in eligibility and placement decisions; (4) development and review of the individualized education program (IEP), including increased emphasis upon participation of children and youth with disabilities in the general education classroom and in the general curriculum, with appropriate aids and services; (5) the addition of transition planning at the age of fourteen; (6) voluntary mediation as a means of resolving parent - school controversies; and (7) discipline of children with disabilities (National Information Center for Children and Youth with Disabilities, 1998).

IDEA '97 continued to reinforce that schools must provide a free and appropriate public education with a stricter definition of what the student is entitled in regards to the least restrictive environment possible. Students in special education will have an individualized education program (IEP) written on their behalf by a multidisciplinary team, which will include the parent(s), student, regular educator(s), special educator(s) and individual(s), which will be working with the student. In
most cases, the team must include a psychologist who will conduct individualized testing on the student in question. Auxiliary staff members may also be required to attend the meeting on the student. Placement of the children will be determined at the meeting of the multidisciplinary team at the time, which the student’s individualized educational program is constructed.

IDEA ‘97 explicitly requires States to include children with disabilities, with accommodations when necessary, in State and district wide assessment programs. For children who cannot participate in regular assessments, States must have developed an alternative assessment by the year 2000.

IDEA ‘97 provides very specific procedures on how the individualized educational program (IEP) will be implemented. All district personnel that are required to implement the IEP must have access to the document. Parents must have copies of the IEPs and the special educators must make good faith efforts to assist children in achieving the goals on their IEPs. School districts are required to provide what the IEP require.

**Least Restrictive Environment (LRE)**

Least restrictive environment (LRE) provides four basic provisions under IDEA ‘97. These provisions are:

1. General requirements
   a. Each school district must ensure to the maximum extent appropriate children with disabilities, including children in public
and private institutions and other care facilities, are educated with children who are nondisabled; and that special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only if the nature of severity of the disabilities are such that education in regular educational environment occurs only if the nature of severity of the disabilities are such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (IDEA Regulations, C.F.R. § 300.550).

2. Continuum of placements
   a. School districts must ensure that a continuum of alternative placement is available to meet the needs of children with disabilities for special education and related services...including regular classes, special classes, special school, home instruction, instruction in hospitals and institutions, and supplementary instruction to be provided in conjunction with regular class placement (IDEA Regulations, C.F.R. § 300.551).

3. Placements
   a. The child's placement is determined annually, is based on the child's IEP, and us as close as possible to the child's home. Unless the IEPs of children with disabilities require some other arrangements, the children are educated in the schools that they
would attend if nondisabled. Consideration should be given to any potential harmful effects on the children or on the quality of services that they need. Children with disabilities may not be removed from age-appropriate regular classrooms solely because of needed modifications in the general curriculum (IDEA Regulations, C.F.R. § 300.522).

4. Nonacademic settings
   a. With respect to nonacademic or extracurricular services, including meals and recess periods, a school district shall ensure that each child with a disability participates with nondisabled children to the maximum extent appropriate (IDEA Regulations, C.F.R. § 300.553).

Due Process

Procedural due process is the premise, which IDEA '97 is based on. If any party disagrees with the IEP then they have the right to challenge the decision. IDEA regulates two types of conflict resolution: due process and mediation. In cases where the conflict is not resolved the party(s) can appeal the decision to a judicial system. Mediation is also a means of resolving the conflict.
Parent Participation

Parent participation has been a major issue in IDEA '97. The legislation ensures that the school districts are not able to make unilateral decisions about the identification, evaluation, and placement of their child(ren) with disabilities. Again we see where the parents need to give informed consent before the child is evaluated. Parents are able to offer information to the evaluation team as well as participate in the decision on eligibility, placement, and program. Parents have the right to review and obtain all records concerning their child.

Special Education Today

Regular data input into a student's individualized educational program (IEP) requires substantial time on behalf of a special educator. Not only are teachers serving an increasing population of students with special needs, the IEPs is a manner in which to meet the individual student needs. Therefore, educators are inundated by federally required paperwork for students needing special education services.

At a minimum, IEPs are reviewed annually and every third year the student is reevaluated for special education services. Many special educators see the IEP as a working document for the student, and not just a paperwork document (Smith, 2000, Yell, 1998, Heward, 2000). The process of writing an IEP and the hard copy document itself are the most important features of compliance to the letter of IDEA (Hallahan & Kauffman, 2000, Yell, 1998). The IEP may be used by governmental agencies in monitoring special education services delivered by the school. The courts
may use the IEP to assess compliance with the FAPE mandates of IDEA. The
governmental agencies may inspect the IEP to see if the student is receiving an
appropriate special education according to the law and that the school is meeting the
legal requirements in the special education services that they are providing for the
student. Therefore, there is a growing need for all the educator and servicing parties
to generate a compliant IEP.

The IEP is a document that provides a description of the present level of
performance of the student and the perspective gain or growth toward the annual
goals and objectives by successfully completing the short term objectives according
to IEP criteria. The IEP must contain objective evaluation criteria and procedures

The tasks of documenting student progress and generating the IEP have
caused a tremendous amount of paperwork for the special educator (LaPointe, 1999,
Bateman & Linden, 1998). The IEP is a federally required document. If the IEP is
prepared to the intent of the law 1) student's needs are carefully assessed, 2) a team of
professionals and parents work together to design a program that best fits the needs of
the student, and 3) goals and objectives are specially stated so the student's progress
in reaching these can be evaluated. Controversy has erupted over the IEP process and
federal legislation. Some individuals have expressed concern over the need to require
the IEP, and others have questioned the requirements of long-term and short-term
objectives as being appropriate (Hallahan & Kauffman, 2000, Jones, 1995a). The
federal government mandates that each state is accountable for the marked progress
of all its students, including the student in special education. As we see cited in IDEA '97, most general education students are tested using the standardized testing unique to their state program. Standardized testing offers information on the level of student functioning, progress, as well as school district performance and possibly the teacher's teaching abilities. The IEP provides information on the assessment tests as to take determine if the student will be participating in the local district standardized testing or the reason(s) why not. A major concern is that the IEP is often written at the wrong time with the wrong intent. That is, the legal IEP is written after an evaluation is made. Further, after identification of students' disabilities and before a placement decision in the least restrictive environment (LRE) is made and a range of services needed to accommodate the individual are determined. Unfortunately, at times we see placements for the student made on availability and space in an already structured program (Hallahan & Kauffman, 2000, Heward, 2000, Jones, 1995a, Idealaw, 1997a, 1997b, 1997c, Gorn, 1997).

Writing the IEP is no small task. It requires the special educator to create an appropriate educational plan or program for the student in conjunction with the parent, student, and other staff / educators involved with the student. Educators involved with the student must be familiar with the level of performance of the student, the present and future needs of the student and of the best programming options available to the student. The IEP is going to meet the requirements of the law and at the same time it must be educationally beneficial for the student. The
electronic IEP, if constructed successfully and effectively, can be a well-planned roadmap for the future of students with special needs.

Legislation used throughout the 1960's and 1970's to include students in the least restrictive environment in the public schools offered little regard to the quality of the IEP for the student (Heward, 2000, Wright & Wright, 1999, Jones, 1995a, 1995b, LaPointe, 1999). In the following two decades, we see that the laws and litigations try to ensure individualized education, cooperation and collaboration among educators and the accountability of educators for providing high quality effective educational programs for students in special education (Wright & Wright, 1999, Gorn, 1997, LaPointe, 1999). The litigation in regards to IEP indicates a tremendous need for effective programming and placement as well as the need for a quality, sound, individualized, legal IEP be constructed for each student.

Individualized Educational Program (IEP)

Every student's individualized education program (IEP) is a vital document (Gibbs & Dyches, 2000). It must spell out the special education and related services that the student will receive. A team that includes parents, school professionals and the student when appropriate develop the IEP. IDEA '97 maintains that the IEP is a document of central importance.

The IEP is the mainstay of the special education process. IDEA requires that an IEP be developed and implemented for every student with disabilities between the ages of three and 21. This law is specific as to what an IEP must include and who
will take part in creating this document. The IEP must be a joint effort of the
members of a multidisciplinary team or IEP team. The team shall include the
following members: (1) the parents (or surrogate parent) of the child; (2) at least one
regular education teacher of the child (if the child is, or may be, participating in the
regular education environment); (3) at least one special education teacher, or if
appropriate, at least one special education provider of the child; (4) a representative of
the local education agency (LEA) who – (i) is qualified to provide or supervise the
provision of specially designed instruction to meet the unique needs of children with
disabilities; (ii) is knowledgeable about the general education curriculum; and (iii) is
knowledgeable about the availability of resources of the LEA; (5) an individual who
can interpret the instructional implications of evaluations results, who may be a
member of the team described above; (6) at the discretion of the parent or the school,
other individuals who have knowledge or special expertise regarding the child,
including related service personnel as appropriate; and (7) the student, if age 14 or
older, must be invited. Younger students may attend if appropriate (34 C.F.R. §
300.344).

Several key changes have been made to what information the IEP must
contain and the way in which the IEP is developed. Federal legislation mandates that
the IEP must be in compliance according to IDEA ’97. If the IEP is not compliant
then it is invalid and unacceptable. Each state has designated compliance monitors
who go out to the school districts and checks and validates IEPs. If the school district
is found to be incompliant to the federal legislation, federal funding may be withheld.
Legislation, requires that the IEP include the following: present levels of educational performance, annual goals including benchmarks or short term goals, special education and related services available, the beginning and end dates for the services and a transition program for students aged 16 or older. There has been a push to have more students with disabilities involved in the general education classrooms with the use of supplementary aids and services as necessary. IDEA '97 requires that the "present levels of educational performance" must now include a statement of how the child's disability affects his or her involvement and progress in general education. The IEP must also contain a statement of special education and related services as well as the supplementary aids and services that the student needs in order to be involved, make progress in their general education, and to participate with other disabled and non-disabled children. [Section 614(d)(1)(A)]. The student's IEP also requires an explanation of the extent to which the student will not be participating with non-disabled children in the general education class, extracurricular, and non-academic activities.

State monitors responsible for checking the compliance of the school district randomly choose IEPs. IEPs, which do not meet with federal compliance guidelines, may need to be rewritten. This creates another time issue and, again, federal monies may be tied to the level of compliance that the school district is able to meet.

Mandatory Components of the IEP

The IEP must include the following seven components:
1. A statement of the child’s present levels of educational performance, including: (i) how the child’s disability affects the child’s involvement and progress in the general curriculum; or (ii) for preschool children, as appropriate, how the disability affects the child’s participation in appropriate activities;

2. A statement of measurable annual goals, including benchmarks or short-term objectives, related to (i) meeting the child’s needs that result from the child’s disability to enable the child to be involved in and progress in the general curriculum; and (ii) meeting each of the child’s other educational needs that result from the child’s disability;

3. A statement of the special education and related services and supplementary aids and services to be provided to the child, or on behalf of the child, and a statement of the program modifications or support for school personnel that will be provided for the child (i) to advance appropriately toward attaining the annual goals; (ii) to be involved in and progress in the general curriculum and to participate in extracurricular and other nonacademic activities; and (iii) to be educated and participate with other children with disabilities and nondisabled children in such activities;

4. An explanation of the extent, if any, to which the child will not participate with nondisabled children in the regular class and in the activities described in paragraph (3);
5. A statement of (i) any individual modifications in the administration of State or district-wide assessments of student achievement that are needed in order for the child to participate in such assessment; and (ii) if the IEP team determines that the child will not participate in a particular State or district-wide assessment of student achievement (or part of an assessment), a statement of (a) why that assessment is not appropriate for the child; and (b) how the child will be assessed;

6. The projected date for the beginning of the services and modifications described in paragraph (3) and the anticipated frequency, location, and duration of those services and modifications; and

7. A statement of (i) how the child's progress toward the annual goals described in paragraph (2) will be measured; and (ii) how the child's parents will be regularly informed (through such means as periodic report cards), at least as often as parents are informed of their nondisabled children's progress, of (a) their child's progress toward the annual goals; and (b) the extent to which that progress is sufficient to enable the child to achieve the goals by the end of the year (20 U.S.C., Sec. 1414 [d] [l] [A]).

Any IEP which does not have the necessary information included may be considered to be a noncompliant IEP. Local school districts are monitored by the intermediate school districts and at the state level. The school districts are monitored for compliance generally on an annual basis. The state monitors every intermediate
school district at least every five years. States are required to report to the federal government in regards to issues of noncompliance and how the issues will be resolved. Several courses of action can be taken. Federal and state monies can and will be withheld from the school district. Generally corrective action is the result to the issue of noncompliance. The local schools will need to refacilitate the non-compliant IEP and try to educate the special educators on how the IEP needs to be written to be in compliance. According to Yell, 1998, corrective action must be taken and further training in probably indicated. In the case of Rowley, the U. S. Supreme Court directed that the lower courts would review the schools’ IEP process and written documents when determining compliance with the FAPE mandate of the IDEA. The courts have decided to look first to the procedural aspects of the IEP process and then hey must examine the IEP itself in order to determine if the IEP is written to provide the student with educational benefits they are entitled to.

More critical to the issue of noncompliance is that the individuals right to a free and appropriate education (FAPE) is violated. Thus indicating that the civil rights of the student may have been violated. IDEA defines special education as “specifically designed instruction, at no cost to parents or guardians, to meet the unique needs of a child with a disability” (IDEA, 20 U.S.C. § 1401 (a)(16)). According to Yell, 1998, the procedural protections are the second component in what the free and appropriate education (FAPE) mandates. Congress was very specific in writing the requirements or safeguards to be affordable to the parents of the students. Some of these safeguards are: prior notice, parental consent,
opportunity to examine records, independent educational evaluation and the right to request an impartial due process hearing (IDEA Regulations, 34 C.F.R. § 300.500-515). These safeguards ensure parental participation and consultation throughout the students' involvement in the special education process.

Federal and state legislation is just starting to stress the need for validation of the IEP. The goals and objectives that are included in the IEP must show documentation of the student working on the selected goals and objectives on the IEP. Actual lesson plans must show time spent on working and what was done to work on the selected information. Complete documentation, student work samples, and professional input must be collected to support the students' progress toward successfully attaining the selected goals and objectives. Data collection is a must on all students. Progress reports must give indication of the progress made during the time period when the student worked on the goals and objectives from the IEP. There needs to be specific data collection to support this progress or lack of it.

Present Level of Performance Criteria

There is explicit detail, which must be included in the IEP in regards to the present level of performance. This statement of present levels of educational performance will be different for each child with a disability. Thus, determination about the content of the statement for an individual child is left to the discretion of participants in the IEP meetings. However, the following are some points that should be taken into account in writing this part of the IEP:
1. The statement should accurately describe the effect of the child's handicap on the child's performance in any area of education that is affected, including: a) academic areas (reading, math, communication, etc.); and b) nonacademic areas (daily life activities, mobility, etc.). (Note: Labels such as "mentally retarded" or "deaf" may not be used as a substitute for the description of present levels of education performance).

2. The statement should be written in objective measurable terms, to the extent possible. Data from the child's evaluation would be a good source of such information. Test scores that are pertinent to the child's diagnosis might be included, where appropriate. However, the scores should be: (a) self-explanatory (i.e., they can be interpreted by all participants without the use of test manuals or other aids); or (b) an explanation should be included. Whatever test results are used should reflect the impact of the handicap of the child's performance. Thus, raw scores would not usually be sufficient.

3. There should be a direct relationship between the present levels of educational performance and the other components of the IEP. Thus, if the statement describes a problem with the child's reading skill, this problem should be addressed under both; (a) goals and objectives; and (b) specific special education and related services to be provided to the child (1981 Appendix C, Question 36).
4. The statement of present levels of performance must include (a) how the disability affects the student’s involvement and progress in the general curriculum; and (b) for preschool children, how the disability affects participation in age-relevant developmental abilities or milestones that typically developing children of the same chronological age world perform or achieve (1998 Appendix C, Question1).

Present level of performances should be written only in the specific areas of the child’s unique needs, which will be addressed by the special services that he/she will be provided. In effect the present level of performance is:

1. An objective descriptor of the unique need; and
2. The starting point for specifying services to address the need and to develop goals and objectives to evaluate the results of the services.

The present level of performance is a mandated way or an objective way of presenting a child’s needs which the remainder of the IEP must then address. A present level of performance will provide a beginning point against which progress must be assessed, so it must be measurably stated (Wright & Wright, 1999). Without this sound starting point for the IEP, the purpose of the goals and objectives can be lost.

**Goal and Objective Criteria**

Measurable annual goals, including benchmarks or short-term objectives, are instrumental to the strategic planning process that should be used to develop and
implement the IEP for each child with a disability. Once the IEP team has developed measurable annual goals for each child the team can; (a) develop strategies that will be most effective in realizing those goals, and (b) develop measurable, intermediate steps (short term objectives) or major milestones (benchmarks) that will enable families, students, and educators to monitor progress during the year, and to revise the IEP consistent with the child's instructional needs (1998 Appendix C, Question 1).

Every goal must have two or three benchmarks or objectives, which are measurable, intermediate steps between the present level of performance and the goal. The objectives are to be progress markers. These should state how far (toward the goal) the student should come and by when. IDEA regulations specifically require that an IEP show how progress will be measured and that the parents be told if progress toward the goals is sufficient to allow the child to reach the goal by the end of the year (34 CFR § 300.347 (a) (7)) (Wright & Wright, 1999).

In developing the student's IEP, the IEP team shall consider:

1. The strengths of the student and the concerns of the parents for enhancing the education of their child;
2. The results of the initial or most recent evaluation of the child;
3. As appropriate, the results of the student's performance on any general State or district wide assessment programs (Idealaw 1999, Search-Enhanced Regulations, p.1).
Individual Educational Program Team

IDEA '97 has added to the IEP process special factors that the IEP team must consider. Some of these factors include: (1) behavior strategies and supports, if the child's behavior impedes his or her learning or that of others; (2) the child's language needs (as they relate the IEP) if the child has limited English proficiency; (3) providing for instruction in Braille and the use of Braille (unless not appropriate), if a child is blind or visually impaired; (4) the communication needs of the child, with a list of specific factors to be considered if a child is deaf or hard of hearing; and (5) whether the child requires assistive devices and services.

The new language in the IDEA '97 emphasizes periodic review (annually) of the IEP and schools must report to the parents on the progress of their child with disabilities at least as frequently as the nondisabled children record progress reports. If there is evidence that the student is not making "expected progress toward the annual goals and in the general curriculum", the IEP team must meet and revise the IEP. Along with reporting on the student's progress, the teacher will indicate if the progress is sufficient to enable the child to achieve the goals by the end of the year. (Section 614(d)(1)(A)(viii) (MDE, 1998).

Implementation of the IEP

To enhance implementation of each student's IEP, IDEA '97 provides that the public agencies must ensure that: (1) the IEP is accessible to each of the student's teachers and services providers; (2) each teacher and provider responsible for
implementing the IEP is informed of their responsibilities and of the specific accommodations, modifications, and supports that must be provided for the student in accordance with the IEP [Section 300.142(b)]. (Idealaw, 1999, IDEA-Part B Final Regulations).

Goals and Objectives

Student’s IEPs must include goals and objectives, which are well written and show the intent and the direction of each student’s course of study. Goals and objectives are specific to the needs of the students. Specifics of the plan need to be addressed in detail.

The purpose of having the goals in place are to meet the student needs that result from the student's disability to enable the student to be involved in and progress in the general education curriculum. Educators must also meet each of the student's other educational needs that result from the student's disability (MDE, 1998).

1. The statement of the present levels of educational performance should accurately describe the effect of the student's disability on the student's performance in any area of education that is affected. This encompasses academic areas (such as reading, math, or communication) and nonacademic areas (such as daily life activities or mobility) [34 CFR, Appendix C or Part 300, Question #36]. The statement of present levels of educational performance should be written in objective, measurable terms to the greatest extent possible. Educational
performance may be described as a developmental age and/or grade level(s) on an achievement test only when accompanied by a descriptive narrative regarding the deficit area [34 C.F.R. § Appendix C of Part 300, Question #36c].

2. Describe how the student’s disability affects his/her involvement and progress in the general curriculum including physical education.

3. Identify the deficit area(s) resulting from the student’s disability, which requires special education and/or related services.

4. For preschool children as appropriate, describe how the disability affects the student’s participation in appropriate activities (MDE, 1998).

Annual goals must identify the deficit area(s) within the "Present Levels of Educational Performance" section. For each deficit area identified, the IEP team must write an annual goal and short-term objectives to address the deficit area. [34 C.F.R. § Appendix C of Part 300, Question #36c]. Annual goals describe the progress, which can be reasonably expected of a student with a disability in a 12-month time period. IDEA ‘97 requires that the annual goals relate to short-term objectives. Each annual goal shall have more than one short-term objective. Each short-term objective should be measurable and intermediate step between the present levels of educational performance and the annual goal. Short-term objectives should be achievable within a shorter period of time (month, marking period, or semester) then the annual goal. Each short-term objective must contain three components: evaluation procedures (describes by what modality achievement is to be measured),
performance criteria (determines at what level the skill is to be achieved and many are established in a variety of ways. Performance criteria could be written in terms of accuracy, percentages, rate or production), schedule for evaluation (time line for determining whether the short-term objectives are being achieved). These components may be incorporated into the short-term objectives (MDE, 1998).

Federal and state compliance monitors will look at the goals and objectives to evaluate the student’s program and look at the data and reported progress as to the student’s achievement. Successful achievement is now a major issue in regards to every student’s IEP. Students must show achievement and documentation must give the data that provides the information on the progress of the student.

Transition

The IEP for older students in special education must also include information on how the student manages transition from school to adult life, and how this will be supported: (1) beginning at age 14 or sooner if warranted and updated annually, a statement of the transition service needs of the child under the applicable components of the child’s IEP that focuses on the child’s course of study (such a participation in advanced placement courses or a vocational education program); (2) beginning at age 16 (or younger if determined appropriate by the IEP team), statement of the needed transition services for the child, including, when appropriate a statement of the interagency responsibilities or any needed linkages before the student leaves the school setting. (20 U.S.C. § Sec. 1414 [d] [1] [A]) (Heward, 2000).
The IEP is an educational document which indicates where the child is, where
the child should be going, how will the child get there, how long it will take, and the
future plans and programs for the child. The IEP is a measure of accountability for the
teachers and the school. The IEP is not a legally binding contract but the teachers
must be able to document that a conscientious and systematic effort was made to
achieve the goals (Heward, 2000).

The IEP must take into account the transition that the student will be making
in the future of their educational progress. Poorly written present levels of
performance goals and objectives may lead the student off into directions that are not
the best for them. IEPs should be written with the future of the student in mind. Each
IEP is a segment of the whole individual program for his/her life.

**Computerized IEP Districts**

A small number of local education school districts use computerized IEP
systems to assist district teachers in determining the goals and instructional objectives
for their students. The computerized IEP is a time saving modality compared to the
Traditional modality of handwritten documentation (Hallahan & Kauffman, 2000).
Legally, when IEPs are cut-and-paste from one student to another student's IEPs
there may be questioned regarding the individualization of the document because of
the lack sufficient attention to the particular needs of the individual student (Hallahan
& Kauffman, 2000). Many school districts rely on the special educator's knowledge
of the student and the curriculum for completing a handwritten IEPs on their district

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forms. "Federal and state regulations do not specify exactly how much detail must be included in an IEP, only that it must be a written statement developed in a meeting of a representative of the local school district, the teacher, the parents or guardian, and, whenever appropriate, the child" (Heward, 2000, p 33-4). The IEP should be written clearly and concisely so the document is useful and legally defensible. IEP writing for student documentation must comply with all the legal requirements as well as be educationally useful to the student, parents, educators, and everyone involved with the student.

**Services For Students**

Students in special education are required to have a written IEP outlining the services that are to be provided to them. The IEP is the heart of the law. Without it, there is no known way to assure that a student receive a free and appropriate education (FAPE). The IEP must be developed with the specific child in mind. Strict procedures and individualization of educational program for that child must meet the needs for that child and their disability. The IEP consists of two important parts, the meeting and the document.

The special educators are manufacturing goals and objectives for their students and the needs specific to the program that they were enrolled in. These programs have been seen to have a very diversified set of expectations, which varied, from school to school or district to district or from one area in the state to another area.
Historical Background of the IEP

IEPs have been shown to be inaccurate when reporting present level of functioning and goals in academic and social areas. Prior research has not defined accuracy as alignment of the IEPs present level of functioning and goals with observed pupil behavior (Gelzheiser, 1998).

The importance of individually tailored instruction for students served in a special education program can be seen in the mandate, originally put forth in the Education of All Handicapped Children Act of 1975, that each child have an Individualized Educational Program (IEP) designed specially to meet his or her needs. Very few studies have compared IEPs for students in different service delivery models. Espin et al (1998) compared IEPs for students with severe disabilities in special classes and in general education programs. IEPs were written for students the year before and after the start of implementation of a full inclusion program. Results from Fuchs and Fuchs (1995) indicate that IEPs written for students in general education have a higher quality of short-term objectives than those written for special class programs, primarily due to an increase of objectives focused on interactions between students with and without disabilities. These findings indicate that the settings or environment can influence the development of IEPs. However, the results do not indicate the extent to which IEPs are individualized for students in different settings. Espin, et al (1998) and Allinder (1996) examined individual IEPs that were individualized for students in different settings. They compared IEPs for students with behavioral disorders and learning disabilities in resource and self-contained...
settings. Espin, et al (1998), Allinder (1996), Fuchs and Fuchs (1995) found that the congruence between current level of performance information and annual goals to be greater in the IEPs generated from the self-contained settings than the IEPs from the resource settings. It is believed that the educators with students in the self-contained settings used the individual assessment information to greater extent than those teachers in the resource setting when needing to formulate the students’ annual goals (Land & Hannafin, 1998). Findings imply that the less restrictive the setting the less individualized the IEP programming for the student becomes.

What about students with mild disabilities in an inclusive program compared to students in a more Traditional special education resource program? Results from the Espin, et al (1998) study shows that differences exist between the IEPs written for students in these two different types of service delivery models. There are differences in the relationship between the IEP components and other variables. The pattern that emerges suggests that programming for students in a resource program are more individually designed than it is for students in an inclusive program (Deno, Foegen, Robinson, & Espin, 1996).

Epsin, et al (1998) and Allinder (1996) found that the IEPs written for students in the resource programs allocated more time for service and included more long-range goals than the student's IEPs in the inclusive programs. Short-term objectives on students in the resource rooms were based on more sources of information and on various different types of information. The type of information that generated the short-term objectives for the individuals in the resource rooms are
identical in type to the individualized information sources special educators are taught to use in developing educational programs for their students. On the other hand according to Deno, et al (1996), the IEPs written by teachers in inclusive programs seemed to rely more on general qualitative descriptions of students such as progress through the curriculum. Teachers in the resource rooms are attempting to individually tailor program goals and objectives to the student, while the special educators are relying on the type of information used by general education teachers who teach large numbers of students in the inclusive setting.

It is shown in the study done by Epsin, et al (1998) that the teachers in the resource programs allocated nearly 1½ times the number of service minutes for students with disabilities. These teachers also had nearly 1½ times the number of long-range goals for their students. It is found that the educators in the resource rooms report using more and different sources to program, implement, and evaluate their students than the teachers in the inclusive education programs. Resource teachers rely heavily on personal observation and judgments; standardized test information and teacher-made tests, which are more commonly found in typical individualized special education classrooms. Inclusive teachers, therefore, rely more on the techniques and instruments used by general educators such as informal reading inventories, basal series tests, and recommendations from others. Allinder (1996) indicates the number of service minutes is greater for the students in the resource room than the students in the inclusive education classes. Epsin, et al (1998) indicates that services rendered by the students in the resource rooms is more closely
related to the student's level of need. Students of special education who are being serviced in a resource room are receiving a much better individualized educational program (IEP) than students who are being serviced in the inclusive education situation.

Looking at the business world, McGuckin and Stiroh (1998) state, "conventional wisdom argues that rapid change in information technology over the past 20 years represents a paradigm shift, one perhaps as important as that caused by the electric dynamo near the turn of the century. The world market for information technology grew at nearly twice the rate of world gross domestic product (GDP) between 1987 and 1994, so the computer revolution is clearly a global phenomenon" (p 41). They continue to discuss the measured productivity growth (measured as the output per hour of work) that appeared "sluggish" in the middle of the technology boom. Annual labor productivity growth fell in the United States from 3.4 percent between 1948 and 1973 to 1.2 percent between 1979 and 1997. Between 1979 and 1994, the total factor productivity (TFP) growth—defined as output per unit of all production inputs—fell substantially, from 2.2 percent to 0.3 percent per year. In light of the belief that computers have fundamentally improved the production process, this is particularly puzzling. As Nobel laureate Robert M. Solow observes, "you can see the computer age everywhere but in the productivity statistics" (p. 41). A detailed analysis of the U.S. economy suggests that computers have had an impact on the productivity in society especially in the business world but it also shows that
the impact is different in the various business sectors. McGuckin and Stiroh (1998) state that the computer revolution is mainly a story of substitution.

Edelen-Smith (1995) discuss there is an important keyword in regards to the IEP. The word is "value". The student's IEP needs to be based on the goals and objectives that are of value to the student and his/her program. How much value is attached to each goal will depend on the participants' internal belief in the validity of the choices being made or offered. The issue of validity is of importance to the educators who are going to be dealing with the IEP. The service providers will perceive a goal as valid then the objectives set forth by those individuals, reach toward an important goal or point in the student's program or life. The goals will have validity for everyone working on the goal. When the goal has validity, we see that the individual will be committed to working to reach these IEP goals. There should be an inherent value to a goal for the IEP that is directly related to the expected outcome of achieving the goal. Otherwise there is no validity in trying to reach the goal. The value of the IEP continues to increase when all involved parties can decide what the outcome will be. All goals must be conceptualized in very clear understandable terms and then identify and prioritize the means of getting to reach the goal.

Another important issue in writing goals is to make the goals achievable. The student must perceive these goals. Goals are believable when they are challenging but not impossible to attain, because they lead to expectations of valued accomplishments based on the student's internal belief.
An appraisal is critical to the goal setting process. The educator must acknowledge the student's strengths and abilities as well as their limitations. By doing this, the educator is able to create achievable goals and hopefully avoid frustration and false hope by setting goals with little or no possibility of reaching. In some situations, administration evaluates an educator's performance by whether or not the student attains his/her goals. Occasionally this will cause the educators to set the goals at a low level and then the student is offered a disservice since the student does not have to work to attain them or they become negatively affected.

Any goal must be stated so it is measurable. It needs to be measured in terms of time and distance. Distance means where the student is currently and where you want the student to be at the conclusion of the objective. IEP goals should center on both short and long-term goals that help prepare the student for the demands of his/her future.

All the goals that are selected by the IEP committee have to be desirable goals. Hopefully, the success with the goal will enhance the well being of the student. Often student preferences based on their interests and ambitions are ignored. The student will work on the goals if they are desirable for them to attain.

Use of Technology to Develop the IEP

Wright and Wright (1999) state that forms by their nature tend to interfere with true individualization. The fewer lines and pre-shaped spaces a form has, the more likely one can readily use the form. The form to be used to generate the IEP will
assist in providing all the required elements of the IEP in the simplest way possible. It is a belief of Wright and Wright (1999) that often times we see that the simplest IEP form is the better form. Simplified forms that require the user to complete the information may make for a more compliant IEP since information cannot be skipped and/or omitted and is needed to be generated, before printing off the completed materials.

Computers for management of IEPs, review dates, documenting progress, etc. have been an effective use of the computer (Tranquility Solutions, 2000, Davis & Bates, 1997a). There have been questions on the use of the computer and the ability to generate descriptions of "unique" needs, present levels of performance, services, and goals and objectives for the individual student. Wright and Wright (1999) discuss that the supporters of the use of the computer suggest that the writing of behavioral objectives is at best a difficult task. The reasoning for the use of the computer generated IEP comes down to the recognition of the need and the service. Further, the annual goal is developed for the specific unique individual needs and is therefore inappropriate to use a computerized bank of objectives for the goal. Each annual goal is mandated by federal regulations to have a minimum of two objectives. There is a concern about the rate to which the child is able to make progress toward the achievement of the goal. Another issue is that the committee members collaborate in the writing of the student’s IEP. Can this be effectively accomplished using the computer? Wright and Wright, 1999, believe that mass produced IEP goals and
objectives are not responsive to students' unique educational needs, by definition. Nor are they legal or appropriate.

Computer Uses

There are many ways in which computer use can be defined and conceptualized. Computer use can be considered as an act where the user engages in applications that are often centered on the computer. The computer then becomes the end rather than the means to an end. In other situations, the computer becomes a tool for wider and more diverse use. Computer use can be related to a specific task which each are driven by a specific and possibly unique type of motivation. The computer is now considered a multidimensional tool instead of the non-dimensional tool of years back.

Technology in Education

Teachers and administrators today use computers to improve their roles in the educational process. Kosakowski (1998) indicates that by using computer tools to streamline record keeping and administrative tasks, helps to free up some additional time for instruction or professional development. Also, there is an increase in professional development activities by taking distance education courses, accessing educational research and accessing classroom materials.

Current Federal laws require those students with disabilities to have the greatest possible access to the general education curriculum in the least restrictive
Judy Heumann, former Assistant Secretary, U. S. Department of Education, indicated that technology is an invaluable way to achieve access (U.S. Department of Education, Office of Special Education and Rehabilitation Services, 2000). In fact, 1997 reauthorization of the Individuals with Disabilities Education Act (IDEA) emphasizes the importance of technology and the need to share cutting-edge information about advances in the field (NICHCY, 1996). This requires that assistive technology (AT) devices and services be considered for all children identified as having an exceptional education need (U.S. Department of Special Education Programs, ERIC/OSEP Special Report, 1998).

These amendments mark a significant shift in how educators view assistive technology, which was previously viewed almost exclusively within a rehabilitation or remeditative context. Now AT can be viewed in the context of developing the IEPs, technology is being considered as a viable tool for expanding access to the general education curriculum. Assistive technology has been expanded to include what has been traditionally thought of as instructional technology.

Technology as a tool for meeting curriculum goals is an important area of focus for Office of Special Education Programs (OSEP) and one that is showing promise. Researchers are exploring how students can use technology to act on information and thereby learn. Technology is emerging as a cognitive tool or "partner" that supports the learning process. (U.S. Department of Special Education Programs, ERIC/OSEP Special Report, 1998).
**Use of Computers**

Interaction by humans with the computer is complex. It often provokes various emotional responses. These responses depend on many factors such as previous computer experience, social support, and a user's sense of control, coping strategies, personal characteristics and common effects of all these. Previous computer experience will usually have a positive effect on how the user feels about computers. Also, prior knowledge can have a negative effect because of a user's tendency to rely on that old information, so their previous knowledge can limit their awareness of new possibilities. Social support will generally encourage computer use, but it may cause some people to experience anxiety if they prefer to work individually with computers (Hakkinen, 1994-1995).

**Personal Attitudes**

Attitude has also been defined to encompass various relationships from simple like and dislike of computers to complex attitudes such as computer anxiety and apprehension. Mitra (1998) focused on computer anxiety and computer education. Research has demonstrated that people with specific learning styles and levels of anxiety appear to perform better in certain use and programming environments (Bohlin & Hunt, 1995). When combining gender with computer experience, computer use, and anxiety, research has demonstrated that as experience increases, anxiety decreases, particularly in the case of male users who have traditionally been the heavier users of the computer.
The measurement of attitudes toward computers has presented some methodological challenges. Mitra (1998) finds that attitudes have primarily been measured using standardized scales designed to measure attitudes toward technology in general not necessary attitudes toward computer use. Occasionally these scales are modified for the measurement of attitudes toward computer use. Tools such as the Computer Attitude Measure and Attitudes Toward Computer Usage Scale include a set of standardized questions that measure how users feel about computers, prompting concern about the degrees of consistency provided by such modified scales.

Attitudes Toward Computers and Technology

Computers and the use of new technologies are here to stay. These developments affect both individuals and society in a variety of ways. Businesses are automating their operations at an ever-increasing rate in order to improve productivity, competitiveness, and profits. Therefore, the computer is becoming an integral part of corporate professional life. But professional life is not the only place where the use of computers has increased. Educational systems seek to prepare students for the work force by ensuing computer literacy. Thus, computers are going to become increasingly common in schools and other educational settings. Unfortunately, this computer revolution has not been universally accepted because many people resist the use of computers. Resistance may emanate from a lack of computer knowledge or a more generalized fear of computers and technology (Hakkinen, P. 1994-1995).
According to Hakkinen (1994-1995), computers can be very effective as working, teaching, and learning tools, but resistance to anxiety about computers lowers their efficiency. Negative attitudes and anxiety toward computers have negative effects on learning and the use of computers.

Computer Anxiety

Hakkinen (1994-1995) states that computer anxiety interferes with the communicative nature of human computer interaction and can be seen as a specific form of anxiety. Anxiety is often compared to phobia. A phobia is defined as an uncontrollable fearful response to an object or situation. Anxiety on the other hand, is the result of psychological stress. Anxiety consists of two parts, trait anxiety and state anxiety. Trait anxiety is a relatively stable condition and is personality related. State anxiety is situational it can result directly from some stress-producing situation during a period of time. Anxiety does not have a clear identifiable source. It is also typical that the object of anxiety seems personally dangerous, although it is not dangerous in general. The most serious educational problems caused by anxiety concern the way it hinders motivation. High anxiety children have a strong desire to avoid criticism and failure because they fear negative evaluation. Low anxiety children are often more motivated to achieve success and obtain praise because they do not have a strong fear of failure.

According to Bohlin and Hunt (1995), as the use of technology expands, computer anxiety continues to be a challenging concern. Anxiety, confidence, and
attitudes are all important factors in determining voluntary behaviors. Anxiety, lack of confidence, and negative attitudes can interfere with one's willingness or ability to comfortably use computers. Attitudes not only affect choices, but also can be unconsciously transferred to students through modeling.

Computer anxiety is often defined as an emotional fear or apprehension felt by individuals when they use computers or when they consider the possibility of computer use (Bohlin & Hunt, 1995).

Computers like any other technological innovation used for teaching purposes need to be accepted by teachers before they can be utilized productively. Studies have shown that teachers recognize several restraints in the implementation of computers in education (Mackowiak, 1991).

There have been a growing concern that computer anxiety or negative attitudes towards computers among teachers and students will prevent them from reaping the pedagogical, social, and economical benefits of computer technology. According to Worthington and Zhao (1999) researchers have spent the greater part of the past two decades verifying the existence of the construct of computer anxiety; positing relationships between computer anxiety and factors such as gender, age, and level of familiarity with computers; and seeking ways to predict who will experience computer anxiety.

A way of conceptualizing computer use can be focused on temporality, which refers to the length of time an individual would have used computers. Relationships can be drawn between length of time that the computers are used and attitudes. We
need to consider also the length of time that the individual has used the computer. Are they new or fresh user or experienced user and their attitudes? Research done by Mita (1998) has shown that low users of technology have a more negative attitude toward computers than high users. Another issue that seems to affect the attitudes of the users of the computer is the level or amount of instruction that was offered to them. Specific software and applications that are used with the computer will also affect the attitudes of the individual users.

Summary

Most IEPs are horrendously burdensome to teachers and nearly useless to parents and children (Gibbs & Dyches, 2000). Far from being creative, flexible, data-based, and individualized application of the best of educational interventions to a child with unique needs, the typical IEP is “empty”, devoid of specific services to be provided for the student (Wright & Wright, 1999).

Congress amended the IDEA in 1997 with the following intentions: 1) strengthening the role of the parent; 2) ensuring access to the general education curriculum and reforms; 3) focusing on teaching and learning while reducing unnecessary paperwork requirements; 4) assisting educational agencies in reducing the costs of improving special education and related services to children with disabilities; 5) increasing accommodation of racial, ethnic, and linguistic diversity to prevent inappropriate identification and labeling; 6) ensuring schools are safe and conductive to learning; and 7) encouraging parents and educators to work out their
differences by using nonadversarial dispute resolution (Senate Committee on Labor and Human Resources, 1997) (Wright & Wright, 1999).

According to Wright and Wright (1999), the IEP is a key document for providing effective special education services for students with disabilities. The IEP is a written document that describes a child's educational needs and details the special education and related services the district will provide to address those specific needs of the student. Past descriptions of IEP development have focused on (a) explanation, details, and provisions of the IEP as set by the law, (b) analyses of teacher, parent and team involvement or lack of involvement in the IEP process, and (c) attempts to streamline and manage the IEP process and accompanying documentation. What has not been emphasized is the qualitative issue of content, such as the "what" and "why" of goal determination as it relates to the value of an IEP. This should and will hold the focus for teachers, parents, and students. As the education of students with special needs moves toward more shared teaching responsibility within our educational system, the need to collaborate on IEPs becomes increasingly important. Individuals who personally value the goals set forth in the IEP will be more willing to expend the necessary time, effort, and commitment toward achieving them (Edelen-Smith, 1998).

Given the intense focus and accountability on the quality of a teacher's behavioral objectives, the process for developing teacher competencies in this area needs to be examined more closely. Possibly preservice preparation in writing behavioral objectives needs to be updated continually and augmented by inservice
training that addresses the unique condition of a teacher's present assignment and any future changes (Davis & Bates, 1997). An important thing about a legal, technical and procedural correct IEP is that it goes a long way toward ensuring a meaningful and useful IEP or student document (Wright & Wright, 1999).

Ertmer, et al (1998) believes that neither powerful technology nor good ideas are enough to improve education. Success using computers in education will come only as a result of the intelligent and artful orchestration of many details in the classroom. Teachers, not the technology, are the key to whether technology will be used appropriately and effectively in the classroom. Efforts to integrate technology must focus on teachers, what they believe comprises good instruction and good learning and how they put these beliefs into practice. Ertmer, et al (1998) continued to address the fact that technical skills and pedagogy beliefs should be developed at the same time. This is accomplished by embedding technology within everyday activities that engages the teachers in their basic skills.
CHAPTER III

METHODOLOGY

Overview

The researcher looked at the hypothesis of the study and the research questions that are posed in the study. The modality used to ask the research questions was described in this section. The research questions were:

1. Can using the computer software package issue more federally compliant IEPs compared to the Traditional paper and pencil modality?
2. Is time beneficial in using the electronic IEP as opposed to the Traditional modality?
3. Are attitudes different among special educators, in regards to writing IEPs, according to the modality used?

Focus

The major concern of the study was to determine which modality of developing the IEP creates a more compliant IEP according to federal regulations. The IEP was written by all of the participants and comparisons are made according to the levels of compliance followed by each modality used. The researcher also serves to instruct the modalities to write a complete IEP as if this "ideal" case study student
was entering into one of their classes. The modalities can make up any missing information such as mom or dad's first names. All information on the IEP should be complete.

A fictitious case study of an incoming student in special education had been modified from a case study presented by Davis and Bates (1997a) to supply an overview of a student with special needs, and the authors earmark it as an ideal case study for assistance in writing IEPs. This particular "ideal" case study offers a basis for a case study whereas the researcher provides in-depth clarification for the purpose of using this case study for developing the IEP given the various modalities (see Appendix B & C). All three-modalities sites use identical case study materials.

At the end of the process, the researcher collected all of the materials, including any notes or references. Participants were able to use any or all materials or techniques that they would normally use to write the initial IEP. Again each session was tape recorded and observed during the development of the IEP on Susan Jones.

An actual clock start and finish time was given to each of the participants. The time was counted as the total time it takes to write the full (complete) IEP. The researcher recorded the time it takes each participant to complete the assigned task. The time study was done to see if the amount of time it takes to write an IEP was affected by the use of technology and software.

In this study the researcher used two software packages to reduce the probability of results being affected by a specific software package. Reliability and validity towards the use of technology was closely observed for greater issues of
compliance and user friendliness in order to establish technology as a standard modality in developing and securing the data of federally mandated IEPs.

Population and Sample

Fifteen research participants from school districts in the Midwest region of the United States were asked to evaluate various modalities used to create the IEP. The 15 participants were graduates of recognized universities and certified from a special education program from various universities. The Midwest was an ideal location for this study, for its regular use of three modalities to write IEPs. The various district administrators recommended these participants to the researcher once the researcher discovered the various modalities used by these particular school districts for developing the IEP for their respective students of special education.

As special educators the participants were familiar with using the following various modalities. The Traditional modality of writing an IEP required special educators to write them out in long hand. This included filling in demographic and instructional data, as well as program placement and other pertinent information for the student. Most often the school district used some type of duplication process, such as a triplicate NCR form, which allowed the special educators to make several copies at one time. The IEP Writer was a software package developed with funding from the State of Michigan. This software is highly promoted by both the department of education and Project ACCESS to provide special educators with the software needed to develop IEPs. The third modality is Tranquility, a second software
package recommended by a representative of the Indiana State Board of Education whose offices had considered for their statewide software program for developing IEPs.

The participants using either IEP Writer or Tranquility were experienced and comfortable with the software package, use of the computer as well as with the district's IEP forms. Each district had the flexibility to develop their own IEP forms as long as they include the required components of the federal regulation. States are able to require a more stringent program but must meet the minimal federal requirements in all areas. The federal regulations states that the student will have an IEP on file within thirty days of their enrollment into the program in special education. All participants were "experienced" IEP developers according to their district's standards. No instruction was provided to them, in regards to the operation of the technology, software or the actual writing of the IEP. Demographics questionnaire taken by the research participants is found in Appendix A. The information gleaned from an anonymous questionnaire was used in the study. In addition, participants were also asked to sign an informed waiver of consent from Western Michigan University's Human Subject Institutional Review Board (HSIRB). The waiver indicates consent to participate in the study and assures the participant's privacy for their participation (see Appendix K). Participants could withdraw from the study at any time.
Setting

The study was set in the home district of the special educators. Participants worked individually to develop an IEP according to the modality assigned to them and the researcher observes them. These sessions were tape recorded and transcribed. Each of the study participants were allowed as much time as needed to complete the IEP. Any missing information on the David and Bates (1997a) case study used for completion of the IEP was to be filled in to the best of their abilities according to their standards appropriate for their school district.

The special educator used the modality for the study that is most often used to develop their own students' IEPs. The participants who used the software modality are very familiar with both the computer and the computer software program that they regularly use. No additional training or assistance in the use of the software program or technology was provided to the special educator participants.

Data Collection

Descriptive Statistics

To compare and analyze the participants according to their modality, descriptive statistics were collected to show the educational backgrounds and years of teaching experience of the participants. This data provided the amount of time that it takes each participant as well as the modality of participants to complete the IEP.
Instructional Components

The instructional components (present level of performances, annual goals and short-term objectives) of the IEP were the main focus of evaluating the compliance of the IEPs developed here. The present level of performance, annual goals and short-term objectives were judged for compliance using federal guidelines (IDEA '97).

The present levels of performances, annual goals and short-term objectives were extracted from the IEP and placed in a word processor program. To prevent the evaluators from knowing which style was used to create the IEP (some being handwritten and others being computer generated) and, further eliminating any chance of bias on the part of the participants, the information was placed in a similar format for each of the participants in the study. The identically reproduced materials were arranged randomly in a packet and presented to each of the participant evaluators. Random distribution of materials reduced the chance of correlating any comparison between participants and modalities used to create the IEP.

Evaluation of Instructional Components

Panels of three experts were selected to be responsible for evaluating the instructional components (present level of performances, annual goals and short-term objectives). Each one had several years of experience in either teaching how to write effective and compliant IEPs or in monitoring the IEPs according the federal guidelines (IDEA '97).
These evaluators worked according to specified criteria to determine whether the materials generated by the participant special educators was in compliance with the federal guidelines. Each of the evaluators met with the researcher to discuss the criteria used for this process (see Appendix F). Each evaluator was given written interpretation of the law to assist the evaluators in understanding the expectations of the law and leaves less chance for interpretation by the evaluators (see Appendix E).

According to federal guidelines the instructional criteria had the possibility of either being in compliance or out of compliance. The evaluators needed to make an objective opinion on if the given criteria fell within the federal guidelines or not. The evaluators circled either a yes or “IC” for in compliance or no or “NC” for objectives not in compliance with IDEA ’97. Each subject had a various number of present levels of performances, annual goals and short-term objectives for the case study.

Instructi\nal Component Evaluators

The researcher looked for an expert group of evaluators, which had varying backgrounds in their experience in special education. The three evaluators where all very knowledgeable in the area of special education, had experience in the area of special education, writing a legally compliant IEP, and legal interpretations of the federal regulations (Idealaw, 1997a, b, c, d).

The first evaluator was an individual from a school district with nineteen years of experience in the field of special education. This evaluator had worked 2 years in a mental health setting, 15 years in special education classroom, and 5 years as a
consultant of special education. This evaluator had just received his doctorate in clinical psychology from a Midwest University and presently works for an intermediate school district as a special education consultant specializing in behavior management. This individual had been instrumental in training special educators in the Midwest in how to write valid IEP, as well as present level of performances, annual goals and short-term objectives. The evaluator had taught many workshops to area school districts and university classes on the proper techniques of writing an effective and compliant IEP according the federal guidelines. He gave a professional opinion from his experience and knowledge in the field of special education evaluating the presence level of performances, annual goals and short-term objectives.

The second evaluator was an assistant superintendent of special education and a former state and federal compliance monitor for a Midwest intermediate school district evaluated the same materials. This evaluator had been involved in the field of special education for 25 years with a specialist degree in school psychology services. The second evaluator repeated the same procedure as the first evaluator did.

The third evaluator was presently a compliance monitor from a Midwest intermediate school district who had been employed in the public schools for 25 years as a social worker and supervisor for special education. This evaluator repeated the same procedure with the same data as the other two evaluators. This individual had two master degrees with one being in the field of special education supervisor and central office administration.
Together, the evaluators used an evaluation form that is taken from the Michigan Special Education Monitoring Guidelines. These guidelines were incorporated into a checklist that is used by the evaluators (see Appendix D). The clarification of this checklist and guidelines comes from the Michigan Department of Education (1999), Individualized Educational Program Team Manual. The guidelines and the interpretations meet or exceed the federal regulations. The researcher provided each evaluator with instructions on what is meant by the specific evaluation criteria (see Appendix E) and they were also asked to evaluate the materials according to the federal standards (IDEA '97). The present level of performance, annual goals and short-term objectives of the given materials hinge on the other parts of the IEP but were evaluated exclusively for this study as well as a part of the whole. The results were analyzed and compared.

**Analysis Techniques**

An Analysis of Variance (ANOVA), according to Krathwohl (1998), was used to avoid the inflation of probabilities type problems in statistical research analysis. It is a choice test for many complex designs. Part of the analysis was done using an Analysis of Covariance (ANCOVA). The ANCOVA is a statistical technique, which allows you to adjust the means for the modality for the effect or a controlled or unwanted variable. Gay (1987) talked about the use of an ANCOVA to equate modalities with one or more variables. Another technique of analyzing the data is to use descriptive statistics, which allows the opportunity to describe several scores in a
meaningful way. These scores generally have a small number of variables. The Tukey HSD, Scheffe, and Duncan post hoc tests are all run to determine if there are any modality differences after the null hypothesis has been rejected. The Tukey HSD post hoc tests are the results reported if the entire post hoc test samplings return identical results. Glass and Hopkins (1999) suggested that the Tukey HSD post hoc test seemed to be the test of choice in determining modality differences.

An analysis of the descriptive statistics revealed the amount of time it takes an individual to complete the IEP, the amount of teaching experience each individual has, and the educational degree of each. An ANOVA was run to determine if the compliance level of the areas of the IEP was at all significant to the time used, the level of teaching experience and/or the educational degree.

Descriptive statistics were used to compare the amount of time it takes each special educator to complete the IEP on the fictitious case study using each of the three modalities. Each participant’s time, educational degree and years of experience was noted, and the mean of each modality is then determined.

An ANOVA was run between these various variables: time it took to create the IEP, years of experience and educational degree. A Tukey HSD post hoc was run to determine if any of the variables were of significance in regards to the three modalities.

A panel of three evaluators assessed the IEPs for compliance with federal regulation for the present level of performances, annual goals and short-term objectives. An ANOVA between modalities and evaluators were conducted and

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analyzed to determine the significance between the variables of compliance versus non-compliance in the goals and objectives. A Tukey HSD post hoc was run to determine the significance in the data reported.

An ANCOVA was conducted on the mean variable for goals and objectives for each of the subjects in each of the modalities. A further ANCOVA was conducted to determine if the mean variable for goals and objectives for each of the subjects was significantly affected by the years of experiences, degree of educational experience, gender and minutes. Each variable was tested separately and again as a combination of variables. A Tukey HSD post hoc was used to determine the significance in the data reported.

The participants were interviewed to determine their attitude toward the use of technology to assist them in writing the special education students IEP. Qualitative analysis was done on the transcribed materials taken from the individuals in the study. A codebook was developed and the results were reported on how the use of technology can influence attitudes towards writing the IEP and various other issues in special education.

Probability

Lehman, 1991, talked about probability as the likelihood that some particular event will occur in the future. Gay, 1987, referred to the statistical significance as if you obtain a coefficient that is different from zero and if this reflects a true relationship and not a relationship of chance. When smaller sample sizes were used,
there needs to be a larger coefficient. Gay, 1987, believed that correlation coefficients in the 0.80s and above are to be used for individual predictions. A coefficient of 0.90 was used in the study. This coefficient was decided based upon the literature and used due the research data and statistical analysis. It is shown that this was an acceptable value due to the type of individual group sampling that was used.

Complete IEP

Complete IEP Compliance

The researcher's checklist of the mandatory components of the IEP, prepared according to the federal guidelines, used the materials from the Michigan Department of Education (1999) as reference, and evaluated the total IEP for compliance according to IDEA '97. Each of the components evaluated where placed in the checklist according to federally mandated areas. Each of the IEPs were rated using this checklist to see if the complete IEP met the federal regulations in regards to compliance (see Appendix F).

The researcher compared the information or data provided by the all the subjects in each of the three modalities and noted if the data of the IEP was either in compliance or out of compliance according to federal regulations. The components of the IEP that were completed were rated as either being complete and "in compliance" or not complete and "not in compliance". Quality of the information provided was not evaluated.
The present level of performance, annual goals, and short-term objectives were not evaluated at this time since they were evaluated independently prior in this study. The need for a transition plan was not necessary because of the age of the student in the case study.

**Evaluation of the Complete IEP**

The complete IEP was also evaluated as to the level of compliance according to federal regulations. The IEPs were analyzed against a checklist, which was created by the researcher. The model for the checklist was taken from the Michigan Department of Education, *Individualized Educational Program Team Manual* (1999). The checklist only included the federal standards required in the special educator when writing the IEP (see Appendix F).

The researcher evaluated the 15 completed IEPs to determine if they met the expected standards by the federal legislation. Compliance levels of all the IEPs developed were explored and analyzed. The data was evaluated on the criteria as being present, not present or missing data. Any materials not presented in the IEP and missing data was determined to be a “non-compliant area”. The individual scores were totaled and the group means was found in all three modalities.
Software Programs

**IEP Writer**

One of the pieces of software in this study is **IEP Writer**, which was a program developed with the funding from a grant in agreement with RHR Consulting Services and the Michigan State Department of Education in 1998. This program was being promoted in the State of Michigan and Project ACCESS (Project ACCESS 2000; Reigel, R.H. 2000).

**IEP Writer** was an IEP-generating package used by teachers to prepare IEP forms, goals and objectives from IEP team meetings. The software program ran as a stand-alone program and created its own individual forms. The IEP forms were designed specifically to suit the district’s needs or the standard state form could be used.

Project ACCESS, one of Michigan’s discretionary projects, provides information, support, training and technical assistance in the use of technology for special education educators. Training for the **IEP Writer** - software was to help IEP teams develop printed state IEP forms, write goals and objectives for students, progress reports, and relate goals and objectives to the performance expectations of student is the responsibility of Project ACCESS. The program was initially a good program but seems to be falling apart due to the various technological needs of the user. Some problems were typical, such as an incompatibility with the computer, networks, other software, and printers.
The purpose of using the **IEP Writer** program was to develop a program which used technology to assist in creating a students' IEP electronically by using either the prepared goals and objectives listed in the Michigan curriculum or guidelines. Further options to the **IEP Writer** were that the educator could integrate the new Addressing Unique Educational Needs (AUEN) standards for the student in special education into its program. AUEN was Michigan's answer for the student in the special education classes for competency testing such as the MEAP (Michigan Educational Assessment Program) for the students in regular education. Furthermore, the **IEP Writer** allowed educators to generate their own goals and objectives, which was incorporated into the bank of goals and objectives in the program for this educator.

Demographic information on students in special education could be obtained from the state Registry Management System (RMS). Approximately 75% of the intermediate school districts in the state of Michigan used the RMS to maintain their students demographic information in special education system (Reigel, R.H. 2000).

The software program ran as a stand-alone program and created its own individual forms. Some technological problems were noted with the program due to primarily printer driver incompatibility with some printers. Individuals using **IEP Writer** also reported some incompatibility with certain computers, networks, and other loaded software.

Using the software program entitled File Maker Pro, **IEP Writer** software program is created. Once this program is developed by RHR Consulting Services, the
IEP Writer ran as an independent program from the development software. The program was available in both the Macintosh and Windows platform. Annual upgrades were available to the licensed users.

Tranquility

Tranquility was a product owned and developed by Tranquility Services. The program was referred to the researcher for its performance in several districts in the Midwest and the Indiana State Department of Education.

The programmer of Tranquility, in conjunction with the district represented in this research, were the initial developers of the software. This program had a large, robust database that allows special educators to enter the student information and actually combines with the districts present in the database system. The completed IEP, progress reports, letters of notifications and numerous other reports were produced using Microsoft Word. This had eliminated some of the problems of compatibility with other systems. Presently, Tranquility Solutions reported that there were over 1000 schools using this product. Tranquility Solutions will be updating their material to make them readily available on the Internet.

Tranquility Solutions promoted their software as a comprehensive district-wide management solution for special education. All of the documentation was organized in an electronic filing system, which was automatically generated into a word processing program, therefore resulted in improved document clarity and quality. Tranquility included over 5,000 student goals and objectives, which could be
customized and modified to better track a student’s progress throughout his or her special education program. Some of the documentation available with this software package was: IEPs, case conferences, referral forms, individual transition plans (ITPs), behavioral intervention plans (BIPs), psychological reports, charting options, progress reports and many more.

**Tranquility**’s question and answer format was structured to follow the current legal guidelines. It also interfaced with most school district’s current Student Management System such as the RMS system which other software package connects with. Updates to the program were done at least annually, which included the latest changes in the federal and state laws and specific changes needed by the district.

**Tranquility** was created as a stand-alone piece of software with its own database incorporated. The program was available in both the Macintosh and Windows platform.

There were two different versions of **Tranquility**. The more robust version of **Tranquility** was a more costly program but allowed the school district to provide many more options in managing the paperwork in the area of special education. The less robust program allowed for the special educators to create the IEP as well as manage the student files. Annual upgrades were available to the licensed users.

**Attitudes of the Participants**

A personal interview of each participant (in regards to their attitudes, styles, time, rating of the degree of difficulty, progress reports and end product if written or
printed on a printer) was conducted. This information was transcribed and reviewed in regards to the process of using a software package versus the use of the Traditional modality to develop the IEP. The participating special educators in all three situations were given the same interview questions.

Collecting Data

Due to the small number of participants and the attempt to receive some personal information from the individuals, the use of qualitative data was selected. The researcher interviewed and observed each of the participants. The interview came at the conclusion of the writing of the IEP on the case study. Each of the participants was asked the identical questions. The participants were observed to determine the style in which they wrote the IEP and if there were any noted frustrations and pressures presented by the task and the modality, which the participant used.

Each of the special educators answered ten oral questions at the completion of the IEP (See Appendix G). The researcher developed these questions as part of the course requirements for qualitative analysis class. The professor for this class met with the researcher and discussed the questions and the intent of the information to be collected. There was agreement between the researcher and the professor in regards to the ten oral questions.

Observational records were used to obtain qualitative information on topics regarding attitudes of writing the IEP, manner of IEP development prior to the IEP
meeting, progress reports and other issues associated with the IEP. In order to label
the ten interview questions asked of each of the participants, a transcript of each their
responses was compiled. The transcripts were then analyzed by the researcher, using
a system for evaluating written responses described by Johnson and LaMontagne
(1993) to determine the general categories of the transcripts.

Marshall and Rossman (1999) strongly emphasize the need to collect
qualitative data in the natural setting of the subjects. This setting provided both the
subjects and researchers an opportunity to work interactively through the data
collection process. The researcher felt that there was a need to get the narrative
analysis of the materials, which was presented to the participants.

The researcher used two modalities of qualitative data collection: 1) interview
for obtaining participant information and 2) observation of the participants to
determine the means of developing the IEP.

Categories were established according to specific information given by the
participants in answering the ten questions. To determine a qualitative summary of
the information collected participant answers were coded. A sample of the data
collected involved asking questions and observing participants to learn whether:

1. Do attitudes of special educators differ in regards to the method used to
develop the IEP?

2. Have special educators received prior training to assist them in the
writing of the instructional component of the IEP?

3. Do special educators “enjoy” writing the IEP for their students?
4. Do special educators find writing the IEP too time consuming?

5. Do special educators have the IEP fully prepared (written) at the beginning of the IEP meeting?

6. Do they need to make many changes in the IEP at the time of the IEP meeting?

7. Have special educators generally handwritten or printed a copy of the IEP that they developed?

8. Do they use the same form (instructional components) for their students' progress reports?

9. Was there a specific reason to why they chose the instructional criteria, which they used for the case study?

10. Did they have questions for the researcher?

The researcher was primarily interested in the attitudes of the special educators and how they differed with the various modalities of writing the IEP. Comparison of the modalities in regards to if they completely developed and wrote their students' IEP prior to the IEP meeting and if they needed to make many changes in the IEP if they went to the meeting with the forms filled in. Whether or not the special educators had received training to write and complete the IEP was of interest to the researcher.

The researcher recorded and transcribed each subject's answers to the ten questions. Further, the researcher used a scale similar to a Likert scale to objectively evaluate the answers to each of the ten questions. Likert scales are standardized.
measures used to categorize a series of statements. The Likert works on a 5-point scale, with 5 being in agreement, 4 being somewhat in agreement, 3 being neutral, 2 being somewhat in disagreement, and 1 being in disagreement to the question. If there was any chance of interpretation of the question, the researcher added comments noting how the question should be interpreted. This information was added to the composite of the transcribed materials on each of the subjects just below the initial question to assist the evaluators.

Three special educators were selected according to their experience in the field of education, advanced study in special education, and knowledgeable on the process of writing an IEP. They were asked to evaluate the qualitative data taken from their assigned transcribed interview and to rate the data according to the Likert scale. Each of these evaluators individually scored the materials. The three evaluators met with the researcher to discuss the discrepancy that was noted by the researcher between evaluators. After discussion among the evaluators with the researcher, there was agreement among the evaluators on the ratings of the questions.

**Evaluation of the Qualitative Data**

The research question addressed a need to look at the qualitative data to try and determine the attitudes of the participants in regards to the modality of developing the IEP. Can we find a difference in attitudes between the participants using the various modalities for developing the IEP? Transcribed information was
collected from the qualitative data given through the ten oral questions asked of the participants.

The three participant special educators responsible for evaluating the qualitative data were individuals who had experience working in the field of special education. Two of these evaluators were actively pursuing doctoral degrees in the field of special education with the third evaluator having a master’s degree in education and is presently working with future educators and mentor teachers in an area university setting.

The evaluators were given training in the rating scale and in how the researcher was using the scale to rate the qualitative criteria. The individuals were given an opportunity to rate some criteria presented by the researcher to determine if the reliability and the understanding of the rating scale was conducive among the three evaluators. Once the researcher was comfortable with the level of understanding of the evaluators, they were all provided with the exact identical qualitative data and the rating scale as the researcher. The evaluators worked independently without assistance from the researcher. The mean was found for each of the criteria.

Inter-Rater Reliability

Instructional Components

Inter-rater reliability was determined to be either in agreement or not in agreement. Cody (1997) stated that when more than one rater was used to evaluate
the data, it is important to see how well the evaluators agree with each other. To be designated as “in agreement,” at least the majority of the evaluators needed to agree on if the variable met the criteria of being either “in compliance” or “out of compliance”.

The researcher only counted the agreements between raters if all three evaluators agreed with the instructional component being evaluated as either in or out of compliance. So there had to be a complete or 100% agreement between the raters to be considered to be in agreement with the other raters. If there was an equal number of an agreement votes to be in compliance as out of compliance, the variable was scored as being not in agreement by the raters. Any missing data was not given a value and was only considered as a non-agreement of the evaluators. Table 1 shows the criteria of determining inter-rater agreements amongst the large number of instructional components written by the subjects.

Taking the instructional components of the IEP that were in agreement with all three of the evaluators gave the number of the inter-rater agreement. Then the number of the instructional components that were not in agreement was totaled. These two values were found and divided to find the percentage of inter-rater reliability.

Inter-rater reliability, according to Glass & Hopkins (1996) is over 80% to be an acceptable agreement between the evaluators. When looking at inter-rater reliability, the greater the percentage the closer to the total agreement between the three evaluators.
Table 1

Inter-Rater Reliability Criteria

<table>
<thead>
<tr>
<th>Evaluators Criteria</th>
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</thead>
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</tr>
<tr>
<td>Two evaluators agree</td>
<td>1</td>
</tr>
<tr>
<td>Two evaluators agree, One missing data</td>
<td>1</td>
</tr>
<tr>
<td>One evaluator agrees, One disagrees, One missing data</td>
<td>1</td>
</tr>
<tr>
<td>One evaluator agrees, Two had missing data</td>
<td>1</td>
</tr>
</tbody>
</table>

Qualitative Data

The three evaluators and the researcher met to discuss their results. Evaluator one had a 77.5% agreement with the other two evaluators and evaluators two and three had an agreement of 89% and 87.5% consecutively. Each evaluator met with the researcher and discussed each item and the differences in their opinions. The variance in the scores were discussed and found to be due to the evaluator’s differing interpretations of the wording of the transcribed materials. There was some unfortunate use of double negatives with the questions in evaluating the responses and the scale, prepared by the researcher, which caused some confusion as far as how to read the questions and best interpret the answers given. The three evaluators re-analyzed the responses and categories and reached a consensus on 100% of all items.
The scores awarded by the three evaluators were totaled and the mean score was presented.

Limitations of the Study

The researcher found several limitations to the study as it has been conducted. The small sample size for each modality used can only possibly affect the statistical results. The researcher suggested a need to have more evaluators to assess the instructional components of the IEP. Again, if the researcher had used nine evaluators, three different evaluators for each modality, the inter-rater reliability may be different.

Special educators deal with multiple facets of the world of education. The IEP is only a small component that each special educator has to deal with on each and every student. Again, using a fictitious student presents many problems such as no real concept of the student and the abilities or disabilities of that individual. The study did not conduct an IEP meeting with all of the members of the evaluation team invited so the process is definitely skewed. None of the criteria is real and all of the participants had attempted to enter the same student into the same database with the same ID number, which causes technical difficulties. This situation would not have probably happened in a real life situation. Most school districts use the social security numbers to identify students, which, in turn, eliminates the problem of duplication.
When considering the qualitative data and the questions and the interpretations obtained for this study, it seemed advisable to eliminate the grammatical challenges in the materials. The questions should have been proposed differently to the participants in order to reduce the confusion in the interpretation of the data. Therefore, the result of the three evaluators might be closer in agreement after the initial evaluation.
CHAPTER IV

FINDINGS

A combination of both qualitative and quantitative data analysis was used in reporting the findings of this study. The findings will be presented looking first at the compliance level for creating IEPs using the three modalities, (Traditional, IEP Writer, and Tranquility). Compliance findings are reported for the instructional component of the IEP, which includes present level of performances, annual goals, and short-term objectives as well as findings for the compliance of the complete IEP excluding the instructional components. Compliance findings for the instructional components were reported taking into account the time taken to prepare the IEPs, the educational level, and the years of experiences of the participants. Secondly, the amount of time need by the participants to develop the IEP using the various modalities is also reported. Further, the impact of the educational degree and years of experience as they affect the time it took to develop the IEP will be reported. Lastly, the attitudes of participants will be reported as they reflect on the various processes of creating the IEPs.
Level of Compliance

**Instructional Component**

Three evaluators evaluated the instructional components of the 15 IEPs (present level of performances, annual goals and short term objectives) for each individual participant. The evaluators were asked to determine if these instructional components were in compliance or not in compliance with the federal regulations. The three components were scored individually and combined as a total unit or entity including missing data. Using the mean of the individuals for each modality found that the IEP Writer modality had a mean compliance of 76.93% and the Tranquility modality had a mean compliance of 75.80%. These two modalities had the highest compliance ratings. The lowest compliance rating came from the modality using the Traditional modality of writing with a mean compliance of 69.73%. Individual and modality compliance levels are found in Figure 1.

The individual that wrote the most compliant (instructional components) IEP was in the Traditional modality, Individual 4. This individual had successful written 87% of the instructional components for the case study IEP in compliance with the federal regulations. Individual that wrote the least compliant IEP (only 44%) was also found in the Traditional modality, Individual 5. In general, individuals in the three modalities were consistent in the mean compliance levels of the instructional components.
Effect of Modality Used in Regards to Compliance Levels for the Instructional Components of the IEP

An ANOVA was conducted to determine if there was any significant difference between the three modalities (Traditional, IEP Writer, and Tranquility) in regards to the level of compliance for the instructional component of the IEP. There was no significant difference found between the modalities $F(2,12)=0.59, p=0.5715$. The results can be seen in Table 2.

![Graph showing compliance levels for traditional, IEP Writer, and Tranquility modalities.]

Figure 1  Compliance Levels for Instructional Components for Individuals and Modalities Means

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Table 2

ANOVA
Compliance of Instructional Components for the Modalities

<table>
<thead>
<tr>
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<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
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</tr>
<tr>
<td>Corrected Total</td>
<td>14</td>
<td>0.0716</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* probability greater than 0.90 – significant

Effect of Time Taken in Regards to Compliance Levels for the Instructional Components of the IEP

An ANOVA was conducted to determine if there was any significant difference the time taken in regards to the level of compliance for the instructional component of the IEP. The ANOVA found that the time taken to complete the IEP was significant difference between the modalities $F(2,12)=4.40$, $p=0.0368$. A Tukey HSD post hoc test revealed there was significant difference between the participants in the Traditional and Tranquility modalities ($p<.05$) but not between the Traditional and IEP Writer modalities nor between the IEP Writer and Tranquility modalities. The results of the ANOVA can be seen in Table 3.

ANCOVA (analysis of covariance) was conducted to determine if there was any significant difference between the compliance levels in the instructional
Table 3

ANOVA Analysis for Time Taken

<table>
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</table>

* probability greater than 0.90 — significant

components in relationship to the amount of time taken to develop the IEP. It was found that the level of compliance for the instructional components was significantly different in regards to time taken $F(3,11)=0.43, p=0.7360$. The results are shown in Table 4.

The modality taking the shortest period of time to complete the IEPs was the Traditional modality. The average time taken to complete the IEP was 60 minutes. The modality taking the longest time to complete the task was the Tranquility modality with an average time of 95.6 minutes. In between these two modalities, were the participants using the software program entitled IEP Writer who averaged 77.6 minutes. Descriptive statistics about the time taken to complete the IEP can be found in Table 5.
Table 4

ANCOVA
Compliance of Instructional Components for Time Taken

<table>
<thead>
<tr>
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<th>df</th>
<th>SS</th>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

* probability greater than 0.90 — significant

The data collected regarding time taken to complete the IEP found that there was substantial variability between the three modalities for the time taken to complete the IEP. Five participants, four of these from the Tranquility modality, took 100 or more minutes to complete the task. Two participants, both in the Traditional modality, took only 50 minutes to complete the task (i.e. less than half the time of the individuals who took the longest time). Individual and group results can be found in Figure 2.

Effect of Years of Experience of Participants in Regards to Compliance Levels for the Instructional Components of the IEP

The demographic information gave the researcher information on the number of years that the participant had been involved in special education. The mean was
Table 5

Group Means and Standard Deviations

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
</table>
| Traditional
| Minutes | 59.56 | 15.43 |
| Years of Experience | 11.52 | 6.86 |
| Level of Training | 3.70 | 0.99 |
| IEP Writer
| Minutes | 77.23 | 18.20 |
| Years of Experience | 15.47 | 6.63 |
| Level of Training | 3.59 | 0.49 |
| Tranquility
| Minutes | 101.73 | 10.35 |
| Years of Experience | 11.74 | 8.66 |
| Level of Training | 2.27 | 0.83 |
found for each modality in regards to years of experience. The Traditional modality had a mean of 11.8 years. The individual with the most years of experience was a participant in the IEP Writer modality and the individual with the least experience was in the Tranquility modality. Individual scores and group means in regards to years of experience are shown in Figure 3.
An ANOVA was run to determine if the years of experience between the modalities had any significant results on the study. It was found that the results of the years of experience had no significant difference between the three modalities (F(2,12)=0.42, p=0.6648). The results can be seen in Table 6.

The ANCOVA was conducted to determine if there were any significant differences between compliance levels related to years of teaching experience. It was found that the compliance level of the instructional components of the IEP was not
Table 6

ANOVA Analysis for Years of Experience

<table>
<thead>
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<td>816.93</td>
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</table>

* probability greater than 0.90 — significant

significantly different between the modalities in regards to years of experience

p=0.7828. The results are shown in Table 7.

Effect of Educational Degree of Participants in Regards to the Complete IEP

The level of educational training or highest educational degree by each participant has attained in each of the modalities. There was one individual who had a bachelors degree, two individuals who had a bachelors degree plus 18 post graduate credit hours, six individual who have their masters degree, five individuals who had their masters degree and at least 18 hours of post graduate credit, and one individual who had a doctorate in special education.
Table 7

ANCOVA
Compliance of Instructional Components for Years of Experience

<table>
<thead>
<tr>
<th></th>
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</tbody>
</table>

* probability greater than 0.90 – significant

The mean of the five individual in each of the modalities was delivered. It is noted that the mean of the educational degrees from the Traditional and the IEP Writer modality to be the same at 3.6 and the Tranquility modality was 2.4. This only projecting that the amount of the educational training for the two modalities (Traditional and IEP Writer) was equal to each other and that they have more educational training as a group than the Tranquility subjects combined. Individual and group results are shown in Figure 4. An ANOVA was run to determine if the educational degrees or training affected the study in any manner. The ANOVA revealed that the modalities did not differ significantly in the level of educational training (F(2,12)=3.00, p=0.0878). The results can be seen in Table 8.
Figure 4. Educational Degree of Participant in each Modality and the Mean of the Modalities

Table 8

ANOVA
Analysis for Educational Degree of Participants

<table>
<thead>
<tr>
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</table>

* probability greater than 0.90 – significant
A third ANCOVA was conducted to determine if there was any significant difference between the compliance levels for the complete IEP in relation to the educational training or degree of the participants. It was found that the level of compliance in regards to educational training was significantly different 

\[ F(3,11)=0.53, p=0.6711 \]. The results are shown in Table 9

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
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<th>p</th>
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<td>0.0057</td>
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<td>0.0716</td>
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<td></td>
</tr>
</tbody>
</table>

* probability greater than 0.90 – significant

**Effect of Time Taken, Years of Experience, and Educational Degree in Regards to Compliance Levels for the Complete IEP**

An ANOVA was run to determine if the time taken, years of experience, and educational degree or training affected the study in any manner. The ANOVA revealed that the modalities were significantly different \( F(2,12)=52.20, p<0.0001 \).

The Tukey HSD post hoc revealed that the three modalities were significantly
different. There was no significant difference between any of the modalities. The results can be seen in Table 10.

Table 10
ANOVA Analysis for Time Taken, Years of Experience, and Educational Degree of the Participants

<table>
<thead>
<tr>
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<th>SS</th>
<th>MS</th>
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<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>1165.73</td>
<td>582.87</td>
<td>52.20</td>
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<tr>
<td>Error</td>
<td>12</td>
<td>134.00</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>14</td>
<td>1299.73</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* probability greater than 0.90 – significant

Another ANCOVA was conducted using all of the factors (time taken to complete the IEP, educational degree, and years of experience) to determine if there was any effect on the compliance levels of the instructional components. The ANCOVA found that the level of compliance for the instructional components was not significantly different $F(5,9)=0.31, p=0.8960$. The results are shown in Table 8.

In summary, there were no significance differences found between the three modalities in level of compliance for the instructional components of the IEPs. No significant differences were found when the time to prepare the IEP, the years of
experiences, the educational degrees of the participants and the combination of all of these factors were taken into account.

Table 11

ANCOVA
Compliance of Instructional Components for Time Taken, Years of Experience and Educational Degree

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>Mode!</td>
<td>5</td>
<td>1190.67</td>
<td>238.13</td>
<td>19.65</td>
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<td>9</td>
<td>109.06</td>
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<td>1299.73</td>
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</tbody>
</table>

* probability greater than 0.90 – significant

Complete IEP Compliance (Excluding Instructional Components)

Three evaluators evaluated the complete components of the 15 IEPs for each individual participant. The evaluators were asked to determine if these components were in compliance or not in compliance with the federal regulations. Each of the columns of data was sum to come up with an individual score. A mean score was determined for each of the modalities. The Traditional modality (paper and pencil) was found to have the lowest average with only 56% of the possible options in compliance with the federal regulation. Individuals and group compliance levels are shown in Figure 5. Individuals, who used the software program entitled Tranquility,
had the highest average (82%) of the possible options in compliance. Between these
two modalities, the individuals who used the software program entitled IEP Writer
were found to have an average of 72% of the possible options in compliance with the
federal regulation. Individuals in the three modalities were consistent in the average
compliance levels of the possible options. Group means and standard deviations are
summarized in Table 5.

![Graph](image)

Figure 5 Individual and Group Compliance Levels for the Complete IEP
(Excluding the Instructional Components)
Effect of Modalities Used to Determine Compliance Levels for the Complete IEP

An ANOVA was conducted between the modalities to determine if there was any significant difference between the three modalities (Traditional, IEP Writer, and Tranquility) in regards to the level of compliance for the complete IEP. There was significant difference found between the modalities $F(2,12)=52.20$, $p<0.0001$. A Tukey HSD post hoc test revealed there was significant difference between all three modalities ($p<.05$) in the compliance levels for the complete IEP. The results can be seen in Table 12.

Table 12
ANOVA
Complete IEP Compliance for All Modalities

<table>
<thead>
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<td>Model</td>
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<td>1165.73</td>
<td>582.87</td>
<td>52.20</td>
<td>$&lt;0.0001^*$</td>
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<td>Error</td>
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<td>134.00</td>
<td>11.17</td>
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<td>1299.73</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* probability greater than 0.90 – significant
Effect of Time Taken in Regards to Compliance Levels for the Complete IEP

The time taken to complete IEP included the number of minutes needed to finish the complete IEP. The minutes taken by the participants who used the computer software to print out their results were also included in the total time. Participants using the Traditional modality turned in handwritten completed IEPs and were unable to print out their results.

The modality taking the shortest period of time to complete the IEPs was the Traditional modality. The average time taken to complete the IEP was 60 minutes. The modality taking the longest time to complete the task was the Tranquility modality with an average time of 95.6 minutes. In between these two modalities, were the participants using the software program entitled IEP Writer who averaged 77.6 minutes. Descriptive statistics about the time taken to complete the IEP can be found in Table 5.

The data collected regarding time taken to complete the IEP found that there was substantial variability between the three modalities for the time taken to complete the IEP. Five participants, four of these from the Tranquility modality, took 100 or more minutes to complete the task. Two participants, both in the Traditional modality, took only 50 minutes to complete the task (i.e. less than half the time of the individuals who took the longest time). Individual and group results can be found in Figure 2.
Effect of Compliance Levels for the Complete IEP in Regards to Time Taken

The ANCOVA was conducted to determine if there was any significant difference between the time taken and compliance level for the complete IEP. It was found that the time taken to complete the IEP was significantly different in regards to compliance level $F(3,11)=33.94$, $p<0.0001$. The results are shown in Table 13.

Table 13

<table>
<thead>
<tr>
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</tbody>
</table>

* probability greater than 0.90 – significant

Effect of Compliance Levels for the Complete IEP in Regards to Years of Experience

The ANCOVA was conducted to determine if there was any significant difference between the compliance levels of the instructional components of the IEP in relationship to the years of experience of the participants. It was found that the years of experience was significantly different in regards to compliance level of the
instructional component of the IEP, $F(3,11)=32.50$, $p<0.0001$. The results are shown in Table 14.

Table 14

<table>
<thead>
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<td>131.78</td>
<td>11.98</td>
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<td>1299.73</td>
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<td></td>
</tr>
</tbody>
</table>

* probability greater than 0.90 – significant

Effect of Compliance Levels of the Complete IEP in Regards to Educational Degree of the Participants

The ANCOVA was conducted to determine if there was any significant difference between the educational degree of the participants to the compliance level of the complete IEPs. It was found that the educational degree of the participants was significantly different in regards to compliance level for the complete IEP, $F(3,11)=31.91$, $p<0.0001$. The results are shown in Table 15.
Table 15

ANCOVA
Educational Degree of the Participants and Compliance Levels for the Complete IEP

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
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</tr>
</tbody>
</table>

* probability greater than 0.90 — significant

Effect of Educational Degree in Regards to Compliance Levels for the Complete IEP

The third ANCOVA looking at educational degrees of the participants found that the level of compliance for the complete IEP was significantly different $F(3,11)=31.91$, $p<0.0001$. The results are shown in Table 15.

Effect of Compliance Levels, Years of Experience, and Educational Degree in Regards to Time Taken to the Complete IEP

This last ANCOVA looked at combined effects of compliance levels, years of experiences and the educational degree of the participants to the time taken to complete the IEP. The ANOVA found that the time taken to complete the IEP was significantly different $F(5,9)=19.65$, $p=0.0001$. The results are shown in Table 17.
Table 16

ANCOVA
Years of Teaching Experience

<table>
<thead>
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<th></th>
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<td>Model</td>
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<td>389.32</td>
<td>32.50</td>
<td>&lt;0.0001*</td>
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<tr>
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<td>Corrected Total</td>
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<td>1299.73</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*probability greater than 0.90 – significant

Table 17

ANCOVA
Time Taken, Years of Experience, and Educational Degree in Regards to the Complete IEP

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
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<td>1190.67</td>
<td>238.13</td>
<td>19.65</td>
<td>0.0001*</td>
</tr>
<tr>
<td>Error</td>
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<td>1299.73</td>
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</tbody>
</table>

*probability greater than 0.90 – significant

In summary, there were significance differences found between the three modalities in time taken to complete the IEP. There were significant differences
found when compliance level, years of experiences, educational degrees of the participants and the combination of all of three factors were taken into account.

The modality taking the shortest amount of time (60 minutes) was found to be the Traditional modality. Use of the Tranquility software required approximately 50% more time (95.6 minutes) and the IEP Writer software took appropriately 25% more time (77 minutes) to complete the same task as the Traditional modality. Adjusting for educational degree and years of experience did not impact the findings.

Attitudes Toward the Writing of the IEP with the Use of Technology

The qualitative data on attitudes towards the preparation of the IEPs was obtained by interviewing the participants of the study. The panel of three experts rated the interview results. Ten questions were asked of the individuals with 6 questions being determined to be pertinent to the study (Appendix G). The expert raters used a Likert scale with 5 being that they agreed with the question or statement and 1 being that there was disagreement. A mean rating was calculated for both individuals and group scores. The mean rating of the three modalities will be compared and the overall distribution of the agreement and disagreement of the participants to the questions or statements will be discussed. Representative quotes from the individuals will be used to illustrate the responses.
Time Consuming Job

Participants were asked if the process of creating the IEP was time consuming? Most of the participants gave responses such as “Yes”, “Very much so” to “No, not too much”. Other participants gave more lengthy responses to the question that demonstrated the complexity of the task being a time consuming job. A participant from the Traditional modality stated that

“....the paper work I can't say has gotten (any easier).... Its just more and more involved all the time. I think legally they're some nicer things in these (new district) forms”.

An individual from the Tranquility modality stated that

“Let say it takes me like 45 minutes to an hour to write and IEP....... Again it depends on the kind ... the complexity of the student ... if they other special needs....and... special transportation... and things like that... but... um... I have a pretty decent prep time...so that allows me to get that done.... you know they do seem to involve the parent more and stuff like that.”

Another individual from the Tranquility modality stated “I did one last night for a kid that I am teacher of record of.... In 15 minutes”. Of the fifteen individuals who responded to this question, the raters judged that 60% of them to agreed that the job was time consuming, that 20% somewhat agreed that the job was time consuming, that 7% were neutral, and that 13% disagreed. The mean rating for the IEP Writer modality was 4.8, which indicated a strong agreement with the statement. The Traditional and the Tranquility modality had mean ratings of 3.8, which was slightly less agreement than the IEP Writer modality. In summary, all three modalities indicated that they agreed that the IEP process was time consuming. The individual results and group results are shown in Figure 6.
Figure 6. Is the Process of Writing the IEP a Time Consuming Job?

Enjoyment of Writing the IEP

Participants were asked if they enjoyed writing the IEPs for their students in special education? Responses from the participants varied from “(it’s a) tedious part of the job to a definite “no” and others had a variety of other answers to the question that demonstrated the value of preparing an IEP. Some representative quotes from Traditional modality members include:

“Um.... I don't think that I enjoy(able) it but I find it so beneficial because it clarifies ...what I need to do...”,

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"...but I like the fact that it makes us think... it makes us stop and think about how the students are doing and do we need to you know... change some of the objectives, are some of them too difficult for them to achieve? Um... because usually what I do is sit down with my 2 non certs (paraprofessional staff) and say to them what do you think this student needs to be working on right now”,

"um..... not the IEP but the goals and objectives yes”.

Some representative quotes from IEP Writer modality members include:

".....um...they make you stop and focus you know... and one what you need for the child and where am I heading to ... what do I need to change in the program... what is working and what isn't working....um... the necessary evil... I guess I can call it that....(laugh)’, and

".....um... to say that I enjoy it....no... not really... I mean I do it... and it is not that I really dislike it... but.. not my number 1 favorite thing to do...”.

A representative quote a from Tranquility modality member include:

"I don't mind... I don't really look forward to it..... You know... (I) get excited.... But I like it... um... I like doing it.... When its.... I guess when its not a complicated student... you know... if there is not a lot of things that deviate from the norm.... if there is .... For the most part ...I like using Tranquility...”.

Of the fifteen individuals who responded to the question, the raters judged 40% of them to disagreed that the writing of the IEP was enjoyable, that 20% somewhat disagreed, and that 40% somewhat agreed. The mean rating for the all three modalities was exactly the same (2.4). The individual results and group results are shown in Figure 7.

Prior Training

Participants were asked if they had received any training over the last five years on how to develop or write the IEP? Many responses from the participants
were short replies such as "No" or "Not really". Some representative quotes from individuals in the Traditional modalities are included:

<table>
<thead>
<tr>
<th>Traditional</th>
<th>2.4</th>
<th>IEP Writer</th>
<th>2.4</th>
<th>Tranquility</th>
<th>2.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional 1</td>
<td>2</td>
<td>IEP Writer 1</td>
<td>2.4</td>
<td>Tranquility 1</td>
<td>2.4</td>
</tr>
<tr>
<td>Traditional 2</td>
<td>2</td>
<td>IEP Writer 2</td>
<td>2.4</td>
<td>Tranquility 2</td>
<td>2.4</td>
</tr>
<tr>
<td>Traditional 3</td>
<td>2</td>
<td>IEP Writer 3</td>
<td>2.4</td>
<td>Tranquility 3</td>
<td>2.4</td>
</tr>
<tr>
<td>Traditional 4</td>
<td>2</td>
<td>IEP Writer 4</td>
<td>2.4</td>
<td>Tranquility 4</td>
<td>2.4</td>
</tr>
<tr>
<td>Traditional 5</td>
<td>2</td>
<td>IEP Writer 5</td>
<td>2.4</td>
<td>Tranquility 5</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Figure 7. Do You Enjoy Writing IEPs for your Students?

"...it was several years ago. Actually I think it was my first year here, so it would have been probably 8-9 years ago that we met and we had two teachers and I think they were from xxxxxx xxxxxx xxxxxxx that came over and they talked to us about objectives and it was at that time that I found out that we could write our own and I had thought that we had to use our xxxxxxx book. Then I found out that we could write our own. They didn't really, it wasn't real intense, just basically how they did theirs", "um...as the school provides them each time our forms change...".

Of the fifteen individuals who were asked this question, the raters judged that 40% of them disagreed, that 20% somewhat disagreed, that 13% somewhat agree and that 27% agreed. The Traditional modality had received the most training in the past...
five years from various reported sources with a mean of 4.2. The IEP Writer modality had a mean of 2.0 and the Tranquility modality with a mean of 1.8 disagreed with the statement that they had received training in the past. In summary, one of the modalities (Traditional) was found to have received training, and the other two modalities had not. The individual and group results are shown in Figure 8.

Prior Preparation of the IEP for the IEP Meeting

Participants were asked if they have their students’ IEP written prior to the IEP meeting? Responses to this question were very similar. An individuals in the Traditional modality stated that:

“yes... I go in and let them know... the parents know that I have picked out some objectives but we can add, subtract, multiply and this is just the starting point and we can start all OVER if they want to...I also bring a blank form with me”

“um... what I do is... some of the basic little sections, I might fill out particularly know a parent has very limited time, I will check with them first and say... I will do some of the busy work and then we will write the goals and objectives together...”

“....yup. I have everything done ahead of time. Um... with the exception of any part that I have to ask the ... the parent ... like what strengths if we have to come up with strengths of the students, any parent concerns. They added a new part to the IEP forms where we ask certain questions of the parents and during .... And I leave those blank and fill those in during the meeting. But all the rest of time, my goals and objectives and pretty much all the rest of the it is all filled in ahead a time”.

Individuals in the IEP Writer modality state that:

“.....what I usually do is try to get them as ... even a couple days in advance.... The IEPC and try to get them to the parents .... And if they have any questions, concerns or changes then I will know about them. Then I also
have blank page 2 which are the goals and objectives pages in case we need to add hand write goals and objectives”.

“......mostly... depends... if we have a unique child that the parent wants equipment... we don’t ... but by the time they are this age... we are lucky to get parents and and take care of itself ....”.

“....it is probably 99% written”.

4.2 IEP Writer

2.0

1.8

Figure 8. Have You Received Any Training in the Past Five Years to Assist You in Writing Goals and Objectives?

Individuals in the Tranquility modality state that:

“......the information is in the computer .... I have a laptop in the conference.... I go through it question by question.... In order... and they are in order that you should address them.... In a conference so we are not .... Talking goals and objectives before we are talking placement...”.

“....and I prepare the IEP ahead of time... print it out.... And then at the beginning of the conference.. I asks tell the parents that we can change anything on here... and usually I will leave certain things blank that we need
to make decisions on .... Where I can put the test scores in.... and my comments.... And that sort of thing”.

Of the fifteen individuals who were asked this question, 73% of them agreed and 27% somewhat agreed. The means for the three modalities were all very similar, with the IEP Writer and Tranquility modalities having a mean of 4.8 and the Traditional modality having a mean of 4.6. In summary, all three modalities indicated that they agreed that the IEP was prepared prior to the IEP meeting. The individual results and group results are shown in Figure 9.

Figure 9. Do You Have Your IEP Completed at the Time of the IEP Meeting?
Challenge of Writing the Goals and Objectives

Participants were asked if they felt that writing the goals and objectives or the instructional components of the IEP was challenging? Responses range with this question. Traditional participants states that:

(It is) “quite challenging” to “Not really challenging – enjoy”.

“. . .the whole IEP or the goals and objectives? . . . I find that it is not to difficult to enter the student information and the other standard materials but . . . I think it is somewhat more difficult to write the goals and objectives . . . each student is so different . . . ”.

” Not real difficult”.

Individuals from the IEP Writer modalities stated that:

“. . .probably in um . . . somewhat challenging at time to make - to give a nice variety and change with the individual.
“ . . . one of the nice things is that gives you some other ideas about or were to direct the goals in the same area but directed a different way.”
“ . . .writing goals and objectives? . . . I would say about right in the middle . . . it depends on the student so much . . . ”
“ . . .its not bad . . . I would say it is easy . . . ”
“ . . . compared to everything else you do in education . . . probably about in the middle . . . ”.

Tranquility participants state that:

“um . . . I think for the most part its um . . . its . . . a pretty easy task . . . ”.
“ . . . determining the goals and objectives . . . not now . . . I do over 200 a year . . . so basically . . . Using the technology . . . you eased that part of the process”.

Of the fifteen individuals who were asked this question, 33% of them disagreed, 7% somewhat disagreed, 20% were neutral, and 27% somewhat agreed and 13% agreed. There was a wide range of opinions of the challenge of writing the goals and objectives for the IEP. The means for the Traditional modality was 3.4,
which is a neutral with the statement. The IEP Writer and the Tranquility modality had a mean of 2.6 and 2.4 respectively. In summary, one modality (Traditional) neutral with statement, and the other two modalities are somewhat disagree. Indicating that these individuals found the task challenging. The individual results and group results are shown in Figure 10.

![Bar Chart](attachment:image.png)

**Figure 10.** Do You Find the Challenge of Writing the IEP Difficult?

**Progress Reports**

Participants were asked if they used the same forms as the IEP for their students’ progress reports? Responses for this question generally were that the participants used the IEP form to process the progress reports for their students. Participants in the IEP Writer modality state that:
"... I have the goals right there and you can write your little update but it is hard to get it in a printable format...that is one of the flaws of the IEP Writer....I hope so to. I really hope... I really like the program... I really like format of the nine week reports... but they have to make it user friendly...”and....now you can’t do Medicaid forms or anything else off from there ....um ... feasibly either...”.

"... if it was easier to use I would... “.

“....probably Xeroxing it off more than using the report form that is built into the IEP Writer... I don't know of anyone who is successfully doing that”.

All of the Tranquility participants used the software package to create their progress reports.

Of the fifteen individuals who were asked this question, 80% of them agreed, 7% somewhat agreed, 7% somewhat disagreed and 7% disagreed. The means for the Traditional and the Tranquility modalities was 5.0, which is an agreement with the statement and they use the same forms to evaluate their students’ progress on the instructional components of the IEP. The IEP Writer modalities had a mean of 3.4. In summary, the IEP Writer modality was using some other type of progress report format for reporting their students’ progress. The individual results and group results are shown in Figure 11.

In summary, all three modalities agree that the preparation of the IEP is time consuming, they have their reports prepared before the meeting, and all disagree that the process is enjoyable. For three of the questions, differences were found in the responses of the three modalities. The Traditional modality had more training, the IEP Writer and Tranquility modalities had somewhat disagreed that the task was challenging and the Traditional and Tranquility modalities agreed used their work for progress reports.
Figure 11. Do You Use the Same Document to Create Your Progress Reports?

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CHAPTER V

SUMMARY, DISCUSSION AND CONCLUSION

Introduction

In this chapter, the researcher will summarize the findings and offer conclusions regarding the three major research questions of the study. These research questions are:

1. Can using a computer software package result in a more federally compliant IEP as compared to the Traditional paper and pencil modality?

2. Are there beneficial timesavings in using a computer software package to prepare an IEP as opposed to the Traditional paper and pencil modality?

3. Does the modality used to prepare the IEP affect the attitudes of special educators?

This study examines the levels of compliance in both the individual instructional components of the IEP and the IEP as a whole. This study also looks at the time it takes to complete the IEP using the three modalities (Traditional, IEP Writer, and Tranquility). This study examines the attitudes of the participants toward creating the IEP and the modality used to create the document. The researcher will
also discuss the major conclusions of the study and lastly, the researcher will discuss future directions for this line of research.

Compliance Levels

The study found that the level of compliance was significantly different (p>.90) between the different modalities used to write the IEP for the IEP as a whole. The level of compliance varied between the different modalities for the instructional components IEP but these differences were not found to be significant different. The researcher hypothesized before the study that the computer software programs would produce a higher level of compliance for the IEP than the Traditional pencil and paper modality. This hypothesis was upheld in the findings where the Tranquility and the IEP Writer modalities had higher compliance rates for both the instructional components and the complete IEP than the Traditional modality. The researcher concludes that computer software programs result in higher levels of compliance.

This study found no perfect or near perfect method for creating a 100% compliant IEP form. The three groups studied (Traditional, IEP Writer, Tranquility) had average compliance for instructional components that ranged from 70% - 77%. The two highest rated modalities for compliance were the technology supported Tranquility and IEP Writer (76.93%, 75.80% respectively.) The lowest mean rating was 69.73% for the Traditional modality. The researcher concludes that all three methods studied failed to create a near perfect compliance levels for the instructional components. Compliance levels for the individual participants varied widely from a
high of 87% to a low of 44%. Results of this study suggest that there is considerable room for improvement for creating instructional components of IEPs.

This study also finds there is no significant difference between the three modalities (Traditional, IEP Writer, or Tranquility modalities) in writing the instructional components of the IEPs, when adjusting for their educational degree (course work and academic degrees), years of experience (special education teaching experience), time taken to complete the IEP by the participants as well as a combination of all of these factors together. The researcher concludes that the levels of compliance for instructional components of the IEPs are not impacted by educational degree, years of experience, time taken, and the combined effects of these variables. This study found that, as a modality, the computer software package participants write more compliant instructional components of the IEP whereas the Traditional modality is less successful.

This study also found that no perfect or near perfect method for creating a 100% compliant complete (non instructional components) of the IEP form. The three groups studied (Traditional, IEP Writer, Tranquility) had average compliance for complete (non instructional components) IEP that ranged from 56% – 82%. The two highest rated modalities for compliance were the technology supported Tranquility and IEP Writer (82%, 72% respectively). The lowest mean rating was 56% for the Traditional modality. The researcher concludes that all three methods studied failed to create a near perfect compliance levels for the complete IEP. Compliance levels for the individual participants varied widely from a high of 83% to a low of 53%.
Results of this study suggest that there is room for improvement for creating compliant IEPs. This study also finds there is no significant difference between the three modalities (Traditional, IEP Writer, or Tranquility modalities) in writing the complete IEPs (non instructional components), when adjusted for educational degree (course work and academic degrees), years of experience (special education teaching experience), time taken to complete the IEP by the participants as well as a combination of all of these factors together. The researcher concludes that the levels of compliance for the complete (non instructional components) of the IEPs are not impacted by educational degree, years of experience, time taken, and the combined effects of these variables. This study concludes that, as a modality, the computer software package participants write a more compliant complete (non instructional components) of the IEP whereas the Traditional modality is less successful.

Time Taken

The second research question of the study was to determine if there was a difference in time taken in regards to the modalities used. There was considerable variance in the overall time taken to complete the IEP that ranged from 45 minutes to 107 minutes. Further, there was considerable variance within each modality to complete the total IEP. For the Traditional modality the time taken to complete the IEP ranged from 45 to 86 minutes, IEP Writer modality from 57 to 107 minutes, and the Tranquility modality from 61 to 107 minutes. The researcher concludes from the
findings of the study that there is great deal of variability from individuals to the next for the time it takes to complete the IEP.

The mean for each modality were significantly different ($p > .90$) with the Traditional modality averaging of 59.46 minutes ($SD = 15.43$), IEP Writer modality averaging 77.23 minutes ($SD = 18.20$), and the Tranquility modality averaging 101.73 minutes ($SD = 10.35$). The researcher hypothesized before the study that the computer software programs would require less time to produce the IEP than the Traditional pencil and paper modality. This hypothesis was not upheld in the findings where the Tranquility and the IEP Writer modalities required longer periods of time to complete the IEP than the Traditional modality. The researcher concludes that computer software programs require as much as twenty percent more time to complete the IEP process. The study indicates that the Traditional modality is the least time consuming and the computer software program participants; particularly the Tranquility modality took the greatest time to complete the assigned task.

**Attitudes**

The third research question of this study addressed the special educators' attitudes toward using the various modalities to write the IEP. This section deals with six different questions that the researcher asked of all participants. The interview was conducted after the process of writing the IEP was concluded. The researcher asked several attitude questions that addressed different aspects of writing the IEP. The data collected from the participants was qualitatively analyzed. The researcher
hypothesized before the study that the participants using the computer software programs would have more positive attitudes toward the writing of the IEP. The findings for each question will be discussed individually.

The first question asked the participants if they enjoyed writing IEPs. A summary of the responses by all of the modalities found them to disagreeing with the statement. The researcher concludes in general that special educators do not like to write IEPs and there was no difference between the three modalities. The hypothesis was not upheld in the findings for this question because the Tranquility and the IEP Writer modalities were the same as the Traditional modality.

Another question asked the participants if writing the IEP was time consuming. The researcher found that 60% of participants agreed that writing the IEP is a time consuming task. Four out of the five participants belonging to the IEP Writer modality agreed that writing the IEP was a time consuming task. Three out of the five participants belonging to the Traditional modality agreed that writing the IEP was a time consuming task. Only two out of the five participants in the Tranquility modality group, however, agreed that writing the IEP was a time consuming task.

The researcher concludes that the Tranquility software participants even though they took the longest time to complete the IEP, did not agree, as strongly that preparing the IEP was a time consuming task. The IEP Writer modality participants reported several problems with printing the final IEP document and more strongly agreed that preparing the IEP was a more time consuming task. Several of the IEP Writer participants reported that recently entered data would come up missing or
appear overwritten as they attempted to print off the final IEP document. The researcher concludes, a large majority of participants agreed that preparing the IEP to be a time consuming task but the modality taking the longest time (Tranquility) had about the same attitude as the other two modalities. The attitudes of the participants may not correlate with the actual time taken to complete the IEP (time taken and attitudes). The research hypothesis was not upheld in the findings where the Tranquility and the Traditional modalities were the same and the IEP Writer modality had greater agreement that the process of writing the IEP was time consuming.

Another question regarding the attitudes of the participants that was asked by researcher dealt with the amount of prior training (not including technical training for the use of the software or use of the computer) each participant had received regarding the preparation of the IEP. A large majority of the Traditional participants agreed that they had received some type of training in the area of IEP development. Whereas the majority of Tranquility and the IEP Writer participants disagreed that they had prior minimal training for development of the IEP. Tranquility participants indicated they attended several training sessions on the use of the Tranquility software and the use of the computer. Four out of five participants in the IEP Writer modality felt that they strongly needed training on the software and use of the computer, as well as training of how to write a compliant IEP. The researcher concludes, the Traditional participants had received the most training but wrote the least compliant IEPs. The software modalities participants had the least training but wrote the most compliant IEPs. The research hypothesis was upheld in the findings
where the Tranquility and the IEP Writer modalities had much less training than the Traditional modality.

Another question asked of the participants focused on how challenging was the task of writing the IEP. This question provided a wide variance of information from the participants. Two out of five participants in the Traditional modality indicated that the task of writing the IEP was challenging. Two out of five participants in the Tranquility modality and the IEP Writer modality indicated that they felt the task of writing the IEP was not challenging. Only one individual in the Traditional modality indicated that the task was not challenging. Most of the remaining participants were scattered between the neutral and somewhat agree range on the Likert scale in regards to the challenge of the task. The mean scores for the computer software modalities were on the disagree side of neutral while the Traditional modality was on the agree side of neutral. The researcher concludes that the individuals in the computer software modalities see the task of writing the IEP as less challenging than the individuals in the Traditional modality, thus supporting the research hypothesis that computer software modalities made the task of writing the IEP less challenging giving the participants a more positive attitude.

A further question posed to participants within each modality asks how special educators generate progress reports, year-end reports, etc. Most of the special educators copy from the original IEP the instructional components on a photocopy machine. Materials were added to these photocopied sheets and then sent home. The individuals in the Traditional and Tranquility modality reported that they used the
same forms as the original IEP pages to use as progress reports. All individuals using Tranquility stated that they entered the data directly into the Tranquility software program and then printed off the latest version of the instructional components of the student's IEP and sent home these as progress reports. Three out of five participants in the IEP Writer modality reported that they were creating their progress and yearend reports other than using the IEP Writer modality. The researcher concludes that a majority of the participants in the IEP Writer modality were writing their yearend and progress reports using another method of developing the necessary materials. This finding partially supports the researchers hypothesis since participants in one of the two modalities (Tranquility) used the computer software package for progress and yearend reports.

Finally, the researcher asked the participants if they had the IEP form completed when they went to the IEP meeting. It was indicated that a large majority of the participants (eleven out of fifteen) had most of the materials entered into the IEP prior to the IEP meeting with the parents and multidisciplinary educational team (MET Team). The special educators also readily reported that they were very willing to make any and all changes that were necessary to the IEP at the meeting. A few special educators indicated that it made a difference on the amount of paperwork completed based on who the parent was and the needs of the child. The researcher believed that the special educators realized the federal regulations disallow the special educators from having the forms completed prior to the meeting. The researcher concluded that it did not matter which modality was used to create the IEP in regards
to the amount of the materials entered into the document prior to the IEP meeting thus supporting the hypothesis of the researcher.

Conclusions

Three major conclusions were drawn from this study. The conclusions deal with: 1) the level of compliance for the IEPs (instructional components and complete), 2) time required to complete an IEP, and 3) how the computer modalities affect the attitudes of the participants.

The researcher concludes from the findings that the IEP Writer modality participants (76.93%) were barely able to produce a more compliant IEP (instructional components) over the Tranquility modality (75.80%). In comparing the complete IEP compliance levels, the researcher found that Tranquility modality out performed the other two modalities for the level of compliance. All five of the participants in the Tranquility modality had at least a minimum of 81% of the components of the complete IEP as compliant. The researcher ran a Tukey HSD Post Hoc analysis on the compliance levels of the complete IEP and found that there was significant difference in the three modalities used. In conclusion, the researcher believes the use of computer software programs produces a more compliant IEP. The researcher believes that the individuals using the Traditional modality often skipped areas on the IEP form. The individuals using the IEP Writer and Tranquility modalities that where using the computer and the software package would not allow them to skip certain areas of the IEP. The Tranquility modality would go back and
ask the participant creating the IEP about the issues that were not totally completed. The researcher would recommend that school district use computer software programs over the Traditional methods in regards to this study when looking at the compliance level of the IEP. The researcher would also recommend the Tranquility software package over the IEP Writer software package because it produced the highest level of compliance in writing the instructional components of the IEP. The attitudes of the participants were more positive toward the Tranquility modality than in either of the other two modalities.

A second major conclusion of the study is that computer software modalities took significantly more time to complete the task of writing the IEP than the Traditional modality. This research study compared participants creating an IEP for a case study student for the first time. For this first time task, the computer software programs proved to take longer. This was a disappointing finding since one thinks of computers and technology as time saving devices. However, the researcher feels that computer software programs can offer advantages for preparing related reports and when modifying existing IEPs. The IEP Writer and Tranquility modality members could select the student’s personal demographic information and have those materials entered into the form. This capability is certainly a timer-saver for the next time that the IEPs need to be completed for each student. Another benefit seen by the researcher is in the software program Tranquility that reproduces the data sheets that the special educators need in order to substantiate the progress on the instructional components for each student. Progress reports are easily generated with Tranquility
as are letters of intent, meeting notifications, referral forms, transition and psychological forms, behavior intervention plans (BIPs), etc.

The Traditional modality of developing the IEP was a less time consuming modality for this research study, which looked at the creation of the IEP for the first time. But special educators need to continuously repeat entering the same demographic data on every student form and report that they prepare. This demographic information rarely changes but the need to reenter it was ever present since the forms need to be generated from start to finish by the Traditional modality. The researcher believes that while the Traditional modality was less time consuming for preparing the first time IEP that it is more time consuming in the long run for preparing the repeated reports and subsequent IEPs.

The third major conclusion of this study found that participants using the computer software modalities had better attitudes towards writing the IEP. The IEP Writer modality interestingly reported that they found it to be less time consuming even though the results show that they needed the more time to complete the IEP than the Traditional modality. The three modalities agreed that they enjoyed the task of writing the IEP equally. The Tranquility modality with the IEP Writer modality following closely behind found the challenge of writing the IEP to be less than the Traditional modality. The Tranquility modality reported that they received no training on how to write the IEP, but were able to develop the most compliant document by using of the software program.
Future Recommendations

There are many other factors that need to be considered when looking at the IEP written by the special educator. The special educator has a multitude of required tasks to fulfill throughout the day. The demands of teaching are great. The need to communicate with and appropriately handle parents, school and district administrators, colleagues, classroom staff, auxiliary staff, and students of special education impacts the individuals who write a compliant IEP. Time is always an issue and where the special educators spend their time. Student demands continue to take more of the special educators time and then there are the requirements of the paperwork.

The researcher recommends that the future study in this area include all the participants included in the multidisciplinary team (MET team) in the evaluation process and not just the special educators, thus giving a more realistic study of the process, the time required to complete the task as well as the level of compliance that the total MET team is able to obtain. This will require the researcher to monitor the time spend by all participants and their contribution to the final IEP.

The researcher also recommends that the process of preparing the IEP and related paper work be studied over a longer period of time with a minimum recommendation of a school year be used, thus giving the study some depth in regards to the additional related paper work that needs to be done during the course of the school year. These recommendations would give the process of developing the IEP and paperwork related to a more realistic view of the work involved in the IEP.
process. The researcher believes that the results obtained in this study would change when conducting a similar study over longer period of time. The researcher believes that the computer software modalities could reduce the time needed to complete the task especially when the related paperwork is considered in the study.

The final recommendation for future studies is the need for a larger sample of participants that would include more individuals using the various modalities and larger numbers of school districts, thus allowing for better use of statistical analysis methods. Using a broader sample of participants throughout the country may also impact the study, as there may be differences that exist between certain areas of the country. The complete MET team should be used in the study since they are an integral part of the process, thus creating a research design, which more closely matches the reality that exists in the special education programs.

In retrospect, the researcher feels that there have been several limitations that influenced the current study that should be changed for future studies. The researcher only evaluated and compared the work of one individual of the complete MET (Multidisciplinary Team) and a fictitious case study. It is not only one individual who puts together the individual program for the student but one of many who work on developing the program together for the best possible result for the student.

Another limitation is that students are individually different in their abilities, needs, limitations and expectations. A variety of different types of students should be included in future studies instead of one type of student. The individuals who work on developing the IEP for the student are all artists who all do their part to create the
complete picture or finished product. It is really not the art but the artists who influences the end product.
Appendix A

Form for Personal Information on the Special Educators
Personal Information

Reminder - this information is confidential and will not be given out in my study. I will generate comparisons and contrasts on your credentials that will be used in my project. Your personal information will not be given out for any reason. Thank you for your time.

Nancy Beukema

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Appendix B

Susan Jones’ Case Study
Susan is a nine-year-old girl with moderate mental retardation. Susan Jones currently attends a self-contained classroom at Your School in western Michigan. In addition to her mental retardation, Susan walks with a limp due to a gross motor impairment, suffers from grand mal seizures, and is difficult to understand at times due to a speech impairment. To help control her grand mal seizures, Susan takes Mebaral, a barbiturate, three times a day.

Because of her pronounced educational deficits and obvious gross motor impairment, Susan has been in special education since preschool. It all began when the family physician recommended to Mrs. Jones that she have her daughter tested for a cognitive delay. The local school district tested Susan and found that there were significant language, academic, and motor delays. At the multidisciplinary meeting (MET), school officials suggested that Susan might benefit from their early childhood special education program.

In the preschool program, Susan made slow by steady progress. Over the next few years, Susan was moved to a classroom for students who were trainable mentally impaired (TMI) who were between the ages of six to eight. While enrolled in this program, her teacher, Mrs. Smith, instituted a variety of behavioral management plans to help Susan control her violent outbursts and to motivate her to complete tasks. During these early years, Susan earned "stars", which could later be exchanged.
for recreational privileges. For the most part this technique worked well, however on
a few days each month her behavior was deemed "unmanageable" by Mrs. Askov.

As Susan grew older her violent outbursts and apathetic work behavior
increased. At the age of nine, she was transferred to YOUR classroom (for older TMI
students). In YOUR classroom, Susan was reevaluated. The following table
highlights the results:

Developmental Test of Visual Motor Integration = 4 yrs. 1 mo. M.A.

Draw-A-Man-Test = not scorable

Vineland Adaptive Behavior Scale
  Communication Domain = 40
  Daily Living Skills = 50
  Socialization = 68
  Motor Skills = 52
  Adaptive Behavior Composite Score = 48

Wide range Intelligence Test - revised
  a. Reading = .03%tile
  b. Arithmetic = .04%tile

Stanford-Binet Intelligence Test
  Full Scale Score = 40

As evidenced by her intelligence score, Susan's IQ score of 40 fell within the
range for persons with moderate mental retardation. Furthermore her adaptive
behavior score indicated that she was functioning within the moderate range of
mental retardation.

Academically on the Brigance Inventory of basic Skills, Susan performed
below grade level on measures of reading, math, and written language. In reading,
she recognized only five words on the preprimer level (it, to, come, for, red), and only
knew seven initial letter sounds (M, B, S, K, P, R, F). In math, she can rote count to 12, recognize numbers to 15, and write numbers to 8. Her other present level math skills include knowing addition facts to 5+, the value of three coins (penny, nickel, and dime), and telling time to the hour. In written language, Susan can write a number of her letters (M, K, S, P, F, B, A, C, D, I). In the area of functional language, Susan recognized several functional words (Exit, Danger, Go, Police, Poison, Walk, Keep Out, In, Ladies, Women, Out) and some directional words (name, address, telephone, date). There were several other areas in which Susan performed significantly below average, such as spelling, directional skills (listening comprehension), and oral language skills.

In YOUR class, Susan spent time each day working on the basic reading, math, and written language skills. On two mornings of each week, she worked on vocationally related tasks, such as assembling, packaging, and sorting items. It was while performing these vocational tasks that Susan had the most difficulty maintaining her attention to task and completing the tasks at high levels. Despite being on reinforcement system of earning pennies for correctly completed work and behaving appropriately, Susan still had numerous incidents of inappropriate and disruptive behavior.

For instance, during one morning while working on vocational tasks, Susan exhibited three separate violent episodes. In the first episode, Susan had completed a task, was rewarded with a penny, and was given the next task. When YOU placed the new task (packaging) at Susan’s workstation, she immediately threw it across the
room and complained that she was "worked out". Having only worked for 15 minutes, YOU recognized that Susan was simply trying to get out of work. YOU place Susan in time out and removed all of the pennies that she had earned for the morning and prior day. After this cooling off period, YOU ask Susan to return to her workstation and begin working on a new task (stamping objects). YOU decided to use a new task rather than fight with her over the packaging assignment.

Susan wanted to go outside with the other students and she needed to put on her coat and boots and gloves. Susan has difficulty with putting on her coat and zipping it up so she would stay warm. YOU have been working on having Susan put on her clothes and working on various types of fasting techniques. Susan is having trouble with zipping, and buttoning of her blouse. Susan is unable to put her gloves on without your help.

After lunch, the class began their review of functional/emergency words. As YOU began your review of these words, YOU noticed that Susan was at her desk sleeping. Susan does not have any friends that she relates to in school and is always alone in the room or on the playground (Modified from Boyle, J.R. et al. (1997) p. 47-48).
Appendix C

Susan Jones' Biographical Information
Susan Jones

123 School Lane

Any City, Michigan 49999

Phone: 616 123-4567

Birthdate: 1-25-92

Social Security Number: 003-21-2000

Invitation Dates

• 1 week ago - contact by phone by YOU
• 2 weeks ago - formal written invitation by administration

Family speaks very good English - both mother and father are career professionals

Domains / Annual Goals to be included:

• Daily Living Skills
• Communication
• Academics
• Social

Objectives

Meet state and federal guidelines when writing goals and objectives for Susan

If you have any questions, please feel free to ask me.

Thanks again for your time and assistance. I truly appreciate it.
Appendix D

Evaluation of Instructional Components
(Goals and Objectives)
## Individualized Educational Program Evaluation Report

<table>
<thead>
<tr>
<th>Present Level of Ed Perform</th>
<th>Annual Goals</th>
<th>Short Term Objectives</th>
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</thead>
<tbody>
<tr>
<td>Does the IEP Team Report include:</td>
<td>Does the IEP Team report include:</td>
<td>Does the IEP Team report contain the following components used to determine whether the STOs are being achieved?</td>
</tr>
<tr>
<td>How the student's disability affects his or her involvement and progress in the general curriculum?</td>
<td>Measurable annual goals that address the student's needs related to his or her disability(ies) to enable the student to be involved in and progress in the general curriculum or for preschool students, as appropriate, to participate in appropriate activities</td>
<td>Does the IEP team report the Student's short term objectives (STOs) [a minimum of two STOs for each annual goal]?</td>
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<tr>
<td>YES NO</td>
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<th>Evaluation Procedures</th>
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<td>YES NO</td>
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<td>YES NO</td>
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Yes = In Compliance  No = Out of Compliance  IC = In Compliance  OC = Out of Compliance
Appendix E

Clarification of Evaluation Materials
Clarification of Materials

<table>
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<th>Std. No.</th>
<th>Standard</th>
<th>Documentation and Verification Criteria</th>
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<tr>
<td>(118)</td>
<td>Evidence of Present Levels of Educational Performance, which describes how the student's disability affects his or her involvement in the progress in the general curriculum, including physical education. [34CFR§300.347(a)(1)(i)]</td>
<td>Purpose is to determine:</td>
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<td>• Students Present level of Performance</td>
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<td>• Area(s) of need arising from the student's disability so that approaches for ensuring involvement and progress in the general curriculum and any needed adaptations or modifications to that curriculum can be identified. [34CFR Appendix to part 300, Question #1, Page 12471]</td>
</tr>
<tr>
<td>(127)</td>
<td>Evidence of Student's measurable annual goals meeting the child's needs that result from the student's disability to enable involvement in and progress in general education. [34CFR§300.347(a)(2)] [34CFR§300.347(a)(7)]</td>
<td>Include Annual Goal(s) relating to:</td>
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<td>• Meeting the student's needs that result from the student's disability to enable the student to be involved in and progress in the general curriculum; and/or</td>
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<td></td>
<td>• Meeting each of the student's other educational needs that result from the student's disability</td>
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<td>Additional Information:</td>
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<td></td>
<td>• Goal statements indicate the progress, which can be reasonably expected of a student with a disability in a twelve month time period.</td>
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| (128) | Evidence of short-term objectives (STOs).  
[34CFR§300.347(a)(2)] | Verify that IEP team report documented:  
• Minimum of two (2) STOs for each annual goal. STOs are intermediate steps toward goal achievement  
Additional Information:  
• STOs are intermediate steps that will enable parents, students, and educators to monitor progress during the year, and if appropriate to revise the IEP consistent with the student’s instructional needs.  
• If there is only one STO for the annual goal the standard is “out-of-compliance”. |
| (129) | Evidence of STOs containing criteria | Verify that IEP team report included:  
• Objective criteria, which must be observable and measures the completion of each STO.  
Additional Information:  
• Look for an indication of criteria for each STO, by checking the IEP team report, records of data collected, observation logs. |
| (130) | Evidence of STOs containing evaluation procedures. | Verify that the IEP team report included an evaluation:  
• Procedures, which may be incorporated into the STOs.  
Additional Information:  
• In a program and/or service interview, documentation must be provided that the evaluation procedures are being implemented for each STO. |
| (131) | Evidence of STOs containing schedules for determining whether the objectives are being achieved. | Verify that there are:

- Schedules, which may be incorporated in the STOs.

Additional Information:

- In a program and/or service interview, documentation must be provided that the STOs are evaluated on schedules specified to determine if they are being achieved.

- If the STO is being used to measure progress toward the annual goal, the schedule for determining whether the objectives are being achieved must be at least as often as progress is reported to the parents. |
Appendix F

Complete IEP Rating Form
## IEP Requirements
### IDEA '97

(Modified from Michigan Department of Education, Office of Special Education and Early Intervention Services (1999), Individualized Education Program Team Manual)

### INFORMATION

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<td>Assistive Technology devices and</td>
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| Assistive Technology             |
| STUDENT ELIGIBILITY              |

| Student Eligibility              |
| Eligibility Categories           |

| PREVOCATIONAL/VOCATIONAL EDUCATION |

| Prevocational/Vocational Activities |
| TRANSITION                        |

| Transition Services               |
| Instruction                       |
| Related Services                  |
| Community experiences             |
| Development of employment and post-|
| school living objectives          |
| Acquisition of daily living skills|
| and vocational employment         |
| Special Education Services        |

| Student Invited to IEP           |

| ANNUAL GOALS AND SHORT TERM OBJECTIVES |

| Instructional Area               |
| Annual Goals                     |

| Short Term Objectives            |
| Evaluation Procedures            |
| Frequency of Evaluation          |
| Performance Criteria             |

| REPORTING PROGRESS               |

| Reporting Progress               |
| SUPPLEMENTARY AIDS AND SERVICES  |

| Supplementary Aids and Services  |
| Amount of time and Frequency     |
| Beginning Date                   |
**Least Restrictive Environment Program**

- Not Participate with nondisabled students
- Not Participate in general education
- Not Participate in extracurricular and non academic activities

**SPECIAL EDUCATION PROGRAMS/ANCILLARY AND OTHER RELATED SERVICES**

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**Amount of time, frequency and duration**

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**Resource Program**

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**Assessment Participation**

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<td>District Wide Assessment</td>
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<tr>
<td>Accommodations</td>
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<tr>
<td>Why district wide assessment are inappropriate</td>
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<td>How will they will be assessed</td>
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<td>REQUIRED SIGNATURES</td>
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**RESIDENT DISTRICT COMMITMENT**

| Resident District Commitment |  |

**OPERATING DISTRICT COMMITMENT**

| Operating District Commitment |  |

**PARENT CONSENT**

| Parent Consent |  |

**ADDITIONAL NOTICE REQUIREMENTS**

| Additional Notice Requirements |  |
| Assurances |  |
| Location of Program(s) and/or Service(s) |  |
| Operating District |  |
| Person Responsible for Implementation |  |
| Implementation Date |  |

**Notice**

* Denotes Non required Information
Appendix G

Interview Questions For the Special Educators
Interview Questions

1. Have you taken any classes or inservices in the last 5 years to assist you in writing goals or objectives?

2. Do you enjoy writing IEPs for your students?

3. Do you find writing IEPs to be a time consuming job?

4. Do you have your IEP written completely by the time you have either the initial or annual individualize educational planning committee (IEPC) meeting?

5. Do you find that you have to change the IEP very much after you have sat down at the IEPC meeting with the parents?

6. Do you usually hand write, typewrite or computer generate you IEPs?

7. Do you use the same form for your nine-week or quarterly reports?

8. How do you find the challenge of writing the goals and objectives for your students? The range being from easy to difficult?

9. Why did you choose the goals and objectives that you did for Susan?

10. Do you have any questions for me?
Appendix H

Human Subjects Institutional Review Board (HSIRB) Approval Forms
Date: 4 October 2000

To: Nancy Beukema, Student Investigator for dissertation

From: Sylvia Culp, Chair

Re: HSIRB Project Number 97-02-20

This letter will serve as confirmation that your research project was approved as a part of Dr. Jainping Shen's “Field Project for EDLD 648 "Techniques for Naturalistic Inquiry" under the exempt category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University.

I am enclosing copies of Dr. Shen's original approval letter and approvals for extensions of his project. The Board wishes you success in the pursuit of your research goals.
I have been invited to participate in a research project entitled “EDLD 648 Techniques for Naturalistic Inquiry.” This research is a practicum for EDLD 648.

As in all research, there may be unforeseen risks to the participant. If an accidental injury occurs, appropriate emergency measures will be taken; however, no compensation or treatment will be made available to me except as otherwise specified in this consent form.

All of the information collected from me is confidential. That means that my name will not appear on any papers on which this information is recorded. The forms will all be coded, and the researcher will keep a separate master list with the names of participants and the corresponding code numbers. Once the data are collected and analyzed, the master list will be destroyed. All other forms will be retained for three years in a locked file in the principal investigator's laboratory.

I may refuse to participate or quit at any time during the study without prejudice or penalty. If I have any questions or concerns about this study, I may contact the principal investigator of this class project at 616-387-3887. I may also contact the chair of Human Subjects Institutional Review Board at 387-8293 or the vice president for research at 387-8298 with any concerns that I have.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. Subjects should not sign this document if the corner does not have a stamped date and signature.

My signature below indicates that I have read and/or had explained to me the purpose and requirements of the study and that I agree to participate.

Signature Date

Consent obtained by: initials of researcher Date

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WESTERN MICHIGAN UNIVERSITY
Human Subjects Institutional Review Board
PROJECT APPROVAL REVIEW FORM

Western Michigan University's policy states that "the HSIRB's review of research on a continuing basis will be conducted at appropriate intervals but not less than once per year." In compliance with that policy, the HSIRB requests the following information:

PROJECT TITLE: Field Project for EDLd 648 "Techniques for Naturalistic Inquiry"
HSIRB Project Number: 97-02-20
Date of Review Request: 01/31/00 Date of Last Approval: 02/16/98

PRINCIPAL INVESTIGATOR OR ADVISOR
Name: Jianping Shen
Department: TLL Electronic Mail Address: shen@wmich.edu

(1) CO-PRINCIPAL OR STUDENT INVESTIGATOR
Name:
Department: Electronic Mail Address:

(2) CO-PRINCIPAL OR STUDENT INVESTIGATOR
Name:
Department: Electronic Mail Address:

1. The research, as approved by the HSIRB, is completed.
   ☑ Yes (Continue with items 5-7 below.) ☐ No (Continue with items 2-5 below.)

2. Have there been changes in Principal or Co-Principal Investigators? ☐ Yes ☑ No
   (If yes, provide details on an attached sheet.)

3. Is the approved protocol still accurate and being followed with respect to:
   (If no to any item below, provide the details on an attached sheet)
   a. Procedures ☑ Yes ☐ No
   b. Subjects ☑ Yes ☐ No
   c. Design ☑ Yes ☐ No
   d. Data collection ☑ Yes ☐ No

4. Has any instrumentation been modified or added to the protocol?
   ☐ Yes ☑ No
   (If yes, attach new instrumentation or indicate the modifications made.)

5. Have there been any adverse events which need to be reported to the HSIRB? ☑ Yes ☐ No
   (If yes, provide details on an attached sheet.)

6. Current total number of subjects enrolled: Current number of subjects in the control group:

7. Provide copies of the consent documents signed by the last two subjects enrolled in the project. Cover the signature in such a way that the name is not clear but there is evidence of signature. If subjects are not required to sign the consent document, provide a copy of the most current consent document being used.
   (Remember to include a clean original of the consent documents to receive a renewed approval stamp.)

Principal Investigator/Faculty Advisor Signature Date

Co-Principal or Student Investigator Signature Date

Approved by the HSIRB:

HSIRB Chair Signature Date

Revised 5/98 WMU HSIRB
All other copies obsolete.
Date: 16 February 1998

To: Jianping Shen, Principal Investigator

From: Richard Wright, Chair

Re: Extension and Changes to HSIRB Project Number 97-02-20

This letter will serve as confirmation that the extension and changes to your research project “Field Project for EDLD 648 ‘Techniques for Naturalistic Inquiry’” requested in your memo dated 10 February 1998 have been approved by the Human Subjects Institutional Review Board.

The conditions and the duration of this approval are specified in the Policies of Western Michigan University.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 16 February 1999
Date: 22 October 1997

To: Jianping Shen, Principal Investigator

From: Richard Wright, Chair

Re: Extension and Changes to HSIRB Project Number 97-02-20

This letter will serve as confirmation that the extension and changes to your research project "Field Project for EDLD 648 Techniques for Naturalistic Inquiry" requested in your memo dated 14 October 1997 have been approved by the Human Subjects Institutional Review Board.

The conditions and the duration of this approval are specified in the Policies of Western Michigan University.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 22 October 1998
Appendix I

Data

160
Data

Dissertation

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