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Principals Application Of Knowledge To The Structure And Support Of Special Education Programs In Florida Middle Schools

Lisa Fuehrer Bugden
University of Central Florida

PRINCIPALS' APPLICATION OF KNOWLEDGE TO THE STRUCTURE AND SUPPORT OF SPECIAL EDUCATION PROGRAMS IN FLORIDA MIDDLE SCHOOLS

by

LISA F. BUGDEN
B.S. University of Central Florida, 1997
M.Ed. University of Central Florida, 1998

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ABSTRACT

This study was developed to determine middle school principals' knowledge about the structure of the special education program in their schools and the support given to the personnel who serve students with disabilities in that program. The principals' knowledge was compared to the application of their knowledge to determine if principals were applying what they knew when making decisions about structuring and supporting the special education program in the school and the teachers and staff who work within the programs. In addition, various personal and school factors were analyzed to determine if any of these variables were significant in explaining any differences that were found between the principals' knowledge and application of their knowledge. Finally, the principals' innovativeness was determined, and the factors in common to the groups of principals who were most and least innovative were analyzed.

When the data were analyzed, a statistically significant difference was found between reported knowledge and application of knowledge. None of the school and personal variables explained this difference. A statistically significant difference existed between the two groups of principals found to be most and least innovative. When analyzed, several school and personal variables were found to possibly explain the difference, and a profile was proposed for each group. The variables included gender, subject area taught, number of years as a professional educator, number of years since completing educational leadership training, number of years as a principal, primary source of information for structuring the special education program at their school, school size, district size, and types of classes offered to students with disabilities. Further

research is needed to confirm these profiles and recommendations for future research are included.

I would like to dedicate this study to my father, Hans R. Fuehrer, Ph.D., my mother, Polly R. Fuehrer, my son, Benjamin, and my husband, David. Each of them has had a profound impact on my life and on this study.

My father, now deceased, has been the driving force behind completing my degree. Throughout the past year, I have heard his encouragement and advice whispering in my heart.

My mother, who read each page of this document, was and still is one of the most influential people in my life. She stood with me when I made a career change to return to college to study education in 1995. She has always been supportive throughout my educational endeavors over the past twelve years, and without her, I would not have been able to complete my degrees.

My son, Benjamin, is the reason I entered the field of education twelve years ago. He is a bright and determined young man who will do great things in the field of his choosing. I did not always believe this during his early childhood because of his emotional handicap, but all the hard work and the difficult decisions that were made on his behalf have worked together to mold him into the fine young man he is today.

Finally, my husband, Dave, has been by rock. He has calmed me, encouraged me, and supported me during the dissertation process. Without him, I am not sure I would have completed this research.

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CHAPTER 1: PROBLEM STATEMENT AND DESIGN COMPONENTS

Introduction

Public middle schools have many programs to serve the differing needs of the students who attend them. Most public middle schools have a special education program. Special Education is defined as specially designed instruction that meets the unusual needs of an exceptional student (Hallahan & Kauffman, 2003). Each special education program is a dynamic, multidimensional entity that is constantly changing as the needs of the student within it change. Developing and supporting special education programs at the school-based level is very difficult because of the constantly changing needs of the students and staff (Goor, 1995).

The No Child Left Behind Act of 2001 (NCLB) and its federal role in education has had an undeniable effect on the education system in the United States (Hardy, 2002; Jennings, 2002). With its emphasis on accountability and high stakes testing, NCLB has changed the focus of special education from the process of teaching to the outcomes of student learning (Click-Orchard, 2004) and principals are expected to be the instructional leaders within the schools where this change occurs (Goor, Schwenn, & Boyer, 1997).

In response, this qualitative and quantitative study was developed to gather data about what knowledge public middle school principals had when structuring the special education program in their schools, and what knowledge they had when supporting the personnel who work with students with disabilities. Additional data were gathered about how middle school principals apply their knowledge to the special education program at their schools. The two were then compared to see if there was a statistically significant

difference, and then, the data were analyzed to determine which, if any, of the school and personal demographic variables explained the difference. Finally, the data were analyzed to determine if there was a difference in combined totals between principals with the highest combined knowledge and application totals and principals with the lowest combined knowledge and application totals, and if any of the school and personal demographic variables explained that difference.

Review of Literature

History of Special Education in the United States

Special education began officially with the passage of the Education of All Handicapped Children Act in 1975 (P.L. 94-142; Gaddy, McNulty, & Waters, 2002). Prior to 1975, many students with disabilities were denied education and sent to residential schools or special schools that were separate from public schools (Hardman, Drew, & Egan, 2005). Some students with disabilities did receive services in the regular schools, but usually in a separate classroom. Some were not identified at all. The Act provided a free appropriate public education for all children with disabilities ages five to twenty-one in the least restrictive environment. The law was renamed the Individual with Disabilities Education Act (IDEA) in 1990, and in November, 2004, the Individuals with Disabilities Education Improvement Act, which reformed IDEA, was passed. With this last reauthorization, congress began to bring IDEA into alignment with the provisions of NCLB (Gaddy, et al.). The implications of this reauthorization called for teachers, staff, and school-based administrators to be flexible as the structure of special education programs changed. According to Goor, et al., with the current laws in place, secondary

principals should support and guide the personnel providing services within the special education program at their schools. The decisions regarding the implementation of the laws have, in the past, greatly affected the post-school outcomes of students with disabilities (Furney, Hasazi, & Destefano, 1997).

Goor, et al. (1997) stated that the essential beliefs, knowledge, skills, and reflective behaviors of a principal can influence the success of a school's special education program. Based on these characteristics, school-based principals make decisions as to the structure of special education programs within their schools and to the support of the faculty and staff that provide special education services. Because of the importance of these decisions, this study focused on principals.

Program Structure

The structure of special education programs should consist of a continuum of placements that moves from the least restrictive environment, the general education classroom, to the most restrictive environment, the hospital/homebound setting (Hardman, Drew, & Egan, 2005). Hardman, et al. (2005) listed a continuum of placements that contained seven levels. Level I, which is the least restrictive and has the most students within the classroom, placed the student with a disability in the general education classroom with "no additional or specialized assistance" (p. 35). In Level II, the student with a disability remained in the general education classroom with a consultative specialist providing assistance to the general classroom teacher. Level III also allowed the student with a disability to remain in the general education classroom for the majority of the school day. The difference between Level II and Level III was that the student with a disability was sent to a "special education resource room for

specialized instruction in areas of need" (p. 35). Level IV shifted the responsibility for the student's education from the general education teacher to the special education teacher by placing the student with a disability in a special education classroom for the majority of the day. The student with a disability was sent to the general education classroom only when his or her skills allowed for instruction within a less restrictive environment. Level V placed the student with a disability in a special education classroom full-time. Level VI removed the student with a disability from the regular school and placed the student in a special day school for only students with disabilities. Finally, Level VII sent a teacher to the hospital room or home of the student with a disability to provide educational instruction.

Within each of the levels were different service models that could be provided to students with disabilities. Some of the services were inclusive of students with disabilities in the general education classroom and some were not. One inclusive service was the consultation model. Sugai and Tendal (1993) defined consultation as "a structured series of interactions or problem-solving steps that occur between two or more individuals" (p. 7). When a student with disabilities received consultation services, usually the special education teacher (the consultant) and the general education teacher (the consultee) met on a regular basis to discuss the progress and any problems the student with a disability (the client) was having within the general education setting. The student with a disability usually did not receive any direct services from the special education teacher, and the general education teacher carried out any solutions determined in the meeting between the two teachers.

Collaborative consultation was another service model that can be offered to students with disabilities. Idol, Nevin, and Paolucci-Whitcomb (2000) defined collaborative consultation as "an interactive process that enables groups of people with diverse expertise to generate creative solutions to mutually defined problems" (p. 1). Dettmer, Dyck, and Thurston (1996) described the key elements for defining the roles of the participants that made collaborative consultation successful. First, the participants had careful preparation for their roles. This preparation included pre-service and in-service training or an advanced degree in a specific field of expertise. Second, each participant's role was delineated. Clarification, parity, and the expectations for each role were determined. Third, the framework in which the participants must work was decided. The participants determined the structure, resources, and management of the services. Finally, the service program was evaluated. Assessment of the program, involvement in the program, and acceptance of the program were all decided before the services were delivered. The process described above took time, and time was a barrier that had to be overcome for success to occur.

Another type of collaborative consultation that took place in the general education classroom was cooperative teaching (co-teaching). The purpose of co-teaching was to "allow general educators and special educators to combine their expertise to meet the needs of all students" (Dieker & Barnett, 1996, p. 5). Co-teaching was used at both the elementary and secondary levels in K-12 education. Vaughn, Schumm, and Arguelles (1997) described five models of co-teaching. The first model was "one group – one lead teacher, one teacher 'teaching on purpose'" (p. 5). In this model, one teacher led the lesson while the other teacher gave one-to-five minute lessons to individual students or

small groups of students. The second model was "two groups: two teachers teach the same content" (p. 5). The students were divided into two heterogeneous groups, and both teachers taught the same content. The third model was "two groups: one teacher re-teaches, one teacher teaches alternative information" (p. 5). The students were divided into two groups based on their knowledge and skill levels and taught the appropriate topic. The fourth model was "multiple groups: two teachers monitor/teach; content may vary" (p. 9). This model was much like using learning centers or cooperative groups where the teachers monitored and taught mini-lessons to the small groups of students. The fifth and last model was "one group: two teachers teach same content" (p. 9). In this model, both teachers conducted the lesson at the same time to the class as a whole. This final model was difficult to implement and was challenging for teachers learning to co-teach.

Effective co-teaching can be implemented within almost any school, though success is not accomplished without a plan. Dieker and Barnett (1996) suggested six steps to aid in the success of co-teaching. Step 1 was to "prepare a proposal that describes how co-teaching could be effectively implemented in your school" (p. 6). Step 2 described the determination of potential co-teachers and suggested presenting the proposal to these people. Step 3 was to develop a plan of action, and Step 4 was the implementation of that plan. Step 5 was the evaluation of the plan, and Step 6 described the benefits of sharing the successful experiences with others.

Another model that was found in special education was the resource room or pullout model. A resource room was taught by a special education teacher who taught students with disabilities for as little as one period to as many as several periods per day

(Turnbull, Turnbull, Shank, & Smith, 2004). Idol (1993) discussed a variation of this model, the Resource/Consultation Model (R/CT). Within the R/CT, two types of services were provided. The student received direct services in the resource room and indirect services in the form of consultation services in the general education classroom. The R/CT worked well at the elementary level but became more difficult to carry out as students moved into middle and high schools. Within a middle school and even at the high school level, general curriculum was presented to students with disabilities in a pullout model. This meant that the special education teacher delivered instruction in the general curriculum for certain subjects, usually language arts and mathematics. At the middle school level, the consultation with general education teachers was easier than at the high school level simply because of the size of the school and the number of teachers that could teach students with disabilities.

Self-contained classrooms were another model used to provide services to students with disabilities. The students were placed in a special education classroom with a special education teacher for the majority of the day (Turnbull, et al., 2004). Four of the most pressing of these issues in support of self-contained classrooms were (1) the amount of time the general education teacher had to spend instructing and disciplining the student(s) with disabilities in the general education classroom, (2) the disruption of the learning process by a student with a disability, (3) the curricular modifications that needed to be made by the general education teacher, and (4) the nature and severity of the disability of the child with special needs (Anderegg & Vergason, 1996). The decision in *Daniel R. R. v. El Paso* (1990) was that individualizing placement was appropriate

according to IDEA when the education of other children was effected by the amount of time the general education teacher spent with the student with a disability.

Principal Support

Once the decisions were made as to the structure of special education services, principals were expected to support the faculty and staff servicing students with disabilities (Goor, et al., 1997). The passage of NCLB and the reform of IDEA also brought many issues to light in special education. First, a larger number of students with disabilities were being placed and educated in general education classes (Click-Orchard, 2004; Villa & Thousand, 2005). Second, the role of the special education teacher changed from one of process, in which the teaching process was emphasized, to one of outcome and accountability, where test scores and graduation rates were determined to be most important (Click-Orchard). Lastly, increased numbers of students with disabilities were participating in district and state assessments in greater numbers than ever before (Click-Orchard).

Because special education was a dynamic unit that had many different aspects, faculty and staff who taught students in special education had diverse and differing needs, which may or may not be situation specific, and staff development was provided to meet these many needs. Many general education teachers did not feel confident in their ability to support inclusion (Buell, Hallam, & Camel-McCormick, 1999). Their attitudes toward inclusion and special education were improved by allowing them a voice in decisions that affected their classrooms. Coombs-Richardson and Mead (2001) found that after completing three courses in inclusive practices, general education teachers' attitudes

toward inclusion changed from either a negative standpoint to a more positive view, or from a less positive to a more positive perception than before.

Professional Development

General education teachers need professional development in many areas. In their study of general and special educators on inclusion, Buell, et al. (1999) found that general education teachers needed inservice training on topics of program modifications, adapting curriculum, assessing academic progress, developing Individualized Education Plans, managing students' behavior, and using assistive technology.

Coombs-Richardson and Mead (2001) reported on Project Inclusion, where three courses were offered to general education teachers. The courses included strategies and techniques that covered consultation and collaboration, accommodations and adaptations of academic instruction, curriculum-based and portfolio assessments, adaptations to the general curriculum, classroom organization and behavior management, and social skills instruction. All of these areas were reported to be topics in which general education teachers needed further information.

Professional development must also be provided for the special education teacher and the general education teacher together to help make the collaborative process successful (Gerber & Popp, 2000). The two teachers learned to plan instruction, manage classroom behavior, and work together as a team so that the classroom ran smoothly and was a productive place for learning. They also learned about the different delivery models for co-teaching and how to identify each teacher's role within the classroom.

In addition to learning about co-teaching, special education teachers also need professional development in many areas. Dudzinski, Roszmann-Millican and Shank

(2000) suggested additional training was needed in the areas of curriculum, teaching strategies and advanced pedagogy, collaboration, and knowledge of special education.

Special education teachers should also be able to take their knowledge and experience and use it to mentor beginning special education teachers (Lloyd, Wood & Moreno, 2000). Experienced special education teachers needed staff development in this area in order to work effectively with beginning special education teachers. Mentor teachers needed to be skilled at working with adults, communication, evaluation, and sharing ideas that could help the beginning special education teacher (Lloyd, et al., 2000).

Beginning special education teachers needed a strong induction program that includes mentoring and a variety of professional development topics. Young, Crain, and McCullough (1993) suggested seminars in scheduling and organization. Topics for staff development also included student motivation, diversity, assessment, communication with parents, materials and supplies, time management, stress management, and technology. David (2000) also made suggestions for staff development for beginning special education teachers. Recommendations included classroom management, behavior management, developing instruction, organizing instruction, and adjusting instruction.

Another group of employees who needed professional development was special education paraprofessionals (Drecktrah, 2000). Paraprofessionals were staff members, who worked with students in special education, that have very little or no training concerning students with disabilities before beginning to work with them. Paraprofessionals needed professional development to understand students with disabilities, manage their behavior, work with assistive technology, manage medical

procedures that were performed in the classroom, and work with parents and other education professionals.

A final group that needed professional development in special education was administrators (Goor, et al., 1997). Administrators set the climate in schools, and their attitude can affect how the school reacts to special education and inclusion. Staff development was provided to help administrators understand the purpose of and the need for special education services, inclusion, classroom management and discipline, the referral-to-placement process, management of records and confidentiality, parent involvement, cultural diversity, technology, collaborative planning and decision making, effective teacher support, and the selection of appropriate personnel to work with students with disabilities.

The role of the administrator has changed with respect to the inclusion of students with disabilities into general education (Boscardin, 2005). If inclusion was to be successful for students with disabilities, then time must be given to faculty and staff to plan for instruction and to collaborate to provide appropriate services for students with disabilities (DeBettencourt, 1999). Improvements must be made to curriculum, instruction, and assessment (Villa, Thousand, Nevin, & Liston, 2005). Villa, et al. found that six themes for best practices emerged from their interviews with secondary educators. These themes included administrative support, ongoing professional development, collaboration, communication, instructional responsiveness, and expanding authentic assessment approaches.

Purpose of the Study

The purpose of the study was to determine to what extent middle school principals had knowledge of special education and to determine to what extent they applied their knowledge to school structure and support of the special education program in their middle schools. Also, this study examined which school and personal variables, if any, determined which principals were most and least innovative, as defined by Rogers (2003), related to the structure and support of faculty and staff who service students in special education. The principals' knowledge and application of the knowledge were analyzed to determine if school or personal variables had any effect on the results. If the structure and support were as prescribed in the Individuals with Disabilities Education Act, then students with disabilities should have the opportunity to improve their post-school outcomes.

Statement of the Problem

Blackorby and Wagner (1996) described the findings from the National Longitudinal Transition Study (NLTS) that told of the postsecondary education, employment and wages, and residential independence of youth with disabilities in the first five years after high school. The findings of the study concluded that students with disabilities attended postsecondary education at a lower rate than students in the general population. Students with disabilities also were reported to lag "significantly behind the employment rate of youth in the general population" (Blackorby & Wagner, p. 402). Finally, the study also found that residential independence of students with disabilities was lower than that of students in the general population. Although reasonable rationales

were found for some of these differences, the results may have been an indicator that special education programs were not preparing students with disabilities for postsecondary life.

Therefore, the problem addressed in this qualitative and quantitative study was the role of public middle school principals in the education of students with disabilities. Specifically, what middle school principals know about structuring and supporting the special education program at their schools and how they applied their knowledge were studied.

Research Questions

Questions guiding the research were as follows:

1. What knowledge of special education legislation and policies do Florida middle school principals have regarding the structure and support of personnel who work with students with disabilities?
2. To what extent do Florida middle school principals report that they apply their knowledge to the structure of special education services and support of personnel who work with students with disabilities?
3. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with varying school demographics?
4. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with regard to personal variables?

5. To what extent, if any, will the innovativeness, as defined by Rogers (2003), of Florida public middle school principals be related to school and personal variables?

Definition of Terms

The following definitions were included to clarify terms used in the proposed study:

Collaboration – An ongoing style of professional interaction in which people voluntarily engage in shared program planning, implementation, evaluation, and overall program accountability (Bauwens & Hourcade, 1995).

Collaborative Consultation – An interactive process that enables groups of people with diverse expertise to generate creative solutions to mutually defined problems (Idol, Nevin, & Paolucci-Whitcomb, 2000)

Consultation – A structured series of interactions or problem-solving steps that occur between two or more individuals (Sugai & Tendal, 1993).

Cooperative Teaching (Co-Teaching) – An educational approach in which general and special educators work in a co-active and coordinated fashion to jointly teach heterogeneous groups of students in educationally integrated settings (Bauwens, Hourcade, & Friend, 1989).

General Education Class – Students who receive special education and related services outside of the general education classroom for less than 21% of the school day (Office of Special Education Programs, 1997).

Innovativeness – The degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than the other members in a system (Rogers, 2003).

Institute of Small and Rural Districts (ISRD) - Agency within the Northeast Florida Educational Consortium that supports district-level and school-based administrators in the area of special education. Thirty-four Florida school districts are served by the ISRD. (Institute of Small and Rural Districts, 2007).

Large District – A school district with more than 25,000 to 99,999 students (U. S. Department of Education, 2002).

Large School – A school that has a population of over 1,200 students.

Medium District – A school district with 10,000 to 24,999 students (U. S. Department of Education, 2002).

Medium School – A school that has a population of 800 and 1,200 students.

Resource Room – Students receiving special education and related services outside the general education classroom for from 21% to 60% of the school day (Office of Special Education Programs, 1997).

Rural School – Schools that have a majority of students attending who are from rural communities.

Separate Class – Students who receive special education and related services outside of the general education classroom for more than 60% of the school day (Office of Special Education Programs, 1997).

Separate School – Students who receive special education and related services in separate day schools (more than 50% of the school day), residential facilities (more than

50% of the school day), or homebound/hospital environments (Office of Special Education Programs, 1997).

Small District – A school district with fewer than 10,000 students (U. S. Department of Education, 2002).

Small School – A school that has a population of fewer than 800 students.

Special Education – Specially designed instruction that meets the unusual needs of an exceptional student (Hallahan & Kauffman, 2003).

Suburban School – A school that has a majority of students attending who live in suburban communities.

Urban School – A school that has a majority of students attending who live in urban communities.

Very Large District – A school district with 100,000 students or more (U. S. Department of Education, 2002).

Methodology

Each principal's knowledge of special education legislation and policies was compared with the self-reported practices used at each school, as well as with the other principals within and across school categories (small, medium or large, and rural, suburban or urban). Two totals were calculated, one for knowledge of structure (knowledge total) and support, and the other for application of knowledge of structure and support (application total). Each school size (small, medium, or large) and type (rural, suburban, or urban) were compared to determine if there was a significant difference between the level of knowledge and the application of that knowledge of the

principals. Additionally, the middle school principals' scores were compared to determine if district size, years of experience as a principal, years since completing educational leadership certification, area of teaching certification, personal experience with special education, gender, number and classification of students with disabilities, types of services offered at the school, and when the principal had most recently made a change to the special education program had any significance with respect to knowledge of special education and application of that knowledge. Finally, principals were asked to identify the primary sources of information for structuring, supporting and providing staff development for the special education program at their schools, and what the last change was to their special education program, and what future changes were planned for the upcoming school year.

A second analysis was performed as to each principal's innovativeness in structuring special education services and supporting the faculty and staff who served the students in special education at their school. The knowledge total and the application total were added together for a combined total as a measure of innovativeness and were analyzed to see if school and personal variables would explain any difference between the most and least innovative principals. Innovativeness was determined by a higher total on the combined total in the areas of structure of special education programs, and support of faculty and staff serving students in special education.

Population

A sample of one-hundred three Florida public middle school principals was used from twenty-six districts throughout the state of Florida. The middle schools were stratified into small, medium, or large schools depending on population size of the

student body. Only middle schools with grades six, seven, and eight were chosen. Twenty-six districts granted permission to contact their middle school principals and were selected based on their locations within the state of Florida and varying sizes of the districts (very large, large, medium, and small).

Instrumentation

A questionnaire, based on current research (Table 1 p. 19), was developed by the author that measured each principal's knowledge of special education legislation and policies in the areas of department structure, teacher support and staff development. These data were compared with the reported application of that knowledge in the school setting. Each knowledge item had a corresponding application item. The knowledge item response categories were: "strongly agree," "agree," "neither agree or disagree," "disagree," and "strongly disagree." The application item categories were: "almost always," "often," "sometimes," "seldom," and "almost never." Not all items were expected to be answered in the affirmative. The remaining items addressed various personal and school demographics.

The self-reported questionnaire, entitled *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs*, was reviewed by a professor of special education to determine content validity. Once the professor provided feedback, the questionnaire was edited. Then, the self-reported questionnaire was reviewed by a graduate class in special education. Additional adjustments were made to the self-reported questionnaire based on the recommendations received from the class.

Table 1: Questionnaire Research

Research Question	Questionnaire Item(s)	Research Support
R.Q.1. What knowledge of special education legislation and policies do Florida middle school principals have regarding the structure and support of personnel who work with students with disabilities?	Structure: 1, 2, 3, 4, 5, 6, 7 and 8 Support: 9, 10, 11, 12, 13, 14, 15, and 16	Item 1 and 8: Education for All Handicapped Children Act (P.L. 94-142, 1975) Item 2: Klingner, Vaughn, Hughes, Schumm, & Elbaum (1998) Item 3: Individuals with Disabilities Act (IDEA; 2004), No Child Left Behind Act (NCLB; 2001), and Villa, et al. (2005) Item 4: Gerber & Popp (2000) Items 5, 6, 7, 9, 12, and 14: Council for Exceptional Children (CEC) & National Association of Elementary School Principals (NAESP; 2001) Item 10: CEC & NAESP (2001), DeBettencourt (1999) and Gerber & Popp (2000) Item 11: Buell, et al. (1999), Coombs-Richardson, et. al. (2001), Dudzinski, et al. (2000), & Gerber & Popp (2000) Item 13: DeBettencourt (1999) Item 15: Buell, et al. (1999) Item 16: Young, Crain, and McCullough (1993)
R.Q.2. To what extent do Florida middle school principals apply their knowledge to the structure of special education services and support of personnel who work with students with disabilities? and R.Q.5. To what extent, if any, will the innovativeness of Florida public middle school principals be related to school and personal variables?	Structure: 17, 18, 19, 20, 21, 22, 23, and 24 Support: 25, 26, 27, 28, 29, 30, 31, and 32	Item 17: P.L. 94-142 (1975) Item 18: Klingner, et al. (1998) Item 19: IDEA (2004), NCLB (2001), and Villa, et al. (2005) Item 20: Gerber & Popp (2000) Items 21, 22, 23, 25, 28, and 30: CEC & NAESP (2001) Item 26: CEC & NAESP (2001), DeBettencourt (1999), and Gerber & Popp (2000) Item 27: Buell, et al. (1999), Coombs-Richardson, et al. (2001), Dudzinski, et al. (2000), & Gerber & Popp (2000) Item 29: DeBettencourt (1999) Item 31: Buell, et al. (1999) Item 32: Young, et al. (1993)
R.Q.3. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with varying school demographics? and R.Q.4. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with regard to personal variables?	Structure: 1, 2, 3, 4, 5, 6, 7, 8, 17, 18, 19, 20, 21, 22, 23, and 24 Support: 9, 10, 11, 12, 13, 14, 15, 16, 25, 26, 27, 28, 29, 30, 31, and 32	As referenced above.

Data Collection and Analysis

The principals of the middle schools were surveyed via the Internet using SurveyMonkey.com©. The five step method, as described by Dillman (2000), was used to contact the principals. The first contact was sent via U.S. Postal Service. The purpose of this contact was to introduce the study and inform the principal that an email with a link would be sent within the next few days. The second contact was sent via email and included the link to the electronic questionnaire. The third contact was sent via email, and its purpose was to remind the principal to complete the questionnaire. A link to the questionnaire was included in this email. If the principal had not responded after the first three contacts, then a paper questionnaire was mailed with a self-addressed envelope asking the principal to respond to the questionnaire. If there was still no response, a fifth contact was sent via email in a last effort to evoke a response. Once the questionnaire was completed, a thank-you for completing the questionnaire and participating in the study was sent via email.

The data were analyzed using the Statistical Package for Social Sciences (SPSS) 15.0. The various groups of data were analyzed to determine the differences, if any, between the groups and what effect the stated variables had on knowledge, application, and innovativeness. Responses for items 1 through 16 were assigned a numerical value. Beginning with "strongly agree" and ending with "strongly disagree", the values descended from five to one. Then the items that were anticipated to be answered in the negative had their values reversed appropriately. These values were added together to determine the knowledge total. Responses for items 17 through 32 were also assigned

numerical values. Beginning with "almost always" and ending with "almost never", the values descended from five to one. After reversing the items that a negative response was anticipated, the values were also added together to determine the application total. Items 33 through 53 were the school and personal variables. The items that had categories had a value assigned to each category, and the items that were reported in years had the total number of years calculated.

A Cross Tabulation was performed to analyze the difference, if any, between each knowledge/application pair of items. A Paired t-test was performed to analyze the knowledge total and the application total to see if there was a significant difference between the two values for each questionnaire. Then an Analysis of Variance (ANOVA) was performed to determine which of the school variables and/or personal variables accounted for the differences. Next, the knowledge score and the application score were added together to determine the combined total and were analyzed to see which principals were most and least innovative. An Independent Groups t-test was performed to see if the most and least innovative principals differed significantly, and another Cross Tabulation was performed to see which school variables and/or personal variables, if any, were common to the most innovative and the least innovative principals.

Assumptions

The specific assumptions made in this study were:

1. The principal was the primary decision maker as to the structure and support of the special education department in a school.
2. Each school served students in special education.

3. The principal was the person who completed the questionnaire.

4. The principals reported truthfully on the questionnaire.

Significance of the Study

The significance of the study was that data as to principals' knowledge and application of that knowledge structuring the special education program and supporting the faculty and staff who serve the students in the special education program at their schools had not been collected and analyzed. Additionally, data had not been collected and analyzed to determine principals' innovativeness in special education. This information added to the literature of how inclusion was being implemented at the time of the study in Florida public middle schools in the light of the new federal laws.

Organization of the Study

Chapter One introduced the problem and gave a brief overview of the study. Chapter Two presents a review of literature pertaining to the structure and support needed by special education departments and personnel, and the importance of the role of the principal in making decisions with regard to special education program within a school. Chapter Three describes the methodology used to collect data. Chapter Four presents the data analysis, and Chapter Five discusses the findings and implications of the study and recommendations for further study.

CHAPTER 2: REVIEW OF LITERATURE

Introduction

The success of a special education program at the school-based level depends largely on the beliefs, knowledge, and skills of the principal (Goor, Schwenn, & Boyer, 1997). The principal's attitude toward the special education program can influence the decisions made in structuring the services provided in the special education program and the support given to the personnel who work within the program. According to Goor, et al., principals must examine their beliefs in order to determine if they are accepting of inclusive paradigms. Effective principals believe that all children can learn and accept all children as part of the school community. They also believe that teachers can teach a wide range of students and can be responsible for all students' learning. Finally, effective principals believe that the education of all the students in their school is their responsibility.

In addition to understanding their belief system, Goor, et al. (1997), stated that effective principals seek information to ensure that all the activities being accomplished in their school are meeting the legal mandates of special education and are in alignment with researched-based practices. Principals need to consider the impact of disabilities on student performance by providing instructional feedback to teachers, encouraging teachers to use effective classroom management and discipline strategies, providing teachers with the appropriate materials for students with disabilities, and helping teachers to provide a supportive learning environment for all students (Goor, et al., 1997).

Goor, et al. (1997), also stated that effective principals have full knowledge of the referral-to-placement process, the management of records, the confidentiality of student information, discipline procedures, cultural diversity, technological advances, and parent involvement. Additionally, the principal should participate in the selection of general education teachers, special education teachers, and paraprofessionals who will work with students with disabilities.

Effective principals also need skills in the areas of collaborative planning and decision making (Goor, et al., 1997). A collaborative principal recognized the impact of disability on students, parents, teachers, and other staff, was an effective listener, was a good problem solver, and had established trust throughout the school by exhibiting understanding and honesty. A climate of openness, experimentation, and change also was established within the school.

Coordination of effective teacher support was also part of the effective principal's repertoire of strategies (Goor, et al., 1997). A mentoring program was essential to the success of beginning teachers, and time was provided for collaboration and meetings. Also, appropriate staff development was provided in order to introduce new instructional strategies and techniques. Staff development included both new and experienced teachers and addressed topics that helped improve teachers' attitudes, skills, and knowledge. Staff development was provided to both general education and special education teachers together because students in special education belonged to all teachers.

Finally, effective principals were reflective (Goor, et al., 1997). They reviewed their decisions, acknowledged the possibility that better decisions might be made,

changed decisions if necessary, and incorporated new ways of responding to future decisions. Goor, et al. suggested the following steps in order to aid in a reflective thinking process: 1) Pause and question the decision; 2) solicit input from the people involved; 3) process the information to clarify the issues; 4) scrutinize personal values; 5) examine the intent by focusing on the goals specific to the situation; and 6) decide whether to maintain, revise, or replace the decision that was made.

In the next several pages, the researcher examined the results of research on inclusion and the effects that principals had on structuring and supporting the special education program within their schools. The review began with a brief history of general and special education legislation. Then, practices for structuring a special education program were discussed which included various service delivery models such as consultation, cooperative teaching, and issues surrounding inclusion. Next, strategies for supporting teachers and staff were discussed which included topics such as scheduling, planning time, and mentoring. Finally, suggested staff development topics for teachers and staff who service students in special education programs were described.

The research questions to be answered were:

1. What knowledge of special education legislation and policies do Florida middle school principals have regarding the structure and support of personnel who work with students with disabilities?
2. To what extent do Florida middle school principals report that they apply their knowledge to the structure of special education services and support of personnel who work with students with disabilities?

3. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with varying school demographics?
4. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with regard to personal variables?
5. To what extent, if any, will the innovativeness, as defined by Rogers (2003), of Florida public middle school principals be related to school and personal variables?

Therefore, the review of literature was divided into five sections: (a) History of Special Education in the U.S.; (b) Program Structure; (c) Principal Support; (d) Staff Development; and (e) Outcomes for Students with Disabilities.

History of Special Education in the United States

Special education began officially with the passage of the Education of All Handicapped Children Act in 1975 (P.L. 94-142; Gaddy, McNulty, & Waters, 2002). Prior to 1975, few students with disabilities were allowed in public education. The Act provided a free appropriate public education for all children with disabilities ages five to twenty-one in the least restrictive environment. The law was renamed the Individual with Disabilities Education Act (IDEA) in 1990, and in November, 2004, the Individuals with Disabilities Education Improvement Act, which reformed IDEA, was passed. With the last reauthorizations, congress began to bring IDEA into alignment with the provisions of No Child Left Behind Act (NCLB) of 2001 (Gaddy, et al.). The implications of this reauthorization called for teachers, staff, and school-based administrators to be flexible as

the structure of special education programs change. With the current laws in place, secondary principals should support and guide the personnel providing services within the special education program at their school (Goor, et al., 1997). This support and guidance was important because Furney, Hasazi, and Destefano (1997) reported that the decisions regarding the implementation of the laws could greatly affect the post-school outcomes of students with disabilities.

With the alignment of IDEA and NCLB, a new opportunity for dramatically and positively influencing the education of millions of American students has presented a challenge to all educators (Gaddy, et al., 2002). Changes in how special education programs were viewed needed to be addressed. "Special education should be an integrated component of school improvement rather than a separate program" (p. 2). Gaddy, et al. called for increased flexible funding, continued local accountability for students' progress, a learning-focused accountability system to monitor student progress over time, and ongoing professional development for all educators that develops knowledge and skills needed to serve students with disabilities. A benefit to aligning the policies and procedures of IDEA and NCLB was that students with disabilities were better served in both the short and long term. Gaddy, et al. also called for shifting the focus from processing students to teaching students with disabilities. Additionally, the Individualized Education Plan needed to be reconceptualized so that accommodations in curricula, instruction and assessment were clearly defined rather than providing services that were unrelated to improve student outcomes.

Because of the changing focus to educational outcomes, the role of the school-based administrator changed. According to Boscardin (2005), "secondary building level

administrators are challenged to redefine their roles in ways that promote positive results for students with disabilities through evidence-based instruction" (p. 23). The challenge was for secondary school administrators to redefine their leadership role in order to transform the dual system of general and special education administration. A distributed system of leadership needed to be developed so that collaborative supports could be used to achieve school-wide improvements for students with disabilities. Boscardin called for school-based administrators to become the instructional leaders within their schools. Once accomplished, administrators could then use their leadership strategies in problem-solving to establish effective research-based instructional strategies that could improve educational outcomes for all students.

After the passage of NCLB, Hehir (2005) discussed the issue of access to the general curriculum for students with disabilities. He stated that the primary focus for principals to consider in making decisions about access to and intervention in the general curriculum should be integration into the general education environment. Another focus stated was that high standards should be promoted for students with disabilities. Additionally, Hehir stated that removal from the general education environment should only occur when important learning goals could not be met. He finally stated that social integration was important, and that students with disabilities should develop and use the skills and modes of expression that were most efficient and effective for them.

In an article about ways middle and secondary schools improved curricula, instruction, and assessment practices and have reorganized to increase collaboration and responsiveness to all students, Villa, Thousand, Nevin, and Liston (2005), described prominently used instructional strategies, reorganization strategies, and best practices that

emerged from interviews on inclusion. Instructional strategies included differentiated instruction, interdisciplinary curriculum, use of technology, student collaboration and peer-mediated instruction, supports and accommodations for curricular inclusion, teaching responsibility, peace-making and self determination, and authentic assessment for student performance. In addition to the instructional strategies, four reorganization strategies were also discussed. These included extended block scheduling, detracking through heterogeneous grouping, multiple instructional agents in the classroom, and administrative leadership.

Finally, Villa, et al. (2005) described six themes that became apparent during interviews with inclusive educators. Overall, the secondary educators interviewed were steadfast in their belief of the value of inclusive education. The first theme discussed was administrative support. Many interviewees reported that strong leadership skills were imperative to the success of inclusion. Ongoing professional development was the second theme discussed. The topics suggested were universal lesson plan design, differentiated instruction, and methods for resolving differences. Also suggested were visitations to inclusive school sights in order to gain and exchange instructional and organizational strategies. The third theme discussed was collaboration which included reorganization of teachers and students into interdisciplinary configurations that would help to counter the tendency of special education teachers to take on too much responsibility. The fourth theme was communication which was found to be the foundation of trust needed for co-teaching. Instructional responsiveness was the fifth theme and described that teachers should focus on the individual learning needs of all students. The interviewees felt that deeper thinking about engaging all students and

increased sensitivity to the emotional, academic, and physical needs of all students could lead to increased student success. The final theme described the use of expanded authentic assessment approaches. Authentic assessments gave the teachers an understanding of student learning and focused on the whole child rather than just test scores. The authors concluded that what worked well in the past will work well for others in the future.

Program Structure

Each special education program should be structured according to the needs of the students served within the program. Gerber and Popp (2000) stated that a continuum of services should exist for each special education program. This continuum should include self-contained classes, resource rooms, and other mainstreaming environments. Each student's Individual Education Plan (IEP) specifies the services and supports the student's needs to be provided by the school. In accordance with the Individuals with Disabilities Education Act (IDEA), Hardman, Drew, and Egan (2005) discussed a continuum of placement for students with disabilities. The continuum of placements ranked placements from the most inclusive to the most restrictive. Level I on the continuum placed students with disabilities in the general education classroom with no additional or specialized assistance. Level II placed students with disabilities in the general education classroom with the special education teacher playing a consultative role. The special education teacher provides assistance to the general education teacher. Level III placed students with disabilities in the general education classroom for the majority of the day, but they attended special education resource rooms for specialized

instruction in their areas of need. Level IV placed students with disabilities in the special education classroom for the majority of the day. The students still attend the local general education school and only attend general education classes in areas that are consonant with their abilities. Level V placed students with disabilities in full-time special education classes that are located in the general education school. Level VI placed students with disabilities in separate day schools for students with special needs, and Level VII educated students with disabilities through a hospital/homebound instructional program. Table 2 summarizes the Levels of the continuum of placements described by Hardman, et al. (p. 35).

Table 2: Levels of the Continuum of Placements

Level	Description of Placement
I	"Students placed in general classroom; no additional or specialized assistance."
II	"Student placed in general classroom; the special education teacher in the consultative role provides assistance to classroom teacher."
III	"Student placed in general classroom for majority of school day; attends special education resource room for specialized instruction in areas of need."
IV	"Student placed in special education class for majority of school day; attends general class in subject areas consonant with capabilities."
V	"Student placed in full-time special education class in general education school."
VI	"Student placed in separate school for children with special needs."
VII	"Student educated through homebound or hospital instructional program."

Consultation Services

As part of Level II (See Table 2 p. 31), Sugai and Tendal (1993) defined consultation as "a structured series of interactions or problem-solving steps that occur between two or more individuals" (p. 7). When a student with disabilities received consultation services, usually the special education teacher (the consultant) and the general education teacher (the consultee) met on a regular basis to discuss the progress and any problems the student with a disability (the client) was having within the general education setting. The student with a disability usually did not receive any direct services from the special education teacher, and the general education teacher carried out any solutions determined in the meeting between the two teachers.

Collaborative consultation was another service model offered to students with disabilities. Idol, Nevin, and Paolucci-Whitcomb (1994) defined collaborative consultation as "an interactive process that enables groups of people with diverse expertise to generate creative solutions to mutually defined problems" (p. 1). Dettmer, Dyck, and Thurston (1996) described the key elements for defining the roles of the participants if collaborative consultation was to be successful. First, the participants must be carefully prepared for their roles as collaborators. This preparation included pre-service and in-service training or an advanced degree in a specific field of expertise. Second, each participant's role must be delineated. Clarification, parity, and the expectations for each role must be determined. Third, the framework in which the participants must work was decided. The participants determine the structure, resources, and management of the services. Finally, the service program must be evaluated.

Assessment of the program, involvement in the program, and acceptance of the program must all be decided before the services could be delivered.

Collaborative consultation services were recommended by Stainback, Stainback, and Ayres (1996). They suggested that services needed by students with disabilities could be provided within the general education classroom. The needed services were taken by the special education teacher to the student rather than the student being taken to the services. Stainback, et al. also stated this type of service delivery allowed for collaboration between general education teachers and other service providers. This, in turn, encouraged both the teachers and the service providers to work cooperatively together to meet the individual needs of students with disabilities.

Cooperative Teaching

Between Levels II and III (See Table 2 p. 31), the cooperative teaching model, also called co-teaching, was a service delivery model where a general education teacher and a special education teacher teach both students with and without disabilities in the general education classroom (Bauwens & Hourcade, 1995). Dieker and Barnett (1996) stated the purpose of co-teaching was to "allow general educators and special educators to combine their expertise to meet the needs of all students" (p. 5). Co-teaching has been used at both the elementary and secondary levels in K-12 education (Dieker & Barnett) and should be continued from the elementary level through the middle and high school levels (Gerber & Popp, 2000).

Hourcade and Bauwens (2001) described three different structures for co-teaching in the general education classroom. In the first structure, a general education teacher and a special education teacher taught and collaborated together to meet the needs of all

students in the class. In the second structure, a general education teacher and a paraprofessional worked together to teach the class. In the third structure, all three educators, a general education teacher, a special education teacher and a paraprofessional worked together to cooperatively meet the needs of all students.

Vaughn, Schumm, and Arguelles (1997) described five models of co-teaching. The first model was "one group – one lead teacher, one teacher 'teaching on purpose'" (p. 5). In this model, one teacher led the lesson while the other teacher gave 1-5 minute lessons to individual students or small groups of students. The second model was "two groups: two teachers teach the same content" (p. 5). The students were divided into two heterogeneous groups, and both teachers taught the same content. The third model was "two groups: one teacher re-teaches, one teacher teaches alternative information" (p. 5). The students were divided into two groups based on their knowledge and skill levels and taught the appropriate topic. The fourth model was "multiple groups: two teachers monitor/teach; content may vary" (p. 9). This model was much like using learning centers or cooperative groups where the teachers monitored and taught mini-lessons to the small groups of students. The last model was "one group: two teachers teach same content" (p. 9). In this model, both teachers conducted the lesson at the same time to the class as a whole. This final model was difficult to implement and was challenging for teachers learning to co-teach.

Three approaches to implementing co-teaching were discussed by Bauwens and Hourcade (1997). Team-teaching was an approach where two teachers planned and presented academic content jointly. The material was presented as clearly and concisely as possible. At different times, both teachers assumed the primary responsibility for

types of instruction and portions of curriculum. The second approach discussed was supportive learning activities. The co-teachers identified, developed, and led student activities designed to enhance learning for all students. The third approach was complementary instruction. During this approach, one teacher maintained primary responsibility for teaching the content, and the other teacher took responsibility for teaching functional, how-to skills such as note-taking, analysis, or identifying the main idea.

Some issues of concern for teachers and administrators who were considering implementing co-teaching are scheduling of students, ownership of the classroom, grading, communication with students and parents, and planning and planning time (Vaughn, et al.). Dyck, Sundbye, and Pemberton (1997) suggested the Interactive Lesson Planning Model. This model of planning was different from the standard linear planning model used by most teachers. The interactive model allowed planning for objectives, activities, and assessments concurrently depending on the classroom situation. Considerations used while planning were what all or almost all students would learn, what most students would learn, and what some individual students would learn. This model assisted with differentiation of curriculum and made accommodations and modifications for students with disabilities within the classroom.

Walther-Thomas (1997) conducted a 3-year study in both elementary and middle schools where co-teaching had been implemented. Both teachers and administrators were observed and interviewed. The benefits found for students with disabilities were increased self-confidence and self-esteem, increased academic performance, improved social skills performance, and improved peer relationships. The benefits for general

education students were increased academic performance, increased teacher time and attention, improved strategies and study skills instruction, improved social skills development, and the development of an inclusive classroom community. The benefits for general and special education teachers included increased professional satisfaction, increased professional growth, increased collaboration among faculty members, and additional personal support.

Mastropieri, et al. (2005) conducted four case studies at various grade levels and in various content subjects to determine what factors contributed to the success or failure of co-teaching. The results yielded three themes that contribute to the successful outcomes from co-teaching. The first was Academic Content. When both teachers possessed a working knowledge of the subject matter, a more equal partnership resulted. When the special education teacher did not possess a working knowledge of the subject matter, the special education teacher usually took a role as teacher's aide. High-Stakes Testing was another theme that emerged from this study. When high-stakes testing was strongly emphasized, the teachers believed that content coverage was a priority over implementation of other pedagogical features. The final theme that emerged was Co-Teacher Compatibility. When the relationship between the co-teachers was compatible, then co-teaching was considered successful. These teachers usually practiced effective teaching behaviors such as enthusiasm, motivational strategies, maximizing student time-on-task, and structure. They also had compatible perspectives on effective teaching. These included planning, behavior management, and teacher-student interactions. The authors concluded that these variables interacted strongly with the success of co-teaching.

In a study of students with and without learning disabilities and their parents' perspectives about co-teaching, Gerber and Popp (1999) found that both students with and without disabilities liked co-teaching. The students without disabilities felt that they could get help more easily, their grades were reported to be better, and they felt more sure of themselves in the collaborative teaching classes. The students with learning disabilities reported better grades, and they felt more organized in the collaborative classes. The parents of both the students with and without learning disabilities liked the collaborative teaching classes also. Most parents and students wanted to continue with co-teaching in subsequent years of school. Although disadvantages were reported, the advantages far outweighed them.

In another study where students were surveyed, Wilson and Michaels (2006) found that both the students with and without disabilities had overall positive perceptions of co-teaching. The general benefits of co-teaching that were found to be helpful for students were that help was readily available to students, flexible and diverse instructional approaches were used, multiple perceptions and styles were presented in the class, and skills and grades improved. Although drawbacks were also found, the authors concluded that the benefits far outweighed the drawbacks.

Klingner, Vaughn, Hughes, Schumm, and Elbaum (1998) conducted a study at one school to determine the outcomes in reading and mathematics of students with and without disabilities in inclusive classrooms. Teachers received professional development in instructional strategies for reading and writing. Klingner, et al., found that some students did make gains, while others did not. With respect to the students with learning disabilities, the authors concluded that inclusive full-time placement in the general

education classroom with in-class support from a special education teacher may not be adequate to meet the needs of all students with learning disabilities especially those that were the lowest achieving.

Resource Rooms

Gerber and Popp (2000) stated that special education programs should include resource rooms as a part on the continuum of services offered. This model falls into Level III on Hardman, Drew, and Egan's (2005) continuum of placements for students with disabilities. Students at the elementary level were pulled out of the general education classroom to the resource room to receive services directly from the special education teacher in specific academic and/or social skills (Olson & Platt, 1996). The focus of this instruction was usually spelled out in the student's IEP. When the student finished with instruction in the resource room, he or she was sent back to the general education classroom. At the secondary level, Olson, et al., stated that the resource room teacher was responsible for providing direct services to the student and may also be responsible for assessments and consultation.

Mercer and Mercer (1998) stated that many students with learning problems spent the majority of their day in the general education classroom and only went to the resource room for a specified period of time each day. Three categories of resource room programs were described. The first category was the categorical program that only served students with learning disabilities. The second category was cross-categorical which served students with disabilities from different classification categories such as educable mentally handicapped, emotionally handicapped, and learning disabilities. The

third category described was noncategorical programs that met the educational needs of all students whether they were classified as disabled or not.

Smith (2004) reported that some research supported the effectiveness of resource room services in improving on-task behaviors and the rate of achievement of the students served in them. Smith also reported several disadvantages associated with pulling students out of the general education classroom to resource rooms. The disadvantages to students with disabilities included lack of generalization of skills from the resource room to the general classroom, missing valuable instruction in the general education classroom, missing enjoyable activities such as music, art, or physical education, and feeling stigmatized for leaving the general education classroom to receive special education services. Also, the general education teacher and the special education teacher may fail to coordinate instruction.

Idol (1993) described a variation of this model, the Resource/Consultation Model (R/CT). Within the R/CT, two types of services were provided. The student received direct services in the resource room, and indirect services in the form of consultation services in the general education classroom. The R/CT worked well at the elementary level but became more difficult to implement as students moved into middle and high schools. Within a middle school and even at the high school level, general curriculum was presented to students with disabilities in a pullout model. This meant that the special education teacher delivered instruction in the general curriculum for certain subjects, usually language arts and math. At the middle school level, the consultation with general education teachers was easier than at the high school level simply because of the size of the school and the number of teachers that can teach students with disabilities.

Deshler and Schumaker (1986) developed a set of task-specific learning strategies that were to be used as an instructional alternative for students with disabilities. Called the Strategy Intervention Model (SIM), the learning strategies were divided into three strands. Strand One included strategies for acquiring information such as Self-Questioning Strategy, Word Identification Strategy, Visual Imagery Strategy, and Paraphrasing Strategy. Strand Two included strategies for identifying and storing important information such as First-Letter Mnemonic Strategy, and Paired-Associates Strategy. Strand Three included strategies for facilitating written expression such as The Sentence Writing Strategy, The Paragraph Writing Strategy, and the Error Monitoring Strategy.

Additional strategies have been added and were found to be a large part of the Learning Strategies class taught in Florida middle and high schools (Florida Department of Education, 1999). Students with disabilities have been taught these and other strategies in a resource room setting for many years.

Self-Contained Classrooms

The students with disabilities who were placed in a special education classroom for the majority of the day were said to be educated in a self-contained classroom. This model fell into Levels IV and V on the continuum of placement suggested by Hardman, Drew, and Egan (2005). Gerber and Popp (2000) suggested that self-contained classrooms should be included in the continuum of services offered in each special education program. Although there were many good reasons for not separating students from the general population, Anderegg and Vergason (1996) suggested four of the most pressing of issues concerning including students with moderate and severe disabilities in

the general education classroom were (1) the amount of time the general education teacher would have to spend instructing and disciplining the student(s) with disabilities in the general education classroom, (2) the disruption of the learning process by a student with a disability, (3) the curricular modifications that need to be made by the general education teacher, and (4) the nature and severity of the disability of the child with special needs. The decision in *Daniel R. R. v. El Paso* (1990) found that individualizing placement of students with disabilities in self-contained classrooms was appropriate according to IDEA when the education of other children was effected by the amount of time the general education teacher spent with the student with a disability.

Lieberman (1996) stated that there were students who may need special education placement that is completely outside the general education classroom. He cited several reasons for this that included a need by students for instruction in highly specialized skills by specially trained teachers, a need by the students for alternatives to the academic curriculum, a need by students who require an inordinate amount of time and attention for instruction from the regular education teacher, a need by students for the support of other students like themselves, a need by students to succeed that would not take place in the general education classroom, and a need by students to have a pipeline to additional social services that may extend throughout their lifetime. In his conclusion, Lieberman stated that some students with disabilities should not be in regular classrooms and that the continuum of services must be preserved. This resolution was based on the ability of students and their parents to choose the appropriate educational placement for themselves, and to determine what was most advantageous for the future of the students.

Platt and Olson, (1997) discussed the importance of functional curriculum for students with disabilities who needed to focus on life skills. Functional curriculum was especially important at the secondary level. A functional curriculum included skills and learning experiences in the areas of personal/social, daily independent living, and occupational adjustment. Functional curriculum emphasized practical, real world skills that were relevant to post-school living.

The review of literature, to this point, has addressed the structure of the special education program. This information supported the first half of Research Question 1 and Research Question 2 that referred to structure. In addition, the first half of the items in the questionnaire for both the knowledge section and the application section all address the various aspects of structure previously discussed.

Principal Support

Administrative support was very important to the success of any special education program (Walther-Thomas, 1997). In a meta-analysis of twenty-eight investigations in which general education teachers were surveyed regarding their perceptions on inclusion, Scruggs and Mastropeiri (1996) found several implications for practice. These included additional time per day for planning for students with disabilities, additional ongoing training, additional personnel resources such as part-time aids and daily contact with special education teachers, additional materials resources such as classroom equipment and adequate curriculum materials, and reduced class size to fewer than twenty students. Teachers also felt that the severity of the student's disability should be considered before placing the student in general classes because the general education teachers perceived

that they would not be able to carry out instruction for the entire class. The authors stated that the needs may be greater for secondary teachers than for elementary teachers and concluded that the success of inclusion efforts may depend on these needs and supports being made available within the school setting.

Kirch, Bragerhuff, Turner, and Wheatly (2005) conducted a study about the CLASS Project (Creating Laboratory Access for Science Students). The project offered training and resources to help teachers include students with disabilities in their science classes. A survey and questionnaire were administered to the participants and the results found there was a need for additional professional development opportunities among science teachers. Also included in the results was the need for time to reflect on practice and time to talk to and work with students with disabilities.

In the study conducted by Walther-Thomas, specific problem areas for the participants persisted throughout the three years of the study. All were reported to be in areas under administrative control. The teachers felt they needed additional planning time included in their schedule. Most teachers reported that they needed at least one additional hour of planning time per week with their partner teacher. Another problem was student scheduling. Because thoughtful consideration was required in scheduling the students into co-taught classes, hand scheduling was needed instead of the use of computers to randomly assign students. A third concern was the special education teachers' caseloads. This led to less support for general education teachers in the areas of co-teaching and consultation. Finally, administrative support was found to be a problem. In schools where the principals were actively involved in the development of new special

education programs, those schools seemed to do better over time than did the schools where the principals were not involved.

In a study conducted to proffer a set of recommendations to improve co-teaching, Gerber and Popp (2000) found four administrative issues. Strategic scheduling was found to be crucial to the success of the collaborative teaching model. The second issue was found to be planning time. The authors stated that effective collaborative teaching was predicated on planning time. The third issue was voluntary participation by teachers. Allowing teachers to voluntarily participate in collaborative teaching helped to counter the resistance that occurred during change. The final issue was program evaluation, and the authors stated that collaborative teaching should be evaluated formally and systematically on an annual basis.

As with other studies, DeBettencourt (1999) also found that additional time for consultation and collaboration was needed. The results of the study measuring general education teachers' attitudes toward inclusion indicated that general education teachers spent less than one hour per week with special education teachers. The author suggested that an increase in consulting time for general education teachers might increase their use of instructional strategies.

Smith and Leonard (2005) conducted a study where general education teachers, special education teachers, and principals were observed and interviewed to examine the inherent challenges in implementing school inclusion programs. The authors concluded that because sustained professional interactions between general and special education teachers were necessary in order for school inclusion to be successful, the principals needed to be facilitators of a collaborative vision. The implications for education from

this study suggested that the roles and responsibilities of both general and special education teachers needed to be clarified, and that both needed to realize that they were responsible for the instruction of all students. Another implication was that general and special education teachers needed to develop positive attitudes toward the inclusion initiative. This was the most important condition for the success or failure of inclusion, and principals played a key role in fostering the positive attitudes within a school. A third implication from this study suggested that teachers needed to develop collaborative skills and the ability to problem solve with each other. The principal was a source of support by modeling collaborative decision-making and encouraged collaborative teaming skills in teachers. Teachers should be encouraged to brainstorm and share decision-making responsibilities during the change process, and principals should empower teachers to participate in these activities.

Also, the principal's commitment to professional growth was found to be critical for student achievement in diverse, inclusive schools (Smith & Leonard, 2005). Principals should capitalize on professional development opportunities for teachers and provide opportunities for ongoing professional development that is personal, practical, and provides on-the-job assistance. Finally, the principal's role in the facilitation of the collaborative school environment extended to becoming cognizant of available resources, both human and material, and making decisions regarding the application of those resources to meet the needs of all students. Thus, the collaborative school environment led to teachers feeling less stressed and less overworked.

In addition to studying the outcomes of students with disabilities after leaving high school, the National Longitudinal Transition Study – 2 (NLTS2) investigated the

supports given to general education teachers (Newman, 2006). The NLTS2 studied to what extent general education teachers received six types of support in schools for general education/ inclusion placement options for students with disabilities. Consultation was the most common support found in that 97% of the students with disabilities attended schools that provided consultation services to general education teachers. Teacher aids, instructional assistants, or aides for individual students were reported to be found in 84% of the schools attended by students with disabilities. Special equipment and materials were found in 79% of the schools, and inservice training on the needs of students in special education was found in 71% of the schools. Co-teaching or team teaching was found in 60% of the schools attended by students with disabilities, and a smaller student load or class size was found in almost 32% of the schools. In addition, the authors found that inservice training, smaller classes or student caseloads, or co-teaching or team teaching were all more common at the high school level than the middle school level.

Kerrins (1995) discussed teacher-centered induction experiences for new teachers. New teachers needed both instructional and emotional support in order to establish and maintain classroom order. The author discussed specific areas of support such as how the school operates, how to use instructional resources and materials, mentors, help with classroom management and room arrangement, and opportunities to observe experienced teachers.

David (2000) described the Mattoon Beginning Teacher Mentoring Program which was a collaborative staff-development project that included both mentoring and support seminars for beginning teachers. The program was intended to speed up learning

of new instructional strategies, reduce the stress of transition, improve instructional performance through modeling, attract new teachers, promote socialization of new teachers, and alert new teachers to the cultural norms of the school. In the program, the mentors were divided into in-service cohorts, and they were released from their teaching duties for one and one-half days to receive training from the coordinator. Then many of the mentors were paired with new teachers a week before school began in the fall. The mentors were trained in the areas of observation methods, feedback sessions, and conference procedures with the new teachers.

In a meta-analysis of other studies that focused on supporting beginning special education teachers, Whitaker (2001) found that this group of teachers needed support to transfer their learning from theory to practice and lacked the preparation for many of the demands and difficulties found in the classroom. Whitaker found that beginning special education teachers needed support finding time to plan instruction, ideas for instruction, and information on district policies and procedures. The teachers also needed support emotionally and support adjusting to their role within the teaching environment. One way this support was provided was through a high-quality induction program that included both mentoring and targeted professional development. The recommendations for supporting beginning special education teachers included facilitating the application of knowledge and skills, conveying advanced knowledge and skills, assisting timely acculturation to the school climate, reducing stress and enhancing job satisfaction, and participating in a mentoring program.

The role of the mentor played an important role in supporting the beginning special education teacher (Whitaker, 2001). The author suggested that the mentor should

stop by and check on their beginning special education teacher, schedule longer meetings at least once a month, introduce the new teacher to other staff members, introduce available materials and resources, and provide an orientation to the school environment. Additionally, the mentor teacher arranged for the new teacher to observe other experienced teachers and discuss the observations with the new teacher. The mentor also observed the new teacher and provided feedback in the form of follow-up discussions. The mentor teacher also assisted the beginning special education teachers with special education, school, and district policies, procedures, and paperwork. Most importantly, the mentor teacher provided encouragement to the beginning special education teacher.

Also administrators were involved in planning the induction and mentoring program (Whitaker, 2001). The administrator matched good experienced special education teachers as mentors to support new special education teachers, arranged time for the teachers to meet and work together, provided staff development for both the mentor and new teachers, arranged for observation time, observed the new teacher and provided feedback, provided a handbook of policies and procedures, made the demands placed on the new teachers reasonable, made resources available to the new teacher, made the new teachers feel a part of the school, and provided support in dealings with other staff, parents, and students.

Boyer and Gillespie (2000) also found that an induction program and mentors were needed to support beginning special education teachers. The mentors were special education teachers who met frequently with the new teacher to provide emotional and informational support. This required release time for the new teachers in order to observe and communicate with experienced special education teachers.

Staff Development

General Education Teachers

Under the current IDEA, inclusion of students with disabilities in general education classrooms is no longer an option (Coombs-Richardson & Mead, 2001). With exposure to the general curriculum for students with disabilities being the goal, staff development for general education teachers must be provided. Coombs-Richardson and Mead stated that students with disabilities were being placed in general education classrooms, and general education teachers felt unable to fulfill the task of inclusion. Staff development in special education would enable general education teachers to meet the needs of all students in their classroom (Buell, Hallam & Camel-McCormick, 1999). Gerber and Popp (2000) found in their study of how to improve collaborative teaching that teachers who volunteer to participate in the collaborative teaching model needed training in the areas of instructional skills, interpersonal skills, team-building, mentoring, problem-solving, conflict resolution, learning strategies, and accommodations and modifications to the general curriculum.

Coombs-Richardson and Mead (2001) reported on the results of Project Inclusion. A two year project, funded by the Louisiana Education Quality Support Fund, consisted of three courses that were taught to help improve general education teachers' attitudes about students with disabilities who were included in the general education classroom. The first course focused on strategies for consultation and collaboration. The second course presented strategies and procedures to help teachers make accommodations to the general curriculum and adaptations to academic instruction. The third class addressed classroom organization and behavior management strategies. Also, teaching social skills

was included in this course. Once the courses were completed, a twelve item interview consisting of open-ended questions was conducted. In addition to the interview, a survey was sent at the end of the project. The results indicated that all teachers felt prepared to individualize instructions for students with disabilities and to accept them into their classrooms.

Buell, et al. (1999) surveyed both general and special education teachers with regard to inclusion of students with disabilities in the general education classroom. Staff development topics indicated by the general education teachers were program modification, assessing academic progress, adapting curriculum, managing students' behavior, developing IEPs and using assistive technology.

DeBettencourt (1999) studied general education teachers' attitudes about inclusion. The results indicated that more attitude and awareness training concerning students with disabilities was needed for general education teachers. Additional topics suggested for training included strategy training for accommodating diverse student populations, collaborative problem-solving, time management skills, and instructional strategies to encourage active, metacognitive, independent and interdependent learning on the part of students.

Masten, Stacks and Priest (1999) conducted a study where teachers received training as part of the intervention studied. The authors found that the teachers in the experimental group used significantly more strategies during instruction in the inclusive setting. The topics included during a three-hour workshop were cognitive reading strategies such as pre-reading, during-reading and post-reading strategies, KWL, prediction/anticipation guides, chapter warm-ups, vocabulary drills, and graphic

organizers. During the second phase of the training, teachers received training in areas that included outlining, note-taking, self-questioning strategies, using study cards, framed paragraphs, and essay structure guides.

Experienced Special Education Teachers

Dudzinski, Roszmann-Millican and Shank (2000) discussed the areas that experienced special education teachers needed to continue their professional development. The authors examined the National Commission of Teaching and America's Future, and found that teachers needed a comprehensive continuum from initial preparation through continuing professional development. The report suggested that continuing professional development for experienced special education teachers should be school-based, embedded into teachers' workdays, promote school-wide improvement, include activities where teachers teach each other, and be included as a regular part of the school year. They suggested that experienced special education teachers needed professional development in the areas of advanced pedagogy and content knowledge, knowledge of special education changes, student needs and outcomes, collaboration, planning, documentation, problem-solving, peer coaching and mentoring, and researched-based teaching strategies.

Lloyd, Wood, and Moreno (2000) stated that special education teachers should also be able to take their knowledge and use it to mentor beginning special education teachers. Experienced special education teachers needed staff development in this area in order to work effectively with beginning special education teachers. Mentor teachers needed to be skilled at working with adults, communication, evaluation, and sharing

ideas that can help beginning special education teachers. These were all areas for advanced staff development.

In the discussion of mentoring programs for beginning special education teachers, Whitaker (2001) emphasized that mentor teachers needed staff development in being a mentor. Staff development topics included the role of the mentor, the needs of the new teachers both general and special, strategies for providing assistance, observation and conferencing techniques, and suggestions for scheduling mentoring activities.

New Teachers

Young, Crain and McCullough (1993) described how the Performance Enhancement Model could support beginning teachers by the use of planning time, mentors, seminars, coaching, networking and celebrating. They discussed themes for the seminars such as student motivation, diversity, testing and assessment, communication with parents, classroom organization, and insufficient materials and supplies. Topics included establishing a relationship with mentors, fitting in, time management, stress management, technology, and quality schools/reality therapy.

During the discussion of the Mattoon Beginning Teacher Mentoring Program, David (2000) outlined the following training objectives: room organization, materials organization, developing rules and procedures, monitoring student progress, setting consequences, planning first week activities, maintaining management systems, developing instruction, organizing instruction, and adjusting instruction for special groups.

According to White and Mason (2001), new teachers wanted training in writing individualized education programs, curriculum and teaching, behavior management,

special education paperwork, and problems with specific students. The authors also suggested training in the areas of classroom assessments, assertive communication, working with parents and other educators, time management, organizational skills, understanding special education regulation, and differentiated instruction.

Whitaker (2001) discussed many staff development topics that should be included in a high-quality induction program for beginning special education teachers. These topics included classroom discipline, classroom organization, planning, organizing, and managing instruction, assessing students, motivating students, effective teaching methods, dealing with student diversity, and communication.

Boyer and Gillespie (2000) also listed several staff development topics that should be included for new special education teachers as part of an induction program. These included understanding special education laws and procedures and their implications on students with disabilities, developing accommodations and modification to the general curriculum, developing professional relationships with paraprofessionals, clarifying issues surrounding inclusion and the school culture, using assistive technology, providing medical procedures required by students with disabilities, documenting student progress toward IEP goals, and collecting data on challenging student behaviors. Other topics discussed were developing IEPs, behavior management, differentiating instruction, reflective practices, and coordinating test results with instructional methods.

Paraprofessionals

Drecktrah (2000) suggested that paraprofessionals needed training in special education. These staff members have very little training or no training at all before coming to work with students with disabilities. Areas recommended for training included

how to understand students with disabilities, managing their behavior, working with assistive technology, managing medical procedures that are performed in the classroom, and working with parents and other education professionals.

Riggs (2001), conducted a survey of 200 paraprofessionals, collected evaluation forms with open-ended questions from 150 paraprofessionals, and interviewed 20 paraprofessionals to determine what areas of training were needed in order for the paraprofessionals to work successfully with students with disabilities. Training topics included knowledge of specific disabilities, behavior management, and working with other adults. Inclusion was also a focus for training. Inclusive practices, special education law, use of computers, confidentiality, health and safety, and implementing accommodations were all suggested as topics for training for paraprofessionals.

Guidance Counselors

Guidance counselors need staff development in special education. Gerber and Popp (2000) found that guidance counselors should receive training about the goals and specific objectives of collaborative teaching, in formulating the master schedule, and on the impact that the growth of class size has on the progress of the student in the collaborative classes.

Administrators

A final group that needs staff development in special education is administrators (Goor, Schwenn & Boyer, 1997). According to Goor, et al., administrators set the climate in schools, and their attitude can affect how the school reacts to special education

and inclusion. Staff development should be provided to help administrators understand the purpose of and the need for special education services.

Additionally, administrators should have knowledge of and essential skills to administer special education (Goor, et al., 1997). The authors suggested that administrators should understand the reasons and procedures for referral, assessment, placement, and parent involvement in the IEP process. Another vital area of which administrators must have knowledge and strategies was discipline. In 2004, the Individuals with Disabilities Education Act clarified the discipline procedures for students with disabilities. Because of these changes, it has become even now more important for administrators to understand these procedures and carry them out appropriately. By doing so, mediation and litigation will be avoided.

Gerber and Popp (2000) found in their study of the collaborative teaching model that new administrators should be trained in the many facets of the program. Access to the same training teachers received built a knowledge base and helped develop the skills needed to support the collaborative teaching model.

The review of literature in the previous two sections has addressed the support of the special education program. This information supported the second half of Research Question 1 and Research Question 2 that referred to support. In addition, the second half of the items in the questionnaire for both the knowledge section and the application section all address the various aspects of support previously discussed.

Outcomes for Students with Disabilities

The number of students included in general education classrooms varies from state to state (McLeskey, & Henry, 1999; McLeskey, Henry, & Hodges, 1998) and across disability category (McLeskey, Henry, & Hodges, 1999). Blackorby and Wagner (1996) described the findings from the National Longitudinal Transition Study (NLTS) that told of the postsecondary education, employment and wages, and residential independence of youth with disabilities in the first five years after high school. The findings of the study concluded that students with disabilities attended postsecondary education at a lower rate than students in the general population. Students with disabilities also were reported to lag "significantly behind the employment rate of youth in the general population" (Blackorby & Wagner, p. 402). Finally, the study also found that residential independence of students with disabilities was also lower than that of students in the general population. Although reasonable rationales were found for some of these differences, the results may have been indicators that special education programs were not preparing students with disabilities for postsecondary life.

In 2001, the U.S. Department of Education, Institute of Educational Sciences, National Center for Special Education began the National Longitudinal Transition Study-2 (NLTS2). Wagner, Newman, Cameto, Levine, and Garza (2006) reported on early postschool experiences of youth with disabilities. The findings of Wave 2 of the NLTS2 found that 28 percent of the youth with disabilities who were in secondary school in 2001 were no longer attending high school. Seventy-two percent of these school leavers completed high school by graduating or receiving a certificate of completion. The other 28 percent did not complete high school. The majority of school leavers with

disabilities were in the categories of learning disability, mental retardation, speech or other health impairment, or traumatic brain injury. The lowest completion rate was found for the category of emotional disturbance at only 56 percent.

In the up-to-two-years after leaving high school, almost 80 percent of the youth with disabilities had engaged in postsecondary employment (Wagner, et al., 2006). Almost 30 percent of the youth with disabilities had been enrolled in some kind of postsecondary education, but about 75 percent of the youth with disabilities were still living at home with their parents. The NTLS2 is ongoing and will continue to report on the experiences of this sample of youth with disabilities as they age.

Lipsky (2005) discussed three foci in the area of special education. The author asked and answered three questions. The first question addressed access to education for all students with disabilities. The answer was yes, we have access to education for all students with disabilities. The second question addressed achieving quality outcomes for students with disabilities. The answer to this question was no, we have not achieved quality outcomes for students with disabilities. The author cited that students with disabilities continued to be placed in classes outside the general education classroom; standardized test scores, graduation rates, and dropout rates showed little improvement; unemployment rates among adults with disabilities were unchanged; and federal funding for special education was still less than half the amount that was projected. The third question addressed achieving a unitary inclusive system of education. The answer to this question was also no. NCLB and IDEA had many of the same goals such as an emphasis on access to the general curriculum, a focus on learning outcomes, and participation of most students with disabilities in state assessments. Additionally, NCLB and IDEA

expressed a preference that students with disabilities be educated with their nondisabled peers, emphasized parental involvement and choice, emphasized the importance of highly qualified teachers, and called for standards-based reforms. In spite of all these reforms, Lipsky stated we still have a long way to go. The author called for strong leadership, quality teachers, challenging curriculum, differentiated instruction, careful and regular assessments, engaging parents and the community, and a focus on meeting standards and achievement outcomes.

In a study of the Inclusive School Program (ISP), Waldron and McKeskey (1998) reported that students with learning disabilities in the ISP made significantly more progress in reading and comparable progress in math than students who were provided services in a resource room. Many of the students with mild learning disabilities in the ISP also made comparable progress with the students without disabilities in reading. Concern for students with severe learning disabilities was expressed by the authors, and they concluded that placement in an inclusive classroom setting was not a panacea for all students with learning disabilities. Waldron, et al. stressed that with the available data on the success of ISPs, time should be spent developing more effective methods, materials, and programs that will be used in general education classrooms that will meet the needs of all students with disabilities.

In another study conducted at one elementary school of the academic progress of students with learning disabilities, Klingner, Vaughn, Hughes, Schumm, and Elbaum (1998) found that most of the students with learning disabilities made considerable gains over the yearlong intervention. The authors expressed concern that those students who began the year as very poor readers made little or no progress. The conclusion was that

full-time placement in a general education classroom with in-class special education support was not adequate to meet the needs of these students.

The results of patterns of post-secondary employment and independent living of adults with learning disabilities and mental retardation who graduated from an inclusionary high school vocational program revealed that 81% of the thirty-six subjects were employed within the five years after graduating from high school (Luftig & Muthert, 2005). The break down was not as encouraging for the adults with mental retardation as it was for the adults with learning disabilities. Ninety-four percent of the adults with learning disabilities were employed as opposed to only 68% of the adults with mental retardation. The results for independent living were not as encouraging for the same time period. Ninety-five percent of the adults with mental retardation and 53% of the adults with learning disabilities still lived at home with their parents. The authors concluded that vocational and independent living training for adolescents with disabilities continued to be an important goal for secondary students in special education.

Newman (2006) reported on Wave 2 of 5 of the National Longitudinal Transition Study 2 that the number of students with learning disabilities participating in general education classes increased significantly in recent years. Teachers reported that the placement of students with learning disabilities in general education classes was very appropriate and that the students with learning disabilities kept up with the rest of the classes. The teachers reported modifying the curriculum to meet the needs of the students. The majority of students with learning disabilities received passing grades in the general academic classes, however their scores of standardized assessments did not fare as well. Blackorby, Chorost, Garza, and Guzman (2003) and Marder, Wagner, and

Sumi (2003) reported that the analysis of the NTLS2 revealed that the percentage of courses students with learning disabilities take in the general education classroom was related to both their social adjustment at school and their academic performance.

Summary

Schools today have special education programs, and the school-based principals play a critical role in the success of the programs (Goor, Schwenn, & Boyer, 1997). As set forth by the Individuals with Disabilities Education Act, a continuum of placements should be offered for students placed in special education (Hardman, Drew, & Egan, 2005). Within the placements were a variety of services, such as consultation (Sugai & Tendal, 1993), co-teaching (Bauwens & Hourcade, 1995), resource rooms (Gerber & Popp, 2000), and self-contained classrooms (Gerber& Popp), which needed to be offered in order to structure the special education program at each school.

In addition, the personnel working within a special education program need administrative support (Walther-Thomas, 1997). This support includes adjustments in scheduling (DeBettencourt, 1999), mentoring (Whitaker, 2001), and professional development (Smith & Leonard, 2005). Professional development topics vary depending on the experience and position of the teacher or staff member and should include a variety of topics based on the needs of the staff members (Smith & Leonard).

The post-school outcomes for students with disabilities are not on par with their nondisabled peers (Blackorby & Wagner, 1996). Offering appropriate services to students with disabilities should help improve the post-school outcomes for students with disabilities (Lipsky, 2005). These prior findings led to the need to explore the role of the

principal in structuring and supporting the special education program in their school so that an understanding of how to improve these outcomes could continue.

Organization of the Study

Chapter 2 was a review of the literature about structuring and supporting a school-based special education program. Chapter 3 will discuss the methodology and statistical procedures used to determine principals' knowledge and application of that knowledge in the areas of structuring and supporting a school-based special education program. Chapter 4 will describe the analysis of the data gathered during data collection. Chapter 5 will summarize the data, discuss conclusions drawn from the analysis of the data, and offer recommendations for the future.

CHAPTER 3: METHODOLOGY

Introduction

The purpose of this chapter is to describe the methodology and statistical procedures used to determine principals' knowledge of special education policies, principals' application of their knowledge in structuring and supporting the special education program at each school, and the differences between knowledge and application of knowledge with regard to school demographics and personal variables. Also, the school demographics and personal variables were analyzed to determine which, if any, developed a profile for the group of principals who were most and least innovative. This study was initiated in the spring semester of 2007. The final analysis of data, conclusions, and recommendations were presented during the fall semester of 2007.

This chapter is divided into six sections. The first section discusses the problem statement. The second section describes the study's population and the selection of a sample to be surveyed. The third section describes how the data were collected. The fourth section describes the development of the questionnaire used in this study. The fifth section lists the research questions that guided this study. The sixth section describes the data analysis used in this study. This chapter concludes with a summary of the preceding six sections.

Problem Statement

The No Child Left Behind Act (2001) and the Individuals with Disabilities Education Act (2004) have changed the focus of special education with in the past few

years (Gaddy, McNulty, & Waters, 2002). Students with disabilities are being included in the general education classroom to a greater extent than ever before (Villa & Thousand, 2005). Even with the changes that have been made the debate continues as to whether to not to preserve the continuum of placement. Some experts call for the need for resource rooms and self-contained classes (Anderegg & Vergason, 1996; Smith, 2004) while others advocate for full inclusion (Stainback, Stainback, & Ayres, 1996). Postschool outcomes of students with disabilities have improved in recent years, but Lipsky (2005) stated that we have a long way to go.

Principals have been found to play a crucial, central role in how special education programs are structured and supported (Goor, Schwenn, & Boyer, 1997), but very little research has been conducted to determine principals' knowledge of special education, and how they apply their knowledge to the structure and support of the teacher and staff who service students with disabilities. Therefore, the problem addressed in this study was to first, determine what principals knew about special education policies and procedures and second, were the principals applying their knowledge when making decisions to structure and support the special education program in their schools.

Population

The population for this study was the middle school principals in the state of Florida. A sample was determined by selecting various size districts that were located throughout the state. A sample size of one-hundred middle schools was determined to be adequate for data analysis. In order to achieve the sample size, twenty-one districts were originally selected. A written proposal was sent to each school district to obtain the

district's permission to contact the middle school principals who work for each school district. Eighteen of the twenty-one districts granted permission to contact the middle school principals in their districts and three districts did not. An additional nine districts were selected in order to maintain the needed sample size. Eight of those districts granted permission and one district did not. The final sample size for this study was one hundred-three Florida middle school principals from twenty-six districts.

Data Collection

The data were collected via an electronic questionnaire on the Internet. Surveymonkey.com© was the provider used to access the questionnaire, and collect and store the responses of the participants. The Dillman (2000) five contact method was used to maximize the response rate. A letter was sent via U.S. Postal Service introducing the participants to the study (see Appendix B). A few days after receiving the letter, participants were contacted via email with the consent letter and a link to the questionnaire (see Appendix C). Also included was the password needed to gain access to the questionnaire, and a tracking code used to manage contacts with the participants. If a participant had not responded to the questionnaire within five working days, a second request was sent via email (see Appendix D). If after this second request a participant still had not responded, then a third request was sent via U.S. Postal Service within an additional five working days (see Appendix E). This contact letter included a paper copy of the questionnaire and a self-addressed, stamped, return envelope. The participant was given the choice to complete the paper questionnaire and send it back, or to complete the questionnaire online. A final request was sent, if needed, via email if a participant still

had not responded after an additional ten day period (see Appendix F). This final email was sent after the students and teachers had left for the summer break. Regardless of which request was honored by the participants, a thank you email was sent to each participant who responded to the questionnaire (see Appendix G).

Instrumentation

A self-report questionnaire was developed by the researcher to collect the data for this study. After reviewing the current literature in the areas of structuring and supporting special education programs (See Table 1 p. 19), sixteen items were written to collect data on the principals' knowledge. Items 1 – 8 addressed principals' knowledge of the structure of special education programs and items 9 – 16 addressed principals' knowledge of supporting the personnel who served students with disabilities. Items 1 – 16 required a response of either "strongly agree," "agree," "neither agree nor disagree," "disagree," or "strongly disagree." A matching set of sixteen items were then written to collect data on the application of principals' knowledge. Items 17 – 24 addressed the structure of the special education program at each school, and items 25 – 32 addressed the support provided to the personnel who served students with disabilities in each special education program. Items 17 – 32 required a response of either "almost always," "often," "sometimes," "seldom," or "almost never." Each knowledge item had a one-to one correspondence with an application item which aided in data analysis. For example, Item 1 corresponded to Item 17, Item 2 corresponded to Item 18, and so forth. Six items (Items 3, 4, 6, 7, 11, and 12) in the knowledge section and their five of the six corresponding application items (Items 19, 20, 22, 23, and 27) were written with answers

that were expected to be negative. The remaining twenty-one items (Items 33 – 53) in the questionnaire addressed personal demographics and school variables.

The questionnaire, entitled *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs* (see Appendix A), was sent to a professor of special education to be read for content validity. The questionnaire was edited based on the professor's input. Next the questionnaire was tested in a graduate level special education class. The students and professor took the questionnaire and made comments for improvements. The knowledge items were analyzed for correctness, and adjustments to the wording of the items were made to three items based on the results of this analysis.

Once the questionnaire was finalized, permission for the use of human subjects was granted by the University of Central Florida's Institutional Review Board (UCFIRB) (see Appendix H). Then the questionnaire was formatted for Internet use on Surveymonkey.com©.

Research Questions

Questions that guided the research were as follows:

1. What knowledge of special education legislation and policies do Florida middle school principals have regarding the structure and support of personnel who work with students with disabilities?
2. To what extent do Florida middle school principals report that they apply their knowledge to the structure of special education services and support of personnel who work with students with disabilities?

3. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with varying school demographics?
4. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with regard to personal variables?
5. To what extent, if any, will the innovativeness, as defined by Rogers (2003), of Florida public middle school principals be related to school and personal variables?

Data Analysis

The data were downloaded into the Statistical Package for Social Sciences (SPSS) 15.0 for analysis. Items 1 – 16 were assigned value on a Likert scale: 5 – strongly agree, 4 – agree, 3 – neither agree nor disagree, 2 – disagree, and 1 – strongly disagree. Items 17 – 32 were also assigned values on a Likert scale: 5 – almost always, 4 – often, 3 – sometimes, 2 – seldom, and 1 – almost never. The six knowledge items and five application items with expected negative responses were then reversed. For items 33 – 38 and 42 – 50, numerical values were assigned to the demographic data and some of the categories were collapsed into one category when there were few or no responses in the category. For items 39 – 41, the number of years was calculated, as well as mean and standard deviation. Categories were also created for these items. Item 45 yielded multiple answers and each answer category was given a one for yes or a two for no which resulted in eleven additional items. Items 51 and 52 were open-ended items and were assigned values based on the answers provided. A one was assigned if the change related to the structure of the program, a two was assigned if the change was related to the

support of the personnel, and a three was assigned if the change related to both structure and support. Item 53 identified the person completing the questionnaire, and the categories provided were assigned values. An additional item was added for each respondent that related to the district's participation in the Institute of Small and Rural Districts (ISRD). These data were available from the state of Florida.

Data Analysis of Research Question 1

In order to answer Research Question 1 which asked, what knowledge of special education legislation and policies do Florida middle school principals have regarding the structure and support of personnel who work with students with disabilities as measured by *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs*, items 1 – 16 were analyzed. A reliability test was run to determine the correlation between these items, and each item response was analyzed to determine agreement with the expected response. The item responses for each questionnaire were then totaled, and the total value was designated the knowledge total. Next, the knowledge totals were graphed to determine their distribution.

Data Analysis of Research Question 2

In order to answer Research Question 2 which asked, to what extent do Florida middle school principals report that they apply their knowledge to the structure of special education services and support of personnel who work with students with disabilities as measured by *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs*, items 17 – 32 were analyzed. A reliability test was also run on these items to determine if the item responses correlated to

each other. Each response was then analyzed for agreement with the expected response. Next, the item responses were then totaled for each questionnaire, and the total value was designated the application total. Next, the application totals were graphed to determine their distribution.

Data Analysis of Research Question 3

In order to answer Research Question 3 which asked, what are the differences in knowledge and application of that knowledge, if any, among middle school principals with varying school demographics as measured by *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs*, several data analyses were performed. First, a correlation was run to determine if the knowledge and application responses correlated. Second, a Cross Tabulation was preformed to analyze the difference in responses, if any, between each knowledge/application pair of items. Next, a Paired t-test was performed to analyze the knowledge total and the application total to see if there was a significant difference between the two values for each questionnaire. Then, an Analysis of Variance (ANOVA) was performed on the knowledge total to determine which of the school variables (Items 44 – 50), if any, explained the differences in the knowledge totals. Finally, the knowledge total and the application total for each questionnaire were added together to obtain the combined total. The combined totals were then graphed to determine their distribution and another ANOVA was performed to determine which school variables, if any, explained the differences among the combined totals.

Data Analysis of Research Question 4

In order to answer Research Question 4 which asked, what are the differences in knowledge and application of that knowledge, if any, among middle school principals with regard to personal variables as measured by *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs*, another Analysis of Variance (ANOVA) was performed on the knowledge total. The ANOVA determined which personal variables (Items 33 – 43 and items 51 – 52) explained the differences, if any, in the knowledge totals. A final ANOVA was performed on the combined totals to determine which personal variables, if any, explained the differences among the combined totals.

Data Analysis of Research Question 5

In order to answer Research Question 5 which asked, to what extent, if any, will the innovativeness, as defined by Rogers (2003) of Florida public middle school principals be related to school and personal variables as measured by *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs*, the combined totals were ranked from highest to lowest and two groups were determined. The first group was the most innovative principals, and the second was the least innovative principals. Innovativeness was determined by a high combined total which showed high knowledge and high application of knowledge. An Independent Groups t-test was performed to determine if there was a statistically significant difference between the two groups. Next, another Cross Tabulation was performed, and the results analyzed to see of which school variables and personal variables were common, if any, to the groups of most and least innovative principals.

Summary

This chapter outlined the methodology and procedures used to determine principals' knowledge of policies and procedures in special education, the application of that knowledge to the special education program at their school, and what school and personal variables may account for any differences that were detected. Also described were the procedures used to determine which school and personal variables, if any, were common to the groups of most and least innovative principals.

The chapter began with a discussion of the problem addressed by the study and the population used in the study. Next, the methodology used to collect the data, and development and structure of the questionnaire were discussed. Finally, the research questions that guide the study were listed, and the data analyses that were performed to answer each research question were described.

Organization of the Study

Chapter 4 presents the analysis of the results of the statistical tests that were performed on the data. Chapter 5 summarizes the results of this study, discusses conclusions drawn form the results, and makes recommendations for future research.

CHAPTER 4: ANALYSIS OF DATA

Introduction

This qualitative and quantitative study was developed to gather data about what knowledge middle school principals had when structuring the special education program in their schools, and what knowledge they had when supporting the personnel who work with students with disabilities. Also, data were gathered about how middle school principals apply their knowledge to the special education program at their schools. The self-reported principals' knowledge of structure and support was compared to the self-reported application of the knowledge in their schools to see if there was a difference between the two. Additionally, the data were analyzed to determine which, if any, of the reported school and personal demographic variables explained any of the difference. Finally, the data were analyzed to determine if there was a difference in combined totals between principals with the highest combined knowledge and application totals and principals with the lowest combined knowledge and application totals, and if any of the school and personal demographic variables explained that difference.

This study was intended to add to the literature about educational leadership and special education. Five research questions guided this study. They were:

1. What knowledge of special education legislation and policies do Florida middle school principals have regarding the structure and support of personnel who work with students with disabilities?

2. To what extent do Florida middle school principals report that they apply their knowledge to the structure of special education services and support of personnel who work with students with disabilities?
3. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with varying school demographics?
4. What are the differences in knowledge and application of that knowledge, if any, among middle school principals with regard to personal variables?
5. To what extent, if any, will the innovativeness, as defined by Rogers (2003), of Florida public middle school principals be related to school and personal variables?

The principals' knowledge and application of their knowledge were measured using the self-reporting questionnaire entitled *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs.* This questionnaire was created by the author and was based on current research practices in educational leadership and special education.

Chapter 4 has been divided into six sections. The first section describes the sample's demographic variables. The second section describes the data analysis for research question one, and the remaining four sections describe the data analysis for the remaining four research questions. The data were obtained from the responses from the self-reported questionnaire mentioned above.

Population and Sample Demographic Characteristics

The population of this study was the public middle school principals in the state of Florida. One-hundred three principals were chosen as a sample from twenty-six school districts. Of the one-hundred three principals contacted, seventy-seven responded. Four of the responses stated that the principal did not wish to participate at this time. Of the remaining seventy-three responses, one was incomplete. The remaining seventy-two complete questionnaires yielded a final usable response rate of 70%. Of the seventy-two responses, 80.5% (n=58) were completed electronically through Surveymonkey.com©, and 19.5% (n=24) were completed using a paper questionnaire and returned via the U.S. Postal Service. The respondents reported that 93.1% (n=67) of the questionnaires were completed by the principal of the school, 1.4% (n=1) reported that someone other than the principal completed the questionnaire, and 5.6% (n=4) did not report who completed the questionnaire.

School Demographics

The demographic variables that related to each school are reported in this section. Two demographic variables related to the district in which the school was located. All seventy-two principals reported the size of the district in which they worked. Twenty-six and four tenths percent (n=19) of the principals reported they worked in small districts (fewer than 10,000 students), 25% (n=18) reported they worked in a medium size district (10,000 to 24,999 students), 25% (n=18) reported they worked in a large district (25,000 to 99,999 students), and 23.6% (n=17) reported they worked in a very large district (100,000 or more students). Additionally, seventy of the principals' responses were

analyzed to determine whether or not their schools were located in a district that belonged to the Institute of Small and Rural Districts (ISRD). Thirty-seven and one tenth percent (n=26) of the schools were located in districts that were part of the ISRD and 62.9% (n=44) of the schools were not located in districts that were part of the ISRD. See Table 3 for a summary of these data.

Table 3: School Demographic Variables - District Variables

Variable	Small	Medium	Large	Very Large	Total
District Size	26.4% (n=19)	25% (n=18)	25% (n=18)	23.6% (n=17)	100% (n=72)
	Yes	No			Total
ISRD District	37.1% (n=26)	62.9% (n=44)			100% (n=70)

The remaining school demographic variables related to different characteristics of specific schools. The next three variables described the school in general. Only seventy-one of the principals reported the type of school in which they worked. Twenty-three and nine tenths percent (n=17) of the principals reported they worked in urban schools, 32.4% (n=23) reported they worked in suburban schools, and 43.7% (n=31) reported they worked in rural schools. See Table 4 for this information.

Table 4: School Type

Urban	Suburban	Rural	Total
23.9% (n=17)	32.4% (n=23)	43.7% (n=31)	100% (n=71)

Also, all seventy-two principals reported the size of the school in which they worked. Forty-one and seven tenths percent (n=30) of the principals reported they worked in a small school (fewer than 800 students), 41.7% (n=30) reported they worked in a medium size school (800 to 1,200 students), and 16.6% (n=12) reported they worked in a large school (more than 1,200 students). See Table 5 for these data.

Table 5: School Size

Small	Medium	Large	Total
41.7% (n=30)	41.7% (n=30)	16.6% (n=12)	100% (n=72)

Finally, seventy-one principals reported the percentage of students who receive free or reduced price lunches in their school. Four and two tenths percent (n=3) reported that greater than 90% of the students in their school received free or reduced price lunches, 11.3% (n=8) reported 75% to 90% of the students in their school received free or reduced price lunches, 33.8% (n=24) reported 50% to 74% of the students in their school received free or reduced price lunches, 39.4% (n=28) reported 25% to 49% of the students in their school received free or reduced price lunches, and 11.3% (n=8) reported

less than 25% of the students in their school received free or reduced price lunches. See Table 6 for a summary of these data.

Table 6: Number of Students who Receive Free or Reduced Price Lunches

> 90%	75% to 90%	50% to 74%	25% to 49%	< 25%	Total
4.2% (n=3)	11.3% (n=8)	33.8% (n=24)	39.4% (n=28)	11.3% (n=8)	100% (n=71)

The next two variables described the population of students with disabilities attending each school. Only seventy-one of the principals reported the number of students with disabilities who attended their school. Nine and nine tenths percent (n=7) reported having fewer than 50 students with disabilities attending their school, 16.9% (n=12) reported having 50 to 100 students with disabilities, 28.1% (n=20) reported having 101 to 150 students with disabilities, 21.1% (n=15) reported having 151 to 200 students with disabilities, 14.1% (n=10) reported having 201 to 250 students with disabilities, and 9.9% (n=7) reported having more than 250 students with disabilities. See Table 7 for a summary of these data.

Table 7: Percent of Students with Disabilities

< 50	50-100	101-150	151-200	201-250	> 250	Total
9.9% (n=7)	16.9% (n=12)	28.1% (n=20)	21.1% (n=15)	14.1% (n=10)	9.9% (n=7)	100% (n=71)

Also, only sixty-nine of the principals reported the type of students with disabilities they served at their school. Eighteen and nine tenths percent (n=13) of the principals reported their school served only students with mild disabilities, 47.8% (n=33) reported their school served students with mild and moderate disabilities, and 33.3% (n=23) reported their school served students with mild, moderate, and severe disabilities. See Table 8 for a summary of these data.

Table 8: Types of Disabilities

Mild	Mild and Moderate	Mild, Moderate and Severe	Total
18.9% (n=13)	47.8% (n=33)	33.3% (n=23)	100% (n=71)

The last eleven variables addressed the types of classes and services provided to students with disabilities at each school. Seventy-one principals reported this information. One hundred percent (n=71) of the schools offered general education classes; 69.0% (n=49) offered co-teaching; 67.6% (n=48) offered resource rooms; 78.9% (n=56) offered Learning Strategies; 77.5% (n=55) offered self-contained classrooms; 94.4% (n=67) offered speech-language therapy; 70.4% (n=50) offered occupational therapy; 60.6% (n=43) offered physical therapy; 38.0% (n=27) offered adaptive physical education; 47.9% (n=34) offered nursing services; and 11.3% (n=8) reported they offered other services. See Table 9 for a summary of these data.

Table 9: Special Education Classes and Services (n=71)

	Percent	Number of Schools
General Education Classes	100%	(n=71)
Co-Teaching	69.0%	(n=49)
Resource Rooms	67.6%	(n=48)
Learning Strategies	78.9%	(n=56)
Self-Contained Classrooms	77.5%	(n=55)
Speech-Language Therapy	94.4%	(n=67)
Occupational Therapy	70.4%	(n=50)
Physical Therapy	60.6%	(n=43)
Adaptive Physical Education	38.0%	(n=27)
Nursing Services	47.9%	(n=34)
Other Services	11.3%	(n=8)

Personal and Professional Demographics

The personal demographics were self-reported by each principal and included several different characteristics that related to them, personally and professionally. The personal demographics were reported first, and the professional demographics were reported second.

All seventy-two principals responded to the gender item. Fifty percent (n=36) were female and 50% (n=36) were male, and they also all responded to the item related to their level of education. See Table 10 for these data.

Table 10: Gender

Male	Female	Total
50% (n=36)	50% (n=36)	100% (n=72)

Seventy-five percent (n=54) of the principals had master's degrees, 9.7% (n=7) had specialist degrees, and 15.3% (n=11) had doctoral degrees. See Table 11 for a summary of the highest level of education data.

Table 11: Principals' Highest Level of Education

Master's	Specialist	Doctorate	Total
75% (n=54)	9.7% (n=7)	15.3% (n=11)	100% (n=72)

Additionally, all of the principals reported how they first learned of special education. Slightly more than twenty-nine percent (n=21) had a personal experience that was their first experience with special education, 50% (n=36) first learned about special education in a college or university course, and 20.8% (n=15) first learned about special education from other sources. A summary of these data are in Table 12.

Table 12: How Principals' First Learned about Special Education

Personal Experience	College or University	Other	Total
29.2% (n=21)	50% (n=36)	20.8% (n=15)	100% (n=72)

The rest of the demographic variables pertained to the principals' professional experience in education. These characteristics have been divided into general professional experience, and leadership information and decisions pertaining to special education.

All but one principal reported the length of time as a professional educator. Slightly more than one percent (n=1) had been a professional educator for 10 or fewer years, 33.8% (n=24) had been professional educators for 11 to 20 years, 32.4% (n=23) had been professional educators for 21 to 30 years, 28.2% (n=20) had been professional educators for 31 to 40 years, and 4.2% (n=3) had been professional educators for more than 40 years.

Seventy principals reported the length of time since completing their leadership certification. More than thirty-five percent (n=25) completed their leadership certification 10 or fewer years ago, 42.9% (n=30) completed their leadership certification 11 to 20 years ago, 17.1% (n=12) completed their leadership certification 21 to 30 years ago, and 4.3% (n=3) completed their leadership certification 31 or more years ago.

Also, seventy-one principals reported the length of time they had been a principal. About fifty-six and one half percent (n=40) had been principals for 5 or fewer years, 25.4% (n=18) had been principals for 6 to 10 years, 5.6% (n=4) had been principals for 11 to 15 years, 4.2% (n=3) had been principals for 16 to 20 years, 4.2% (n=3) had been principals for 21 to 25 years, and 4.2% (n=3) had been principals for more than 25 years. Table 13 summarized the data on years of professional experience.

Table 13: Years of Professional Experience

	< 11	11-20	21-30	31-40	> 40	Total	Mean (SD)
Professional Educator	1.4% (n=1)	33.8% (n=24)	32.4% (n=23)	28.2% (n=20)	4.2% (n=3)	100% (n=71)	25.4 (9.1)

	< 11	11-20	21-30	> 30	Total	Mean (SD)
Since completing Educational Leadership Training	35.7% (n=25)	42.9% (n=30)	17.1% (n=12)	4.3% (n=3)	100% (n=70)	14.4 (7.75)

	< 6	6-10	11-15	16-20	21-25	> 25	Total	Mean (SD)
Principal Experience	56.4% (n=40)	25.4% (n=18)	5.6% (n=4)	4.2% (n=3)	4.2% (n=3)	4.2% (n=3)	100% (n=71)	7.2 (7.4)

All seventy-two principals reported the area in which they had taught before becoming a principal. More than forty-three of the respondents percent (n=31) had taught in a content area (English, mathematics, science, or social studies), 22.2% (n=16) had taught in elective subjects, 12.5% (n=9) had taught special education, 12.5% (n=9) had taught in elementary education, and 9.7% (n=7) had taught in other or multiple areas. Table 14 summarizes these data.

Table 14: Subject Area in which the Principals Taught

Content Areas	Elective	Special Education	Elementary Education	Other or Multiple	Total
43.1% (n=31)	22.2% (n=16)	12.5% (n=9)	12.5% (n=9)	9.7% (n=7)	100% (n=72)

These last data were reported by the principals regarding professional information sources and decisions in special education. All seventy-two principals reported their primary source of information for structuring their special education program, supporting the personnel who work with students in special education, and staff development related to special education topics. Regarding structure, 59.7% (n=43) of the principals reported that their primary source of information was from district personnel, 11.1% (n=8) reported their primary source was special education teachers, 5.6% (n=4) reported their primary source was professional conferences, and 23.6% (n=17) reported other sources as their primary source of information for special education. In the area of support, 70.8% (n=51) of the principals reported that their primary source of information was from district personnel, 2.8% (n=2) reported their primary source was special education teachers, 9.7% (n=7) reported their primary source was professional conferences, and 16.7% (n=12) reported other sources as their primary source of information for special education. Finally, in the area of staff development, 68% (n=49) of the principals reported that their primary source of information was from district personnel, 5.6% (n=4) reported their primary source was special education teachers, 9.7% (n=7) reported their primary source was professional conferences, and 16.7% (n=12) reported other sources as their primary source of information for special education. Table 15 contains the summary of these data.

Table 15: Professional Information Sources for Special Education

Primary Source of Information:	District Personnel	Special Education Teacher	Professional Conference	Other	Total
Structure	59.7% (n=43)	11.1% (n=8)	5.6% (n=4)	23.6% (n=17)	100% (n=72)
Support	70.8% (n=51)	2.8% (n=2)	9.7% (n=7)	16.7% (n=12)	100% (n=72)
Staff Development	68.0% (n=49)	5.6% (n=4)	9.7% (n=7)	16.7% (n=12)	100% (n=72)

Seventy-one principals reported when they made the most recent change to the special education program in their school. More than forty-two percent (n=30) made the most recent change within the year of the study (2006-2007), 28.2% (n=20) made the most recent change 1-2 school years before the study, 16.9% (n=12) made the most recent change 3-5 school years before the study, 7.0% (n=5) made the most recent change more than 5 school years before the study, and 5.6% (n=4) have never made a change to the special education program in their school. See Table 16 for a summary of these data.

Table 16: Most Recent Change to Special Education Program

Current Year	1-2 Years Prior	3-5 Years Prior	> 5 Years Prior	Never	Total
42.3% (n=30)	28.2% (n=20)	16.9% (n=12)	7.0% (n=5)	5.6% (n=4)	100% (n=71)

Slightly more than eighty percent (n=58) of the principals reported the type of last change they made in special education. Of these principals, 77.6% (n=45) reported a change in the structure of the special education program at their school, 8.6% (n=5) reported a change in support, 6.9% (n=4) reported a change in structure and support, and 6.9% (n=4) reported no change. When asked what changes they planned to make in the upcoming school year (2007-2008) to the special education program at their school, 70.8% (n=51) of the principals responded. Of those fifty-one principals, 45.0% (n=23) reported planning to make a structural change, 27.5% (n=14) reported planning to make a supportive change, 11.8% (n=6) reported planning to make both structural and supportive changes, and 15.7% (n=8) reported they planned to make no change in the upcoming school year. These data are summarized in Table 17.

Table 17: Types of Changes to Special Education Program

	Structure	Support	Structure and Support	None	Total
Recent Change	77.6% (n=45)	8.6% (n=5)	6.9% (n=4)	6.9% (n=4)	100% (n=58)
Future Change	45.0% (n=23)	27.5% (n=14)	11.8% (n=6)	15.7% (n=8)	100% (n=51)

Research Question 1

What knowledge of special education legislation and policies do Florida middle school principals have regarding the structure and support of personnel who work with students with disabilities?

The responses to the first sixteen items on the questionnaire were coded and analyzed. These items were intended to determine how knowledgeable the principals were with respect to structuring and supporting the special education program at their schools. Table 18 shows the distribution of responses.

Positive responses were expected for items 1, 2, 5, 8, 9, 10, 13, 14, 15, and 16. Negative responses were expected for items 3, 4, 6, 7, 11, and 12. Figure 1 and Figure 2 show the percentages of responses that agreed and disagreed with the expected response.

The knowledge items were totaled and analyzed to determine how knowledgeable each principal was. A mean score of 62.97, on a scale range of 5 - 80, with a standard deviation of 4.95 was found. The high score was 74 and the low score was 50. A total of 64 or above was the expected criterion to show that a principal was knowledgeable about structuring and supporting a special education program in their schools. The criterion was determined by answering at a four or higher on the sixteen items (4 x 16 = 64). Of the seventy-two principals who responded to the questionnaire, 54.2% (n=39) fell below the expected criterion for knowledgeable.

A reliability test was run on the knowledge items (alpha = .580). Item 4 was found to negatively correlate with thirteen of the remaining fifteen items. Another reliability test was run without this item and an increase in reliability was found (alpha = .653).

Table 18: Questionnaire Knowledge Item Responses

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
1. Special education services need to be provided at every school.	55	15	0	2	0	72
2. Co-teaching is a special education service delivery model that benefits students with disabilities.	29	29	10	3	1	72
3. Most students in special education need to be taught in a self-contained classroom. *	0	5	9	33	25	72
4. General education teachers need to be assigned by the principal to teach students with disabilities. *	10	26	20	13	2	71
5. Roles and responsibilities of paraprofessionals need to be clearly defined.	46	24	0	2	0	72
6. Related services personnel need to define their own roles and responsibilities. *	9	14	9	26	11	69
7. The special education programs should be staffed according to the number of allocations determined by the district. *	5	23	14	27	3	72
8. Students with disabilities need to receive instruction in the general curriculum to the greatest extent possible.	52	18	2	0	0	72
9. Special education teachers need additional time to complete paperwork.	20	37	7	7	1	72
10. General education teachers who teach students in special education need extra time for collaboration.	18	45	6	3	0	72
11. Special education teachers need the same staff development as general education teachers. *	31	26	4	11	0	72
12. Staff development about special education procedures and paperwork is unnecessary. *	0	2	2	31	37	72
13. Staff development should be provided that relates to the characteristics of students with disabilities.	37	31	1	3	0	72

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
14. General education teachers should be given time to attend staff development pertaining to special education.	30	38	2	0	1	71
15. General education teachers should be given a voice regarding decisions related to special education services that affect their classrooms.	31	31	6	4	0	72
16. Beginning special education teachers need mentors during their first year of teaching.	56	16	0	0	0	72

* Negative responses were expected to these items.

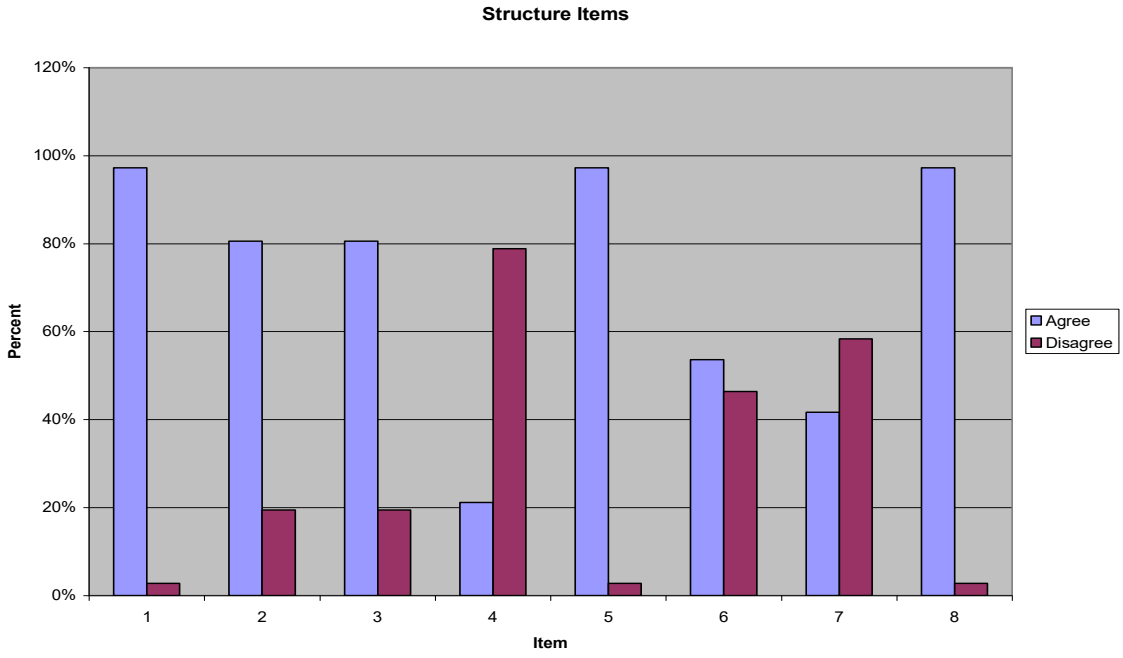

Figure 1: Knowledge of Structure Items Agreement and Disagreement

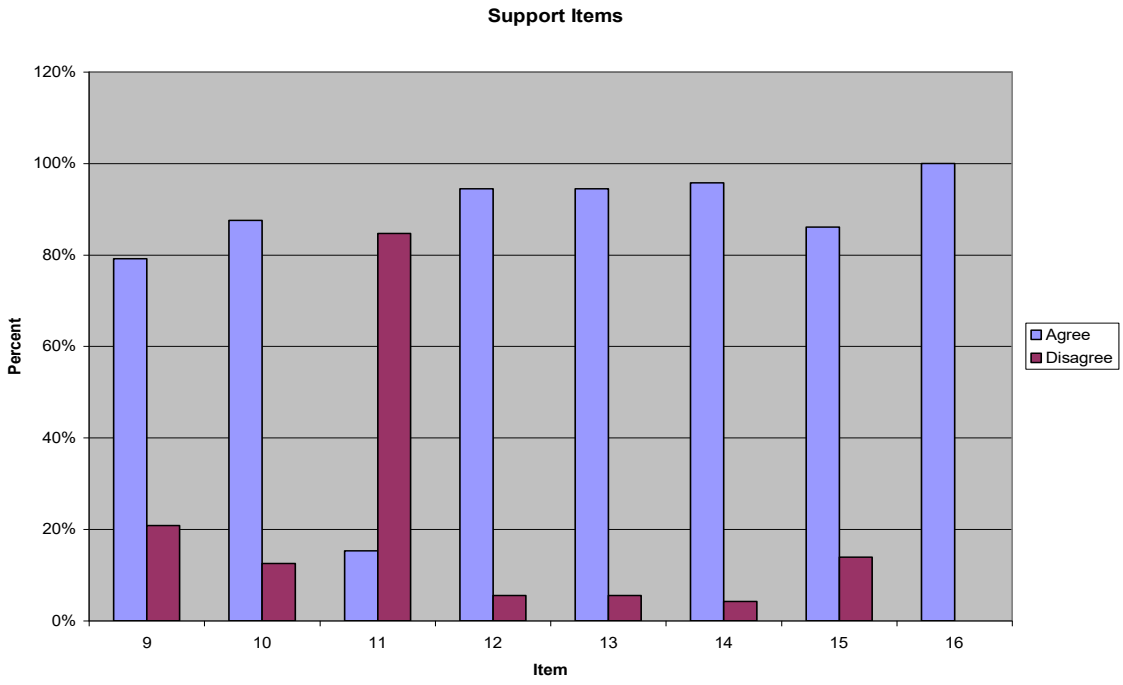

Figure 2: Knowledge of Support Items Agreement and Disagreement

Finally, the frequencies of the knowledge scores were graphed. The distribution of the scores revealed a somewhat normal distribution. Figure 3 shows the histogram that resulted.

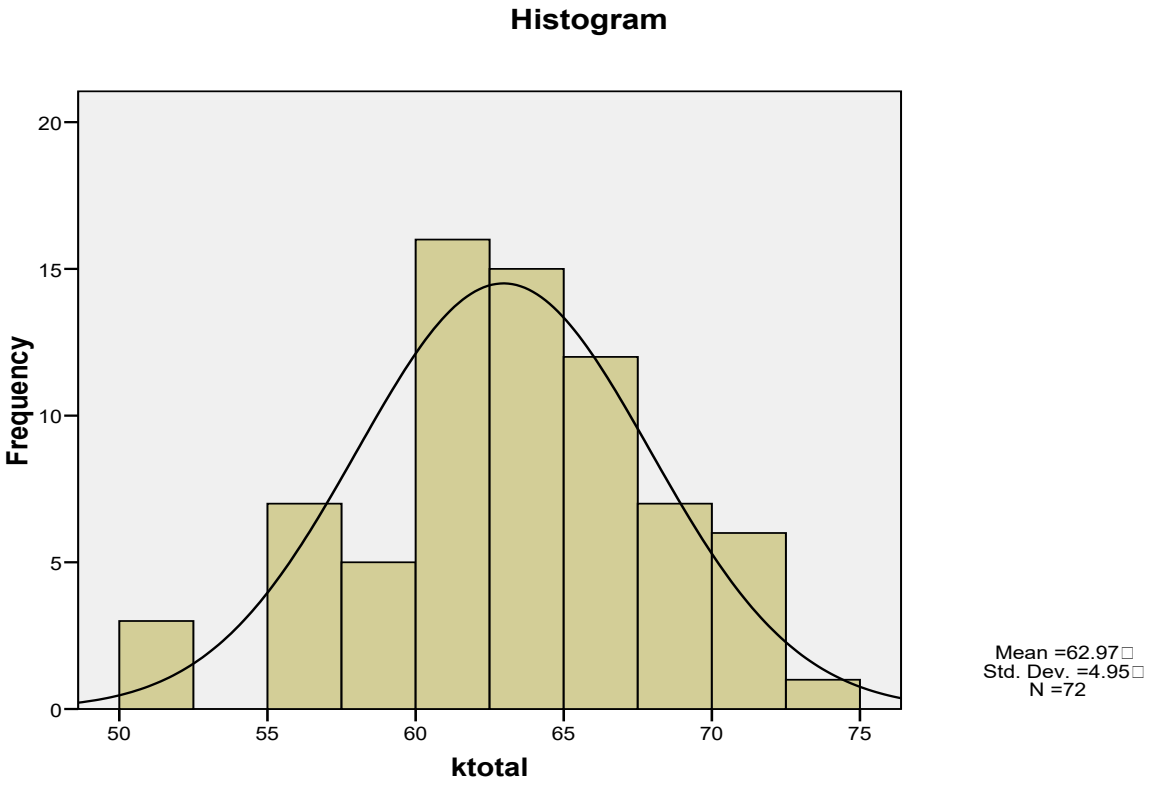

Figure 3: Distribution of Knowledge Total Scores

Research Question 2

To what extent do Florida middle school principals report that they apply their knowledge to the structure of special education services and support of personnel who work with students with disabilities?

The responses to the second sixteen items on the questionnaire were coded and analyzed. These items were intended to determine what practices were used by the principals to structure and support the special education program at their schools. Table 19 shows the distribution of responses.

Table 19: Questionnaire Application Item Responses

	Almost Always	Often	Sometimes	Seldom	Almost Never	Total
17. In my school, special education services are provided to students with disabilities.	71	1	0	0	0	72
18. Co-teaching is a special education service delivery model that is provided at my school.	21	20	12	8	11	72
19. In my school, most students in special education are taught in self-contained classes. *	2	11	22	23	14	72
20. General education teachers are assigned by the principal to work with students with disabilities at my school. *	26	26	9	7	4	72
21. Roles and responsibilities of paraprofessionals serving students in special education are clearly defined at my school.	42	23	5	1	1	72
22. Related services personnel define their own roles and responsibilities at my school. *	6	17	19	18	12	72
23. At my school, the special education program is staffed according to the number of allocations determined by the district. *	46	13	8	4	1	72
24. In my school, students with disabilities receive instruction in the general curriculum to the greatest extent possible.	56	13	2	1	0	72
25. Special education teachers are given additional time to complete paperwork at my school.	20	20	18	1	4	72
26. In my school, general education teachers who teach students in special education are given extra time for collaboration.	5	21	22	19	5	72
27. Special education teachers receive the same staff development as general education teachers at my school. *	37	30	4	0	1	72
28. Staff development about special education procedures and paperwork is provided at my school.	26	29	17	0	0	72
29. Staff development is provided at my school that relates to the characteristics of students with disabilities.	20	33	18	1	0	72
30. At my school, general education teachers are given time to attend staff development pertaining to special education.	15	28	26	2	1	72

	Almost Always	Often	Sometimes	Seldom	Almost Never	Total
31. At my school, general education teachers are given a voice regarding decisions related to special education services that affect their classrooms.	12	40	18	2	0	72
32. In my school, beginning special education teachers are assigned mentors during their first year of teaching.	57	10	4	1	0	72

* Negative responses were expected to these items.

Positive responses were expected for items 17, 18, 21, 24, 25, 26, 28, 29, 30, 31, and 32. Negative responses were expected for items 19, 20, 22, 23, and 27. Figure 4 and Figure 5 show the percentages of responses that agreed and disagreed with the expected response.

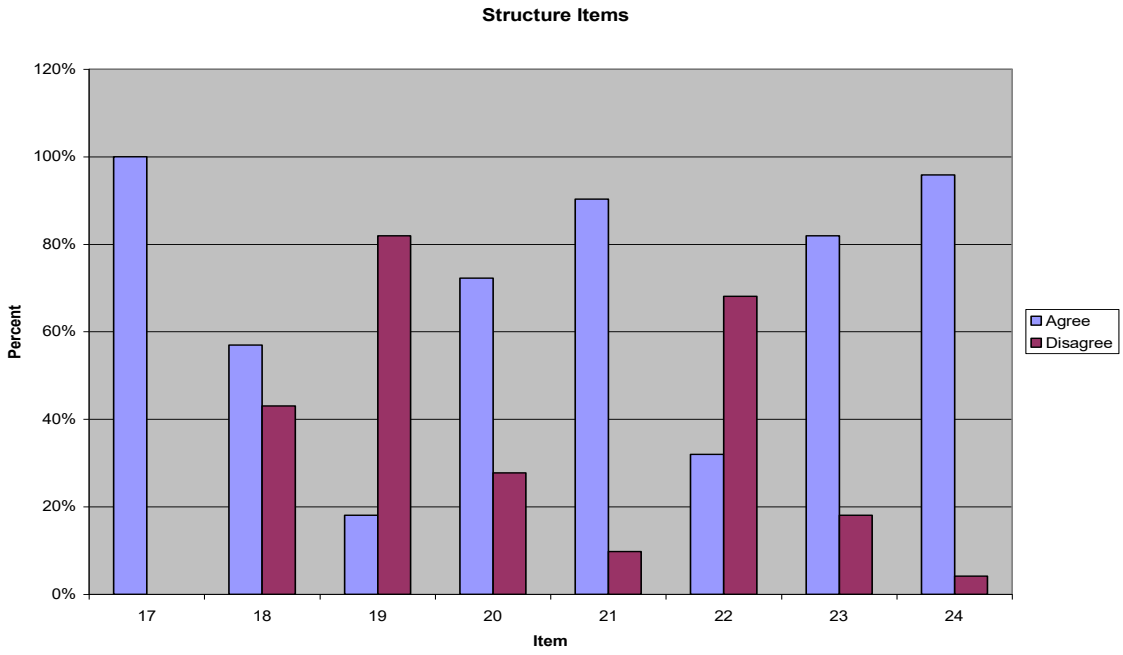

Figure 4: Application Structure Items Response Agreement and Disagreement

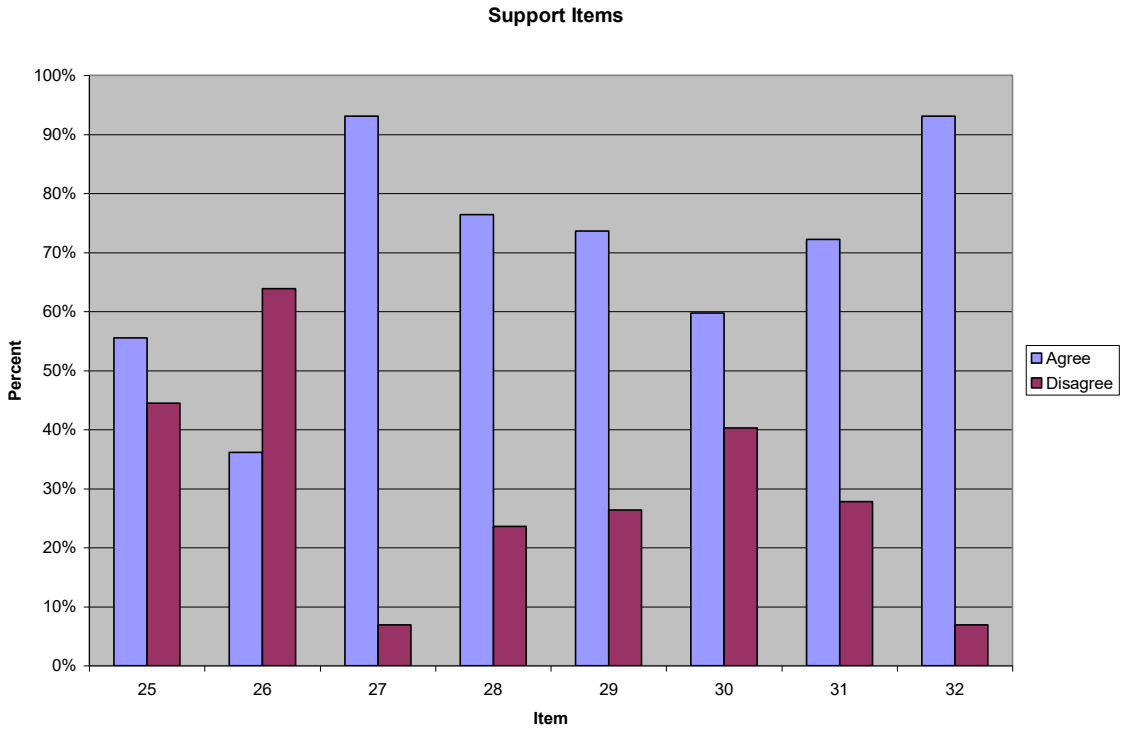

Figure 5: Application Support Items Response Agreement and Disagreement

The application items were totaled and analyzed to determine to what extent each principal applied their knowledge of structuring and supporting the special education program in their schools. A mean of 56.67, on a scale range of 5 - 80, with a standard deviation of 4.25 was found. The high score was 69, and the low score was 48. A total of 64 or above was the expected criterion to show that principals were more innovative when structuring and supporting a special education program in their schools. This criterion was determined by responding to each of the sixteen items with a four or higher (4 x 16 = 64). Of the seventy-two principals who responded to the questionnaire, 94.4% (n=68) fell below the expected criterion high application.

A reliability test was run on the application items (alpha = .245). Two items had a negative correlation with the other items. Item 20 negatively correlated with ten of the other items, and item 27 negatively correlated with twelve of the other items. When these items were removed, the reliability increased (alpha = .325). This reliability was considered to be low but was expected because of the high social demands of the questionnaire. For example, respondents may not interpret the response categories in the same way, or they may choose a response that makes them look like they are using practices to a greater extent than they really are.

Finally, the application scores were graphed and did appear to have a somewhat normal distribution. As can be seen, four scores of 67, 68, and 69 were noticeably higher than the other scores in the distribution. These four scores were not removed from the analysis because they failed to meet the standard of three standard deviations above the mean. Figure 6 shows the application score distribution.

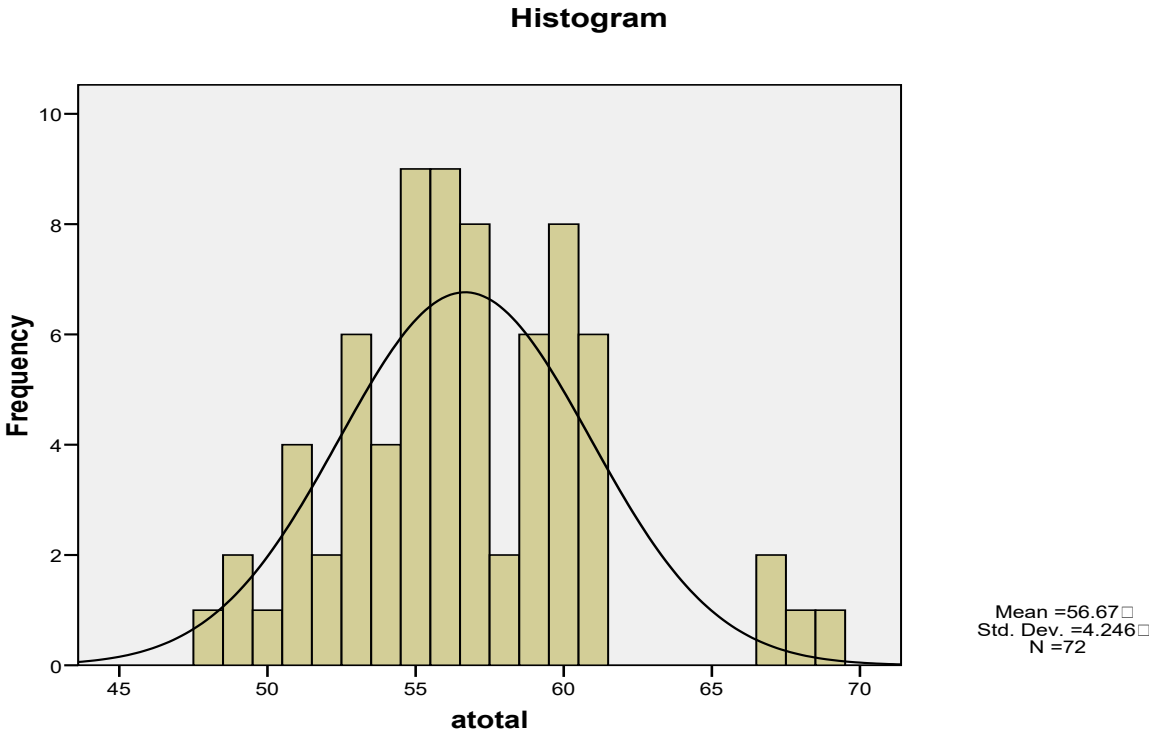

Figure 6: Distribution of Application Total Scores

Research Question 3

What are the differences in knowledge and application of that knowledge, if any, among middle school principals with varying school demographics?

A correlation was run to see if there was a correlation between the knowledge and application pairs. The correlation was determined to be moderately low but was statistically significant ($r = .231$, $p < .05$). Figure 7 is a scatterplot that depicts the correlation between the knowledge total and the application total.

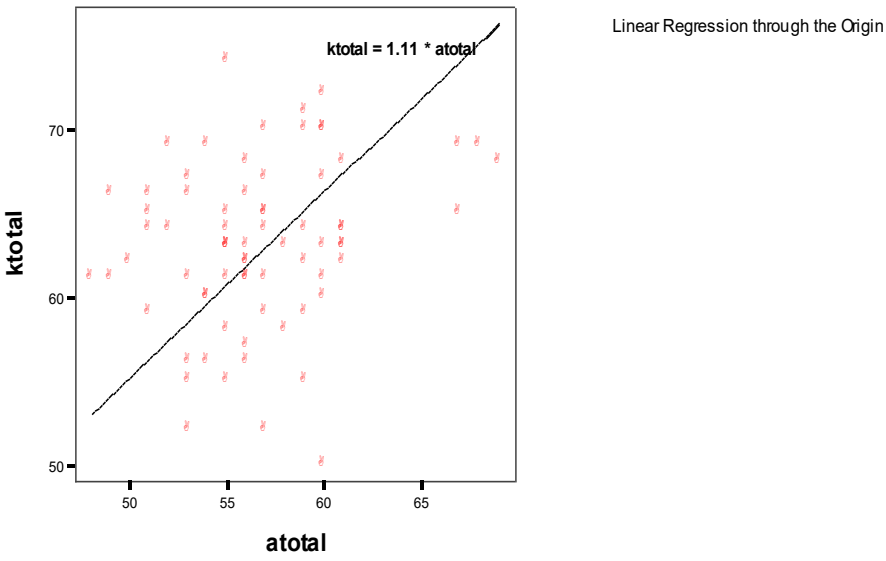

Figure 7: Scatterplot of correlation between knowledge total and application total

Next, each knowledge/application pair of items was compared to determine if principals' knowledge responses agreed with their application responses. In order to determine what response pairs would constitute agreement, all possible response pairs were examined. For example, if a respondent chose "strongly agree" for the item on knowledge and chose "almost always" for the item on application, then the item pair was determined to be in agreement. Table 20 shows the matrix used to determine agreement between each knowledge/application pair.

Table 20: Item Pair Agreement Matrix

	Almost Never	Seldom	Sometimes	Often	Almost Always
Strongly Disagree	Agreement	Agreement	Disagreement	Disagreement	Disagreement
Disagree	Agreement	Agreement	Agreement	Disagreement	Disagreement
Neither Agree nor Disagree	Agreement	Agreement	Agreement	Disagreement	Disagreement
Agree	Disagreement	Disagreement	Agreement	Agreement	Agreement
Strongly Agree	Disagreement	Disagreement	Disagreement	Agreement	Agreement

Structure

A Cross Tabulation was run for each of the knowledge/application pairs for structure. For knowledge/application pair 1, which addressed special education services being offered in every school, 97.2% (n=70) of the responses were in agreement and 2.8% (n=2) were not.

Item pair 2 addressed the co-teaching model. Slightly more than seventy-nine percent (n=57) of the responses were in agreement and 20.8% (n=15) were in disagreement. The next item addressed self-contained classrooms and was the first item pair that had an expected negative response. Slightly more than seventy-two percent (n=57) of the responses were in agreement and 28.8% (n=15) were not.

Item pair 4 addressed assignment of general education teachers to work with students with disabilities and was another item that had an expected negative response. Almost eighty-six percent (n=61) of the responses were in agreement and 14.1% (n=10) were in disagreement.

For knowledge/application pair 5, which addressed roles and responsibilities of paraprofessionals, 90.3% (n=65) of the responses were in agreement and 9.7% (n=7) were in disagreement. Next, item pair 6 addressed related service personnel and was the third item pair that had an expected negative response. More than seventy-nine percent (n=55) of the responses were in agreement and 20.3% (n=14) were not.

Knowledge/application pair 7 addressed staffing a special education program. This item was the fourth item that had an expected negative response. Slightly more than sixty-eight percent (n=49) of the responses were in agreement and 31.9% (n=23) were in disagreement. Item pair 8, which addressed students with disabilities receiving instruction in the general curriculum, was the final item pair that addressed structure. Almost ninety-six percent (n=69) of the responses were in agreement and 4.2% (n=3) were not. Table 21 summarizes the agreement/disagreement of the first eight item pairs.

As a result, item pairs 1, 5, and 8 had high agreement. The remaining item pairs had lower agreement. This indicated that there was a fair amount of disagreement between what the principals reported their knowledge to be in these areas and how they applied their knowledge in practice when structuring the special education programs at their schools.

Table 21: Knowledge/Application Item Pairs Agreement – Structure Items

	% Agree		% Disagree		Total %	
Special education services at every school	97.2%	(n=70)	2.8%	(n=2)	100.0%	(n=72)
Co-Teaching Model	79.2%	(n=57)	20.8%	(n=15)	100.0%	(n=72)
Self-Contained Classrooms	79.2%	(n=57)	20.8%	(n=15)	100.0%	(n=72)
Assignment of general education teachers to work with students with disabilities	85.9%	(n=61)	14.1%	(n=10)	100.0%	(n=71)
Roles and responsibilities of paraprofessionals	90.3%	(n=65)	9.7%	(n=7)	100.0%	(n=72)
Related services personnel	79.7%	(n=55)	20.3%	(n=14)	100.0%	(n=69)
Staffing a special education program	68.1%	(n=49)	31.9%	(n=23)	100.0%	(n=72)
Students with disabilities receiving instructional in the general curriculum	95.8%	(n=69)	4.2%	(n=3)	100.0%	(n=72)

Note: Not all of the respondents answered all of these items

Support

The next eight knowledge/application item pairs addressed supporting the personnel who work with students with disabilities. For knowledge/application pair 9, which addressed additional time for paperwork, 84.7% (n=61) of the responses were in agreement and 15.3% (n=11) were not. Item pair 10 addressed extra time for collaboration. More than sixty-five percent (n=47) of the responses were in agreement and 34.7% (n=25) were in disagreement.

Knowledge/application pair 11 addressed staff development for general and special education teachers and was the fifth item that had an expected negative response. Slightly more than eighty-six percent (n=62) of the responses were in agreement and 13.9% (n=10) were in disagreement.

Item pair 12 addressed staff development on special education procedures. Only the knowledge portion of this pair had an expected negative response. The application portion was worded with an expected positive response. Almost eighty-two percent (n=59) of the responses were in agreement and 18.1% (n=13) were in disagreement.

For knowledge/application pair 13, which addressed staff development about the characteristics of students with disabilities, 83.3% (n=60) of the responses were in agreement and 16.7% (n=12) were not. The next item pair addressed time to attend staff development. More than eighty-one percent (n=58) of the responses were in agreement and 18.3% (n=13) were in disagreement.

For item pair 15, which addressed general education teachers being given a voice in decisions that affect their class, 80.6% (n=58) of the responses were in agreement and 19.4% (n=14) were not. The final item pair addressed mentors for beginning special education teachers. More than ninety-four percent (n=68) of the responses were in agreement and 5.6% (n=4) were in disagreement. Table 22 contains the summary of the agreement/disagreement for the eight support items.

As a result, only item pair 16 had a high degree of agreement. The remaining item pairs had a lower degree of agreement. This indicated that there was a fair amount of disagreement between what the principals reported their knowledge to be in these

areas and how they applied their knowledge in practice when supporting the special education programs at their schools.

Table 22: Knowledge/Application Item Pairs Agreement – Support Items

	% Agree		% Disagree		Total %	
Additional time for paperwork	84.7%	(n=61)	15.3%	(n=11)	100.0%	(n=72)
Extra time for collaboration	65.3%	(n=47)	34.7%	(n=25)	100.0%	(n=72)
Staff development for general and special education teachers	86.1%	(n=62)	13.9%	(n=10)	100.0%	(n=72)
Staff development on special education procedures	81.9%	(n=59)	18.1%	(n=13)	100.0%	(n=72)
Staff development on characteristics of students with disabilities	83.3%	(n=60)	16.7%	(n=12)	100.0%	(n=72)
Time to attend staff development	81.7%	(n=58)	18.3%	(n=13)	100.0%	(n=71)
General education teachers being given a voice in decisions that affect their class	80.6%	(n=58)	19.4%	(n=14)	100.0%	(n=72)
Mentors for beginning special education teachers	94.4%	(n=68)	5.6%	(n=4)	100.0%	(n=72)

Note: Not all of the respondents answered all of these items

A Paired t-test was performed to determine if there was a statistically significant difference between the knowledge total and the application total for each principal. A statistically significant difference was found ($t = 9.341$, $df = 71$, $p < .01$). This indicated

that there was a difference in the principals' knowledge of structuring and supporting special education program at their schools and the way in which they reported applying their knowledge.

Next, an Analysis of Variance (ANOVA) was performed on the knowledge total to determine which of the school demographic variables, if any, explained the distribution of these scores. No school demographic variable showed a statistically significant difference. Because all of the data were obtained from the same group of subjects, multiple t-tests on a series of items can be expected to produce some artificially inflated F values. Consequently, in order to be statistically significant, a significance level substantially lower than .05 would have been an appropriate criterion. Table 23 contains the summary of these data.

Finally, as a measure of innovativeness, the knowledge and application totals were added together to obtain a combined total. Figure 8 depicts the distribution of these data which is fairly normal. A second ANOVA was then performed on the combined total to determine which school demographic variables, if any, explained the distribution of the scores. Again none of the school demographic variables show a statistically significant difference. The summary of these data is in Table 24.

An ANOVA was not run on the application total because the distribution was not distributed normally enough to obtain a statistically sound result.

Table 23: Analysis of Variance on Knowledge Total for School Variables

	F	df	Sig.
School Size	.857	2	.429
School Type	.274	2	.761
Free or Reduced Price Lunch	1.283	4	.286
District Size	.215	3	.886
Member of ISRD	.026	1	.873
# of Students in Special Education	.460	5	.804
Types of Students in Special Education	1.044	2	.358
Types of Special Education Classes and Services:			
Co-Teaching	3.217	1	.077
Resource Room	.757	1	.387
Learning Strategies	2.611	1	.111
Self-Contained Classroom	1.105	1	.297

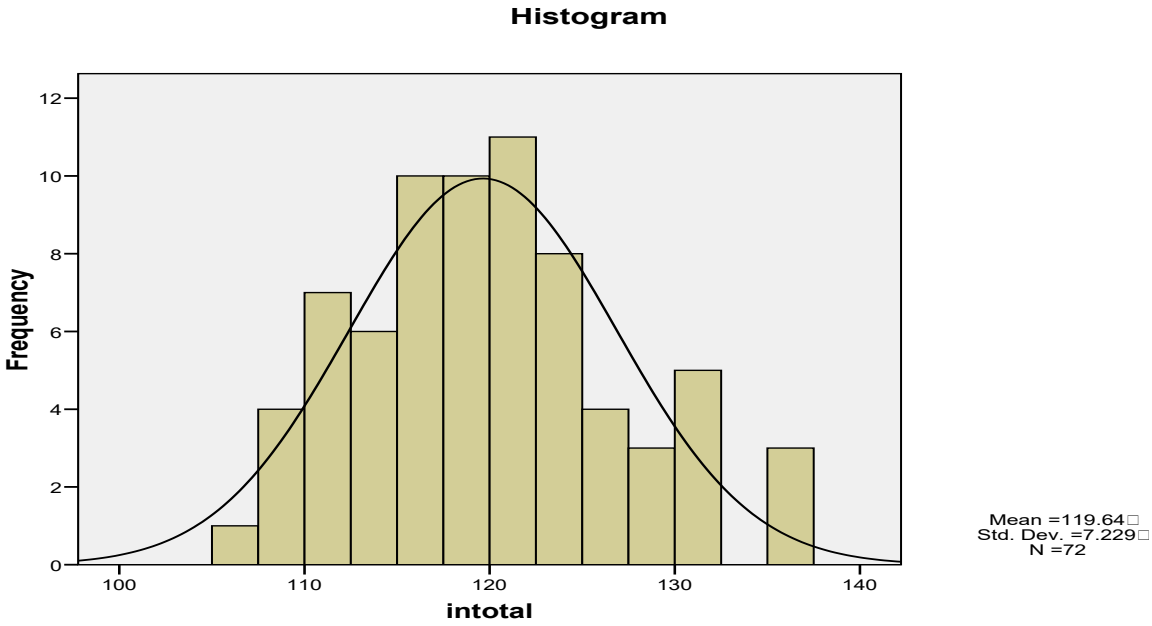

Figure 8: Distribution of the Combined Total

Table 24: Analysis of Variance on Combined Total for School Variables

	F	df	Sig.
School Size	.879	2	.420
School Type	.890	2	.415
Free or Reduced Price Lunch	1.308	4	.276
District Size	.553	3	.648
Member of ISRD	.069	1	.794
# of Students in Special Education	.489	5	.783
Types of Students in Special Education	.019	2	.981
Types of Special Education Classes and Services:			
Co-Teaching	3.332	1	.072
Resource Room	.000	1	.988
Learning Strategies	1.037	1	.312
Self-Contained Classroom	1.659	1	.202

Research Question 4

What are the differences in knowledge and application of that knowledge, if any, among middle school principals with regard to personal variables?

The personal variables were analyzed next to see if they explained the difference between the knowledge and application scores. First, an Analysis of Variance (ANOVA) was run on the knowledge total to see if these variables explained the difference. No personal variable was statistically significant. Table 25 includes these data.

Next, a second ANOVA was run on the combined score to see if any of the personal variables were statistically significant. Two variables were statistically significant. The number of years since the principal had reportedly completed educational leadership training ($f = 2.976$, $df = 3$, $p < .05$) was statically significant. Even though this was found to be significant, caution must be taken when reviewing these results because of the potential for artificial inflation and result in a false significance level. The type of last change to the special education program in their school ($f = 3.293$, $df = 3$, $p < .05$) was also statistically significant. This significance was more likely to reach a rigorous criterion for statistical significance. Table 26 contains the summary of these data. The application total was not analyzed again because of its distribution.

Table 25: Analysis of Variance on Knowledge Total for Personal Variables

	F	df	Sig.
Gender	2.683	1	.106
Education	1.569	2	.216
# of Years as Professional Educator	1.096	4	.366
# of Years since completing Educational Leadership Training	2.007	3	.121
# of Years as a Principal	.981	5	.436
Subject area taught	1.195	5	.321
First Experience with Special Education	.018	2	.982
Primary Information Source:			
Structure	.686	3	.563
Support	1.365	3	.261
Staff Development	.317	3	.813
Most recent change to special education program	1.293	4	.282
Type of most recent change	1.065	3	.371
Future change (2007-2008)	1.867	3	.148

Table 26: Analysis of Variance on Combined Total for Personal Variables

	F	df	Sig.
Gender	.609	1	.438
Education	.892	2	.415
# of Years as Professional Educator	2.179	4	.081
# of Years since completing Educational Leadership Training	2.976	3	.038
# of Years as a Principal	1.521	5	.196
Subject area taught	1.823	5	.120
First Experience with Special Education	.647	2	.527
Primary Information Source:			
Structure	.456	3	.714
Support	.925	3	.433
Staff Development	.317	3	.813
Most recent change to special education program	1.254	4	.297
Type of most recent change	3.293	3	.027
Future change (2007-2008)	1.100	3	.358

Research Question 5

To what extent, if any, will the innovativeness, as defined by Rogers (2003), of Florida public middle school principals be related to school and personal variables?

An Independent Groups t-test was run and a statistically significant difference was found between the group of principals with the highest combined scores and the group of principals with the lowest combined scores ($t = 20.652$, $df = 21$, $p < .01$). The most innovative group of principals had a combined score of 129 or higher and the least innovative group of principals had a combined score of 112 or lower. This indicated that there was a difference between the most and least innovative principals.

A Cross Tabulation was run for all the school and personal demographic variables on the combined total, and the highest scores were compared with the lowest scores to see if any of the school and personal variables were different. A difference between the high and low groups was found in the following school demographics: (a) the school size; and (b) the district size. All of the school demographic variables are shown in Table 27. When analyzing the results for the special education classes and services offered, the following demographics showed a difference: (a) co-teaching; (b) learning strategies; and (c) self-contained classrooms. Table 28 contains the data on classes and services offered.

When examining the personal demographics, the following personal demographics showed a difference between the high and low groups: (a) gender; (b) subject area taught; (c) number of years as a professional educator; (d) number of years since completing educational leadership training; and (e) number of years as a principal. Table 29 shows the personal demographic variables. The information sources for and the decisions made to the special education program were analyzed, and a difference was found between the high and low groups in the area of primary source of information for

structuring the special education program. The data for the information sources and decisions variables are shown in Table 30.

Table 27: High and Low School Demographic Variables

	School Size			
	< 800	800-1,200	> 1,200	Total
Low	75% (n=9)	17% (n=2)	8% (n=1)	100% (n=12)
High	36% (n=4)	46% (n=5)	18% (n=2)	100% (n=11)

	School Type			
	Urban	Suburban	Rural	Total
Low	25% (n=3)	33% (n=4)	42% (n=5)	100% (n=12)
High	27% (n=3)	18% (n=2)	54% (n=6)	100% (n=11)

	Free or Reduced Price Lunch					
	> 90%	75%-90%	50%-74%	25%-49%	< 25%	Total
Low	16% (n=2)	33% (n=4)	8% (n=1)	45% (n=5)	0% (n=0)	100% (n=12)
High	9% (n=1)	0% (n=0)	45% (n=5)	36% (n=4)	9% (n=1)	100% (n=11)

District Size

	< 10,000	10,000-24,999	25,000-99,999	> 100,000	Total
Low	8% (n=1)	42% (n=5)	25% (n=3)	25% (n=3)	100% (n=12)
High	3% (n=27)	18% (n=2)	27% (n=3)	27% (n=3)	100% (n=11)

ISRD Member

	Yes	No	Total
Low	25% (n=3)	5% (n=9)	100% (n=12)
High	36% (n=4)	64% (n=7)	100% (n=11)

Number of Students in Special Education

	100 or Fewer	101-200	201 or More	Total
Low	42% (n=5)	60% (n=6)	8% (n=1)	100% (n=12)
High	27% (n=3)	55% (n=6)	18% (n=2)	100% (n=11)

Types of Students in Special Education

	Mild	Mild and Moderate	Mild, Moderate, and Severe	Total
Low	17% (n=2)	58% (n=7)	25% (n=3)	100% (n=12)
High	18% (n=2)	64% (n=7)	18% (n=2)	100% (n=11)

Table 28: High and Low School Demographic Variables - Special Education Classes and Services

	Low		High	
	Yes	No	Yes	No
Co-Teaching	58% (n=7)	42% (n=5)	73% (n=8)	27% (n=3)
Resource Room	75% (n=9)	25% (n=3)	82% (n=9)	18% (n=2)
Learning Strategies	100% (n=12)	0% (n=0)	73% (n=8)	27% (n=3)
Self-Contained Classroom	84% (n=10)	16% (n=2)	64% (n=7)	36% (n=4)
Speech/Language Therapy	100% (n=0)	0% (n=0)	82% (n=9)	18% (n=2)
Occupational Therapy	50% (n=6)	50% (n=6)	73% (n=8)	27% (n=3)
Physical Therapy	50% (n=6)	50% (n=6)	55% (n=6)	45% (n=5)
Adaptive Physical Education	33% (n=4)	67% (n=8)	36% (n=4)	64% (n=7)
Nursing Services	42% (n=5)	58% (n=7)	55% (n=6)	45% (n=5)
Other Services	25% (n=3)	75% (n=9)	0% (n=0)	100% (n=0)

Table 29: High and Low Personal Demographic Variables

Gender

	Male	Female	Total
Low	33% (n=4)	67% (n=8)	100% (n=12)
High	55% (n=6)	45% (n=5)	100% (n=11)

Highest Level of Education

	Master's	Specialist	Doctorate	Total
Low	100% (n=12)	0% (n=0)	0% (n=0)	100% (n=12)
High	82% (n=9)	0% (n=0)	18% (n=2)	100% (n=11)

Subject Area Taught

	Content Area	Elective	Elementary Education	Special Education	Other/ Multiple	Total
Low	43% (n=5)	17% (n=2)	17% (n=2)	8% (n=1)	17% (n=2)	100% (n=12)
High	9% (n=1)	46% (n=5)	27% (n=3)	9% (n=1)	9% (n=1)	100% (n=11)

Number of Years as Professional Educator

	10 or Fewer	11-20	21-30	31 or More	Total	Mean (SD)
Low	0% (n=0)	25% (n=3)	25% (n=3)	50% (n=6)	100% (n=12)	28.8 (9.0)
High	10% (n=1)	30% (n=3)	50% (n=5)	10% (n=1)	100% (n=10)	21.2 (7.6)

Number of Years since Completing Educational Leadership Training

	10 or Fewer	11-20	21-30	31 or More	Total	Mean (SD)
Low	17% (n=2)	50% (n=6)	33% (n=4)	0% (n=0)	100% (n=12)	16.6 (7.1)
High	60% (n=6)	30% (n=3)	10% (n=1)	0% (n=0)	100% (n=10)	11.8 (5.6)

Number of Years as a Principal

	5 or Fewer	6-10	11-15	16-20	21 or More	Total
Low	42% (n=5)	33% (n=4)	8% (n=1)	8% (n=1)	8% (n=1)	100% (n=12)
High	91% (n=10)	9% (n=1)	0% (n=0)	0% (n=0)	0% (n=0)	100% (n=11)

	Mean (SD)
Low	8.4 (6.9)
High	3.1 (1.9)

First Learned about Special Education

	Personal Experience	College/ University	Other	Total
Low	25% (n=3)	50% (n=6)	25% (n=3)	100% (n=12)
High	36% (n=4)	55% (n=6)	9% (n=1)	100% (n=11)

Table 30: High and Low Personal Demographic Variables - Information Sources and Decisions for Special Education Program

Primary Sources of Information					
Structure	District Personnel	Special Education Teacher	Professional Conference/ Journals	Other	Total
Low	67% (n=8)	8% (n=1)	0% (n=0)	25% (n=3)	100% (n=12)
High	46% (n=5)	18% (n=2)	0% (n=0)	36% (n=4)	100% (n=11)
Support					
Low	75% (n=9)	8% (n=1)	8% (n=1)	8% (n=1)	100% (n=12)
High	82% (n=9)	0% (n=0)	0% (n=0)	18% (n=2)	100% (n=11)
Staff Development					
Low	58% (n=7)	8% (n=1)	0% (n=0)	33% (n=4)	100% (n=12)
High	64% (n=7)	0% (n=0)	9% (n=1)	27% (n=3)	100% (n=11)

Most Recent Change in Special Education Program						
	Current Year (2006-2007)	1-2 Years Prior	3-5 Years Prior	More than 5 Years Prior	Never	Total
Low	42% (n=5)	42% (n=5)	8% (n=1)	0% (n=0)	8% (n=1)	100% (n=12)
High	36% (n=4)	36% (n=4)	18% (n=2)	9% (n=1)	0% (n=0)	100% (n=11)

Type of Recent Change

	Structure	Support	Structure and Support	Total
Low	88% (n=7)	0% (n=0)	12% (n=1)	100% (n=8)
High	75% (n=6)	25% (n=2)	0% (n=0)	100% (n=8)

Type of Future Change Planned (2007-2008)

	Structure	Support	Structure and Support	None	Total
Low	40% (n=2)	20% (n=1)	0% (n=0)	40% (n=2)	100% (n=5)
High	42% (n=3)	29% (n=2)	29% (n=2)	0% (n=0)	100% (n=7)

Summary

This chapter has presented the data collected using the self-reporting questionnaire entitled *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs,* the statistical analyses performed for each of the five research questions, and the results of the statistical tests, including supportive narratives, tables, and figures.

A summary and discussion of the findings will be presented in Chapter 5. The conclusions drawn, recommendations for future research, and implications for education leadership are also included.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Problem Statement

This qualitative and quantitative study was conducted to: (a) determine the knowledge level of public middle school principals in the areas of structuring and supporting the special education program at their individual schools as measured by the self-reporting questionnaire entitled *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs*; (b) determine the application of knowledge of public middle school principals to structuring and supporting the special education program in their individual schools as measured by the self-reporting questionnaire entitled *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs*; (c) determine the difference, if any, between knowledge and application; (d) determine which personal and school demographic variables, if any, explained the difference between knowledge and application; and (e) determine if there was a difference, if any, between the most and least innovative principals, and which personal and school demographic variables, if any, explained the difference.

Methodology

Population and Data Collection

The population for this study was the public middle school principals in the state of Florida. A sample of one-hundred three middle school principals was selected by selecting districts throughout the state and asking them to participate in the study.

Twenty-six districts granted permission to contact all the middle school principals in their district. The data were collected during the fourth nine weeks of the 2006-2007 school year. Seventy-two principals completed the questionnaire which yielded a response rate of 70%. These seventy-two public middle school principals comprise the sample of participants whose responses were analyzed in this study.

The principals were contacted via the U.S. Postal Service with a letter introducing the study and informing them that an email would follow shortly (See Appendix B). About one week after the initial contact was mailed, the first email was sent which consisted of a letter and a link to the electronic questionnaire at Surveymonkey.com© (See Appendix C). If a reply was not received within about a week, a second email was sent with a different letter and the same link to the electronic questionnaire (See Appendix D). If a reply still was not received within another week, a paper questionnaire and a cover letter (See Appendix E) was sent via the U.S. Postal Service. Finally, if the paper questionnaire was not returned within about two weeks, a final email was sent with a link to the electronic questionnaire (See Appendix F). The final request was sent after teachers and students had begun their summer break. All participants received a Thank You email (See Appendix G) after they replied, whether the response was electronic or via mail.

Instrumentation

The data were collected using the self-reporting questionnaire entitled *Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs* (See Appendix A). The questionnaire was developed by the

author using current research in special education and educational leadership on structuring and supporting special education programs. To determine content validity the questionnaire was reviewed by a professor of special education. Once the professor provided feedback, the questionnaire was edited. Then, the questionnaire was reviewed by a graduate class in special education. Additional adjustments were made to the questionnaire based on the recommendations received from the class.

The questionnaire consisted of three sections: (a) the first sixteen items addressed knowledge of structure and support of a special education program; (b) the second sixteen items addressed application of knowledge to the structure and support of a special education program; and (c) the remaining twenty-two items collected data on various personal and school demographic variables. For the first sixteen items, principals were given a series of knowledge statements about special education. Items 1-8 dealt with structuring a special education program, and items 9-16 dealt with supporting the personnel who worked with students with disabilities. The response choices to these items included "strongly agree," "agree," "neither agree nor disagree," "disagree" or "strongly disagree."

The next sixteen items were a series of application statements that had a one-to-one correspondence with the first sixteen items. Items 17-24 dealt with structuring a special education program, and items 25-32 dealt with supporting the personnel who worked with students with disabilities. Therefore, item 1 corresponded with item 17, and item 2 corresponded with item 18, and so forth. The response choices to these items included "almost always," "often," "sometimes," "seldom," and "almost never."

The final twenty-two items were demographic in nature. The school demographic variables addressed were: (a) district size; (b) school size; (c) school type; (d) number of students who received free or reduced price lunches; (e) number of students with disabilities who attended the school; (f) types of disabilities served; and (g) types if special education classes and services offered by the school. One school demographic variable was added after the responses were received, and it addressed whether or not the school was located in a district that belonged to the Institute of Small and Rural Districts. The personal demographic variables were: (a) gender; (b) education; (c) subject area taught; (d) number of years as a professional educator; (f) number of years since completing educational leadership training; (g) number of years as a principal; (h) first experience with special education; (i) primary sources of information for structure, support and staff development for special education programs; (j) the timing and type of last change made to the special education program; and (k) type of change, if any, to be made to the special education program during the next school year (2007-2008).

Data Analysis

The researcher completed the analyses of the data collected. Responses to items 1-16 were coded using a 1-5 scale, where 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, and 1 = strongly disagree. The responses to items 17-32 were also coded using a 1-5 scale, where 5 = almost always, 4 = often, 3 = sometimes, 2 = seldom, and 1 = almost never. If a response was not completed, a value of 0 was assigned. Then, the responses to items 3, 4, 6, 7, 11, 12, 19, 20, 22, 23, and 27 were reversed because these items had an expected negative response. The remaining twenty-

two demographic variables were coded in categories. For items 33, 34, 35, 36, and 43 the answer choices were collapsed into fewer categories to accommodate data analysis. For items 39, 40, and 41, both categories were determined, and the mean and standard deviation were calculated to aid data analysis. The responses for item 45 were broken into twelve different responses to show which classes and services were offered by each school. Items 51 and 52 were open-ended responses and were coded as structure, support, both structure and support, or none. Finally, each school's district was determined and an additional demographic variable was created relating to whether or not the school was in a district that belonged to the Institute of Small and Rural Districts.

Summary and Discussion of Findings

A summary and discussion of the findings for the data collected in response to the five research questions were as follows:

Research Question 1

What knowledge of special education legislation and policies do Florida middle school principals have regarding the structure and support of personnel who work with students with disabilities?

Each of the knowledge items were examined for agreement with the intended response. Items 1, 2, 3, 5, 8, 9, 10, 12, 13, 14, 15, and 16 all had a high percentage (80% or higher) of responses that agreed with the expected response. However, items 4, 6, 7, and 11 had a low percentage (60% or lower) of responses that did not agree with the expected response. Item 4 had 21% agreement, item 6 had 54% agreement, item 7 had 42% agreement, and item 11 had 15% agreement.

When a test for reliability was performed, all but one item showed good correlation (alpha = .580). Item 4 negatively correlated with thirteen of the remaining fifteen items. Items 6, 7, and 11 did not show significant negative correlations with other items. All four of these items were expected to be answered in the negative which may explain for some of the difference.

Item 4 addressed the principal assigning general education teachers to teach students with disabilities. Research has shown that the best practice was that general education teachers should be asked to volunteer to teach students with disabilities (Gerber & Popp, 2000). In an unsolicited email, one principal indicated that her practice was to ask for volunteers so that the teachers demonstrated commitment to teaching students with disabilities rather than just compliance.

Item 6 addressed related service personnel and the need for them to assign their own roles and responsibilities. Research from the Council for Exceptional Children & the National Association of Elementary School Principals (2001) stated that the best practice was for principals to ensure that the roles and responsibilities of related service personnel be clearly delineated with respect to their work with students with disabilities.

Item 7 stated that special education programs should be staffed according to the number of allocations determined by the district. The Council for Exceptional Children and the National Association of Elementary School Principals (2001) recommended that principals should advocate for sufficient numbers of special education personnel to provide quality services to students with disabilities.

For item 11, which addressed staff development for general and special education teachers, several studies suggested that general and special education teachers needed

different staff development topics (Buell, Hallam, & Gamel-McCormick, 1999; Coombs-Richardson, & Mead, 2001; Dudzinski, Roszmann-Millican, & Shank, 2000; Gerber & Popp, 2000). For example, Buell, et al. (1999) suggested staff development topics for general education teachers should include program modification, assessing academic progress, adapting curriculum, managing students' behavior, developing IEPs and using assistive technology. In contrast, Dudzinski, et al. (2000), suggested that special education teachers needed staff development in the areas of advanced pedagogy and content knowledge, knowledge of special education changes, student needs and outcomes, collaboration, planning, documentation, problem-solving, peer coaching and mentoring, and researched-based teaching strategies. Therefore, general and special education teachers needed different opportunities for professional development.

The responses to items 1-16 were totaled to determine the knowledge total. Slightly more than fifty-four percent (n=39) fell below the expected criterion of 64 for knowledgeable.

Research Question 2

To what extent do Florida middle school principals report that they apply their knowledge to the structure of special education services and support of personnel who work with students with disabilities?

Each of the application items were examined for agreement with the intended response. Items 17, 20, 21, 23, 24, 27, 28, 29, 31, and 32 had a high percentage (70% or higher) of the responses that agreed with the expected response. The remaining items, 18, 19, 22, 25, 26, and 30, a low percentage (60% or lower) of agreement was displayed. Item 18 had 57% agreement, item 19 had 15% agreement, item 22 had 32% agreement

item 25 had 56% agreement, item 26 had 36% agreement, and item 30 had 60% agreement. For these items, the response category of "Sometimes" may have accounted for some of the low percentage of agreement.

When a test for reliability was run, all but two items showed good correlation with the other items, but the overall correlation was low (alpha = .245). Items 20 and 27 were the items that negatively correlated with the other items, but these items were not in the group of items that showed a lower percentage of agreement.

Of the items that showed a lower percentage of agreement, item 18 addressed co-teaching as a service delivery model and research has stated that co-teaching was a service delivery model that benefited students with disabilities (Walther-Thomas, 1997). Item 25 addressed additional time for paperwork for special education teachers, and item 30 addressed time for general education teachers to attend staff development pertaining to special education. The Council for Exceptional Children and the National Association of Elementary School Principals (2001) recommended principals should ensure that teachers and staff had sufficient time for planning and should take part in staff development that expands their knowledge and skills for working with children with disabilities. The previously discussed three items had only a moderately low percentage of agreement.

Item 19 stated that most students in special education should be taught in self-contained classes, but with the new mandates from No Child Left Behind (2001) and the Individuals with Disabilities Act (2004), this should no longer be the norm. Item 22 addressed the roles and responsibilities of related services personnel, and item 26 addressed extra time for general education teachers for collaboration. The Council for Exceptional Children and the National Association of Elementary School Principals

(2001) recommended that principals clearly delineated the roles and responsibilities of related services personnel with regard to working with students with disabilities, and that teachers and staff had sufficient time for collaboration to address the needs of students with disabilities that they taught.

The responses to items 17-32 were added together to determine the application total. More than ninety-four percent (n=68) of the respondents fell below the expected criterion of 64 for good application. The category of "sometimes" may have explained some of the high percentage of principals that fell below the expected criterion. Also, some of the high percentage may be explained by how each principal interpreted the category choices in general.

Research Question 3

What are the differences in knowledge and application of that knowledge, if any, among middle school principals with varying school demographics?

The correlation was determined to be moderately low between the knowledge items and the application items, but was found to be statistically significant ($r = .231$, $p < .05$). This suggests that middle school principals were not applying their knowledge when structuring and supporting their special education programs. Each item pair was analyzed to determine agreement based on a predetermined matrix (See Table 20 p. 97). The two pairs that fell below the 70% agreement were item pair 7 and pair 10. Item pair 7 addressed staffing the special education program according to district allocations, but the recommended practice was for the principal to advocate for sufficient numbers of special education personnel to provide a quality education for students with disabilities (Council for Exceptional Children [CEC] & National Association of Elementary School

Principals [NAESP], 2001). Item pair 10 addressed extra time for collaboration and the recommended practice from the CEC and NAESP was to ensure teachers and staff had sufficient time for collaboration to address the needs of the students with disabilities that they taught. Item pair 7 had 68.1% (n=49) agreement and item pair 10 had 65.3% (n=47). However, when analyzed, a statistically significant difference was found between the knowledge total and application total ($t = 9.341$, df 71, $p < .01$).

The knowledge and application totals were then added together to derive the combined total. Both the knowledge total and the combined total were analyzed to see if any of the school demographic variables explained the difference, but none of the school variables were found to be statistically significant.

Research Question 4

What are the differences in knowledge and application of that knowledge, if any, among middle school principals with regard to personal variables?

The knowledge total was analyzed to see if any of the personal demographic variables explained the difference, but none of the personal variables were found to be statistically significant. Another test was run on the combined total and two variables were found to be statistically significant. The number of years since completing educational leadership training ($f = 2.976$, df = 3, $p < .05$) and the type of last change to the special education program in their school ($f = 3.293$, df = 3, $p < .05$) were the two significant variables. Even though these two demographic variables were found to be statistically significant, the results should be viewed with caution because the F scores may be artificially inflated due to repeated analyses.

Research Question 5

To what extent, if any, will the innovativeness, as defined by Rogers (2003), of Florida public middle school principals be related to school and personal variables?

The combined totals were examined to determine a group of most innovative principals and a group of least innovative principals. Eleven principals made up the group of most innovative, and twelve principals made up the group of least innovative. The group of most innovative principals was determined by using the criterion of 129 combined total or higher. The group of least innovative principals was chosen from the lowest end of the combined totals so that an approximately equal number of principals made up both groups. The least innovative combined total was 112 or below. These two groups were compared, and a statistically significant difference was found between the groups of most and least innovative principals ($t = 20.652$, $df = 21$, $p < .01$).

The two groups were examined to see if any of the personal and school demographic variables accounted for this difference. The following variables were found to show differences: (a) primary source of information – structure; (b) gender; (c) subject area taught; (d) number of years as a professional educator; (e) number of years since completing educational leadership training; (f) number of years as a principal; (g) school size; (h) district size; and (i) classes offered, co-taught classes, self-contained classes and learning strategies classes.

Conclusions

This qualitative and quantitative study sought to determine: (a) the knowledge level of public middle school principals in the areas of structuring and supporting the special education program at their individual schools; (b) to what extent public middle school principals applied their knowledge when structuring and supporting the special education program at their individual schools; (c) the difference, if any, between the knowledge level and application of knowledge when structuring and supporting the special education program at their schools and which, if any, of the school demographic variables explained the difference; (d) which, if any, of the personal demographic variables explained the difference; and (e) the difference, if any, between a group of most and least innovative principals and which, if any, of the personal and school demographic variables explained the difference. Based on the related literature in educational leadership and special education, and the research findings of this study, it was concluded that:

1. Public middle school principals in Florida need additional professional development to increase their knowledge of research-based practices for structuring and supporting the special education program at their schools.
2. Public middle school principals should investigate ways to apply their knowledge at a greater rate when structuring and supporting the special education program at their schools. A statistically significant difference was found between the principals' knowledge level and the application of knowledge when structuring and supporting the special education programs at their schools. Therefore, middle school principals need to

apply their knowledge to structuring and supporting the special education program at their schools.

3. There was a statistically significant difference between the two groups of public middle school principals that were found to be most innovative and least innovative when structuring and supporting the special education program at their schools.. The personal and school demographic variables of (a) primary source of information – structure; (b) gender; (c) subject area taught; (d) number of years as a professional educator; (e) number of years since completing educational leadership training; (f) number of years as a principal; (g) school size; (h) district size; and (i) classes offered, co-taught classes, self-contained classes and learning strategies classes were different for the two groups of most and least innovative principals. Table 31 (p. 131) summarizes the profile of characteristics for the most and least innovative principals.

Upon examination of these demographic variables, a profile of characteristics emerged for both groups. The profile of characteristics that emerged for the group of middle school principals who were found by this study to be most innovative was: (a) female; (b) previously taught an elective class or elementary education before going into school administration; (c) had been a professional educator for fewer than 30 years; (d) had completed her educational leadership training 10 or fewer years ago; (e) had been a principal for 5 or fewer years; (f) considered information sources other than district personnel as the primary source of

information for structuring the special education program at her schools; (g) was more likely to work at a medium size school; and (h) was more likely to offer co-taught classes at her schools.

For the middle school principals who were found by this study to be least innovative, the profile that emerged was: (a) male; (b) taught in a content area before going into school administration; (c) had been a professional educator for 31 or more years; (d) had completed his educational leadership training 11 or more years ago; (e) had been a principal for 6 or more years; (f) considered only district personnel as the primary source of information for structuring their special education program at his school; (g) was more likely to work at a small size school; (h) was more likely to work in a medium size district; (i) was more likely to offer Learning Strategies as a class for students with disabilities; and (j) were more likely to have self-contained classes for students with disabilities. Table 31 (p. 131) summarized the profile of characteristics that were derived for the most and least innovative principals.

These profiles were based on the data from this study only and were preliminary at best. Further study is needed for confirmation and refinement before any profile can be used as a model. At this time, the researcher speculates that the variables of time as a professional educator, and time since completing educational leadership training may be the most predictive of innovativeness in structuring and supporting special education programs.

Table 31: Profiles for the Most and Least Innovative Principals

Demographic Variable	Most Innovative	Least Innovative
Gender	Female	Male
Subject Taught	Elective or Elementary	Content Area
Professional Education Experience	Fewer than 30 years	31 or more years
Since Completing Educational Leadership Training	10 or fewer years	11 or more years
Becoming a Principal	5 or fewer years	6 or more years
Primary Source of Information - Structure	Other than district personnel	District personnel
School Size	Medium	Small
District Size	Other than medium	Medium
Classes and Services Offered	Co-Teaching	Learning Strategies and Self-Contained Classes

Implications and Recommendations

The success of special education programs at the school-based level depends largely on the beliefs, knowledge, and skills of the principal (Goor, Schwenn, & Boyer, 1997). The principal's attitude toward the special education program can influence the decisions made in structuring the services provided in the special education program and the support given to the personnel who work within the program. Effective principals have been found to seek information to ensure that all the activities being accomplished in their school are meeting the legal mandates of special education and are in alignment

with researched-based practices (Goor, et al., 1997). Effective principals have also been found to have skills in the areas of collaborative planning and decision making (Goor, et al., 1997). Coordination of effective teacher support was also part of the effective principal's repertoire of leadership skills (Goor, et al., 1997). These supports insured that staff development was provided to both general education and special education teachers. Finally, effective principals were found to be reflective after making decisions (Goor, et al., 1997). Effective principals followed the following steps when reflecting on decisions: (1) paused and questioned the decision; (2) solicited input from the people involved; (3) processed the information to clarify the issues; (4) scrutinized their own personal values; (5) examined the intent by focusing on the goals specific to the situation; and (6) decided whether to maintain, revise, or replace the decision that was made.

Based on the data collected and analyzed in this study, middle school principals need additional knowledge in researched-based practices for structuring and supporting the special education program in their schools. Middle school principals also need to apply their knowledge to a greater extent to ensure that research-based practices are implemented when structuring and supporting the special education program in their schools. Coaching and mentoring by more innovative principals could help less innovative principals with implementation in their schools. Additionally, model school could be developed within each district so that less innovative principals would have an example to follow. This, in turn, should aid in improving postschool outcomes for students with disabilities.

A statistically significant difference was found between the knowledge total and the application total for the middle school principals who participated in this study. None

of the school and personal variables explained this difference and further study is needed. According to the data gathered in this study, higher knowledge did not necessarily lead to higher application. Therefore, middle school principals should be encouraged to align their knowledge of special education with the practices they incorporate into the special education program at their schools.

When the middle school principals who were in the most innovative group were compared with the middle school principals who were in the least innovative group, a statistically significant difference was also found between the two groups. When the data were analyzed, a profile of characteristics emerged for the most and least innovative principals based on several school and personal variables. Table 31 (p. 131) summarized the two profiles.

Implications for Practice

Based on the analyses of this study, the implication for practice included:

1. Principals should receive additional professional development in research-based practices for structuring and supporting the special education programs at their individual schools.
2. Principals need support from their districts and from the state to insure that research-based practices for structuring and supporting special education programs are implemented at the school level. Coaching and mentoring programs, as well as model schools, could be developed to aid in the implementation of these practices in school-based special education programs.
3. Ways to motivate and recharge principals who have been leading their schools for six or more years and may have lost their innovativeness should be

developed to help them reconnect and become personally involved with the special education program at their schools.

4. Not only does professional development need to be provided for current principals, prospective principals also need training in these areas either through their district or the local college or university.
5. Additionally, knowledge of special education may need to be added at the college level to educational leadership programs to improve prospective principals' knowledge level for structuring and supporting special education programs.

Consequently, postschool outcomes for students with disabilities hopefully will improve.

Recommendations for Future Research

Future research needs were determined from the data analyses from this study and included:

1. Replicating this study with the following changes to the questionnaire; (a) remove the response choice "Neither agree nor disagree" from the group knowledge items; and (b) remove the response choice "Seldom" from the group of application items. These changes should improve the quality of data gathered for analysis.
2. Replicating this study in Florida at the elementary and high school levels.
3. Replicating this study in different states and regions at the elementary, middle and high school levels.

4. Conducting a similar study by adding an interview with the most and least innovative principals in order to gain insight into each principal's decision making skills and leadership style.
5. Conducting a similar study by adding additional school and personal demographic variables such as age of the principal, number of years in the classroom before assuming an administrative position, ethnicity of the principal, ethnicity of the students in special education, and additional open-ended questions about special education program structure and support in order to analyze additional variables for significance.
6. Conduct a similar study to determine if various demographic variables are predictive of a principal's innovativeness.
7. Conducting a similar study by including teachers, and assistant principals as well as principals to determine differences in their knowledge level among these groups.
8. Conducting a similar study on different areas of special education programs, such as leadership, curriculum, instructional strategies, school climate or assessment at the elementary, middle and high school levels in order to determine principals' knowledge and application of knowledge in these areas.
9. Conducting a similar study that examines programs for English as a Second Language (ESOL) at the elementary, middle and high school levels.

APPENDIX A: QUESTIONNAIRE

Principals' Knowledge and Application of Knowledge Related to the Structure and Support of Special Education Programs

By: Lisa F. Bugden M.Ed.
University of Central Florida

Directions: Based on your knowledge and perception of special education legislation and policies, please rate each statement: You "strongly agree", "agree", "disagree", "strongly disagree", or "neither agree nor disagree" by marking the appropriate box with an X.

START HERE	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1. Special education services need to be provided at every school.	☐	☐	☐	☐	☐
2. Co-teaching is a special education service delivery model that benefits students with disabilities.	☐	☐	☐	☐	☐
3. Most students in special education need to be taught in a self-contained classroom.	☐	☐	☐	☐	☐
4. General education teachers need to be assigned by the principal to teach students with disabilities.	☐	☐	☐	☐	☐
5. Roles and responsibilities of paraprofessionals need to be clearly defined.	☐	☐	☐	☐	☐
6. Related services personnel need to define their own roles and responsibilities.	☐	☐	☐	☐	☐
7. The special education programs should be staffed according to the number of allocations determined by the district.	☐	☐	☐	☐	☐
8. Students with disabilities need to receive instruction in the general curriculum to the greatest extent possible.	☐	☐	☐	☐	☐
9. Special education teachers need additional time to complete paperwork.	☐	☐	☐	☐	☐
10. General education teachers who teach students in special education need extra time for collaboration.	☐	☐	☐	☐	☐
11. Special education teachers need the same staff development as general education teachers.	☐	☐	☐	☐	☐
12. Staff development about special education procedures and paperwork is unnecessary.	☐	☐	☐	☐	☐
13. Staff development should be provided that relates to the characteristics of students with disabilities.	☐	☐	☐	☐	☐
14. General education teachers should be given time to attend staff development pertaining to special education.	☐	☐	☐	☐	☐
15. General education teachers should be given a voice regarding decisions related to special education services that affect their classrooms.	☐	☐	☐	☐	☐
16. Beginning special education teachers need mentors during their first year of teaching.	☐	☐	☐	☐	☐

PLEASE CONTINUE ON NEXT PAGE

Directions: Based on the special education program at your school, please rate each statement: My school "almost always", "often", "sometimes", "seldom", or "almost never" provides this service or support by marking the appropriate box with an X.

CONTINUE HERE	Almost Always	Often	Some-times	Seldom	Almost Never
17. In my school, special education services are provided to students with disabilities.	☐	☐	☐	☐	☐
18. Co-teaching is a special education service delivery model that is provided at my school.	☐	☐	☐	☐	☐
19. In my school, most students in special education are taught in self-contained classes.	☐	☐	☐	☐	☐
20. General education teachers are assigned by the principal to work with students with disabilities at my school.	☐	☐	☐	☐	☐
21. Roles and responsibilities of paraprofessionals serving students in special education are clearly defined at my school.	☐	☐	☐	☐	☐
22. Related services personnel define their own roles and responsibilities at my school.	☐	☐	☐	☐	☐
23. At my school, the special education program is staffed according to the number of allocations determined by the district.	☐	☐	☐	☐	☐
24. In my school, students with disabilities receive instruction in the general curriculum to the greatest extent possible.	☐	☐	☐	☐	☐
25. Special education teachers are given additional time to complete paperwork at my school.	☐	☐	☐	☐	☐
26. In my school, general education teachers who teach students in special education are given extra time for collaboration.	☐	☐	☐	☐	☐
27. Special education teachers receive the same staff development as general education teachers at my school.	☐	☐	☐	☐	☐
28. Staff development about special education procedures and paperwork is provided at my school.	☐	☐	☐	☐	☐
29. Staff development is provided at my school that relates to the characteristics of students with disabilities.	☐	☐	☐	☐	☐
30. At my school, general education teachers are given time to attend staff development pertaining to special education.	☐	☐	☐	☐	☐
31. At my school, general education teachers are given a voice regarding decisions related to special education services that affect their classrooms.	☐	☐	☐	☐	☐
32. In my school, beginning special education teachers are assigned mentors during their first year of teaching.	☐	☐	☐	☐	☐

PLEASE CONTINUE ON NEXT PAGE

CONTINUE HERE

33. How did you first learn about special education?
- ☐ Personal Experience
- ☐ College/University
- ☐ District Personnel
- ☐ District Mandate
- ☐ Another Principal
- ☐ Assistant Principal
- ☐ Special Education Teacher
- ☐ General Education Teacher
- ☐ Professional Journals
- ☐ Professional Conference
- ☐ Other (Please specify: _____)

34. What is your primary source of information about structuring the special education services at your school?
- ☐ College/University
- ☐ District Personnel
- ☐ Another Principal
- ☐ Assistant Principal
- ☐ Special Education Teacher
- ☐ General Education Teacher
- ☐ Professional Journals
- ☐ Professional Conference
- ☐ Other (Please specify: _____)

35. What is your primary source of information regarding support for teachers and staff who serve students in special education?
- ☐ College/University
- ☐ District Personnel
- ☐ Another Principal
- ☐ Assistant Principal
- ☐ Special Education Teacher
- ☐ General Education Teacher
- ☐ Professional Journals
- ☐ Professional Conference
- ☐ Other (Please specify: _____)

36. What is your primary source of information regarding staff development for teachers and staff who serve students in special education?
- ☐ College/University
- ☐ District Personnel
- ☐ Another Principal
- ☐ Assistant Principal
- ☐ Special Education Teacher
- ☐ General Education Teacher
- ☐ Professional Journals
- ☐ Professional Conference
- ☐ Other (Please specify: _____)

37. How recently have you introduced a new program in special education?
- ☐ Within the current school year
- ☐ 1-2 school years ago
- ☐ 3-5 school years ago
- ☐ More than 5 school years
- ☐ Never

38. What is your highest degree?
- ☐ Masters Degree
- ☐ Specialists Degree
- ☐ Doctorate Degree

39. What year did you enter the education field professionally?

_____ Year entered education

40. What year did you receive your educational leadership certification?

_____ Year received certification

41. What year did you become a principal?

_____ Year became a principal

42. What is your gender?
- ☐ Female
- ☐ Male

43. In what area did you primarily teach?
- ☐ English
- ☐ Math
- ☐ Science
- ☐ Social Studies
- ☐ Elective
- ☐ Special Education
- ☐ Elementary Education
- ☐ Other (Please specify: _____)

44. What percentage of the students at your school receive free or reduced priced lunch?
- ☐ Above 90%
- ☐ 75% to 90%
- ☐ 50% to 74%
- ☐ 25% to 49%
- ☐ Below 25%

PLEASE CONTINUE ON NEXT PAGE

CONTINUE HERE

45. Check all special education services your school provides.

- ☐ General education classes
- ☐ Co-Teaching
- ☐ Resource Rooms
- ☐ Learning Strategies
- ☐ Self-contained classrooms
- ☐ Speech/language therapy
- ☐ Occupational therapy
- ☐ Physical therapy
- ☐ Adaptive physical education
- ☐ Nursing services
- ☐ Other (Please specify: _____)

46. Excluding gifted students, how many students with disabilities does your school serve?

- ☐ Fewer than 50 students
- ☐ 50 to 100 students
- ☐ 101 to 150 students
- ☐ 151 to 200 students
- ☐ 201 to 250 students
- ☐ More than 250 students

47. Which population of students with disabilities best describes those served at your school?

- ☐ Mild disabilities
- ☐ Mild and moderate disabilities
- ☐ Mild, moderate, and severe disabilities

48. How many students do you currently have enrolled at your school?

- ☐ Fewer than 800 students
- ☐ 800 to 1,200 students
- ☐ More than 1,200 students

49. How is your school classified?

- ☐ Urban
- ☐ Suburban
- ☐ Rural

50. How large is your district?

- ☐ Fewer than 10,000 students
- ☐ 10,000 to 24,999 students
- ☐ 25,000 to 99,999 students
- ☐ 100,000 or more students

51. Describe the last change you made to the special education program in your school.

52. Describe any changes you plan to make to the special education program in your school in the next year (2007-2008).

53. The survey was completed by:

_____ **Position**

This is **THE END** of the questionnaire. Thank you for your time and responses. Your information is very important in furthering research in the areas of special education and educational leadership.

APPENDIX B: FIRST CONTACT VIA U.S. POSTAL SERVICE

A few days from now, you will receive an email request to complete a brief online questionnaire for an important research project being conducted for my dissertation at the University of Central Florida.

The study concerns public school middle school principals' knowledge of special education program structure and support and how public middle school principals use their knowledge in constructing special education programs at the school level.

I am writing in advance because I have found many people prefer to know ahead of time that they will be contacted. The study is an important one that will help assess the need for future training in the development and support of special education programs.

The questionnaire should only take fifteen to twenty minutes to complete. Thank you for your time and consideration. It's only with the generous help of people like you that my research can be successful. When the email arrives a link will connect you to the questionnaire. I would greatly appreciate it if you would complete the questionnaire when the email arrives.

Sincerely,

Lisa F. Bugden
Doctoral Candidate
University of Central Florida
407-888-3383
Lisaann62@aol.com

APPENDIX C: SECOND CONTACT QUESTIONNAIRE COVER LETTER

I am writing to ask your help in a study of public middle school principals' knowledge and application of their knowledge to the structure and support of special education programs for my dissertation at the University of Central Florida. I will be using an online questionnaire in an effort to assess how principals use their knowledge of structuring and supporting the special education program at the school level. The questionnaire should only take about twenty minutes to complete. Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified.

Results from the questionnaire will be used to give an understanding of how special education programs are structured and how teachers and staff who service students with disabilities are supported. By understanding the structure and support of special education programs, recommendations can be made to improve the training of school-based administrators both at the district and college levels.

There are no anticipated risks, compensations, or other direct benefits to you as a participant in this survey. This questionnaire is voluntary, and you are free to withdraw or discontinue your participation at any time without consequence. Also, you do not have to answer any question you do not wish to answer. However, you can help me very much by taking a few minutes to share your information about your school's special education program.

If you have any questions or comments about this research project, I would be happy to talk with you. My phone number is 407-888-3383, or you can write to me at 11561 Blackmoor Dr., Orlando, FL, 32837. My faculty supervisor is Dr. Rosemarye Taylor. She can be contacted at 407-823-1469. Questions or concerns about research participants' rights may be directed to the UCF IRB Office, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826. The phone number is 407-823-2901.

Please click on the link below to complete the questionnaire. By doing so, you give me permission to report your responses anonymously in my final research documents. Thank you very much for helping with this important study.

http://www.surveymonkey.com/s.asp?u=384683629364
Password: bugden
Tracking Code:

Sincerely,

Lisa F. Bugden
Doctoral Candidate
University of Central Florida
Lisaann62@aol.com

APPENDIX D: THIRD CONTACT EMAIL REMINDER

Last week an email with a link to a questionnaire seeking information on the structure and support of the special education program at your school was sent to you. Your name was randomly chosen from the list of public middle school principals in the State of Florida.

If you have already completed the questionnaire, please accept my sincere thanks. If not, please do so today. I am especially grateful for your help because it is only by asking principals like you to share their school's information that I can understand how special education programs are structured and supported.

If you are not a principal and you feel that I have made a mistake including you in this study, please let me know by sending me an email with a note indicating so. This would be very helpful.

If you did not receive the original email with a link to the questionnaire, or if you did not respond, please do so now by clicking the link below to complete it. Thank you again for participating in this research project.

http://www.surveymonkey.com/s.asp?u=384683629364
Password: bugden
Tracking Code:

Lisa F. Bugden
Doctoral Candidate
University of Central Florida
407-888-3383
Lisaann62@aol.com

APPENDIX E: FOURTH CONTACT LETTER

About three weeks ago, I sent you an email with a link to a questionnaire that asked you about the special education program at your school. To the best of my knowledge, your questionnaire has not yet been completed.

The comments of principals who have already responded have yielded a wide variety of program structures and supports. I think the results are going to be very useful in planning training in the future.

I am writing again because of the importance that your questionnaire has for helping to get accurate results. Although I sent questionnaires to middle school principals in several Florida counties, it is only by hearing from everyone in the sample that I can be sure that the results are truly representative.

If you have any questions or comments about this research project, I would be happy to talk with you. My phone number is 407-888-3383, or you can write to me at 11561 Blackmoor Dr., Orlando, Florida 32837. My faculty supervisor is Dr. Rosemarye Taylor. She can be contacted at 407-823-1469. Questions of concerns about research participants' rights may be directed to the UCF IRB Office, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826. The phone number is 407-823-2901.

If you prefer to submit your answers online, the link to the electronic questionnaire is http://www.surveymonkey.com/s.asp?u=384683629364, the password is bugden, and your Tracking Code is . Thank you for your participation in my research project.

Sincerely,

Lisa F. Bugden
Doctoral Candidate
University of Central Florida
Lisaann62@aol.com

APPENDIX F: FIFTH CONTACT EMAIL

During the last several weeks, I have sent you several mailings about an important research study I am conducting for my dissertation at the University of Central Florida. The purpose of the study is to understand the structure of and support given to special education programs in order to make recommendations for administrator training in this area at both the district and college levels.

I am sending this final contact because of my concern that the people who have not responded may have different structures and supports than those who have. Hearing from everyone in this small sample helps assure that the questionnaire results are as accurate as possible.

I also want to assure you that your response to this study is voluntary, and if you prefer not to respond, that is fine. If you are not a principal and you feel that I have made a mistake including you in this study, please let me know by emailing me with a note indicating so. This would be very helpful.

If you have any questions or comments about this research project, study, I would be happy to talk with you. My phone number is 407-888-3383, or you can write to me at 11561 Blackmoor Dr., Orlando, Florida 32837. My faculty supervisor is Dr. Rosemarye Taylor. She can be contacted at 407-823-1469. Questions or concerns about research participants' rights may be directed to the UCF IRB Office, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826. The phone number is 407-823-2901.

Finally, I appreciate your willingness to consider my request as I conclude this effort to better understand the structure and support used in special education programs in the State of Florida. Please click on the link below to begin the survey. Thank you very much.

http://www.surveymonkey.com/s.asp?u=384683629364
Password: bugden
Tracking Code:

Sincerely,

Lisa F. Bugden
Doctoral Candidate
University of Central Florida
Lisaann62@aol.com

APPENDIX G: THANK YOU EMAIL

Thank you for responding to the survey. Your information is greatly appreciated and will be used to further education in the State of Florida. If you have any additional comments or questions, please feel free to contact me.

Sincerely,

Lisa F. Bugden
Doctoral Candidate
University of Central Florida
407-888-3383
Lisaann62@aol.com

APPENDIX H: PERMISSION FOR HUMAN SUBJECTS IRB APPROVAL

University of Central Florida

Office of Research & Commercialization

February 16, 2007

Lisa Bugden
11561 Blackmoor Drive
Orlando, FL 32837

Dear Ms. Bugden:

The University of Central Florida's Institutional Review Board (IRB) received your protocol IRB #07-4167 entitled, "Principals' Application of Knowledge to the Structure and Support of Special Education Programs in Florida Middle Schools." The IRB Chair reviewed the study on 02/14/2007 and did not have any concerns with the proposed project. The Chair has indicated that under federal regulations (Category #2, research involving the use of educational tests, survey or interview procedures, or the observation of public behavior, so long as confidentiality is maintained) this research is **exempt** from further review by our IRB, so an approval is not applicable and a renewal within one year is not required.

Please accept our best wishes for the success of your endeavors. Should you have any questions, please do not hesitate to call me at 407-823-2901.

Cordially,

Joanne Muratori
(FWA00000351 Exp. 5/13/07, IRB00001138)

Copies: IRB File
Rosemarye Taylor, Ph.D.

JM:jm

12201 Research Parkway • Suite 501 • Orlando, FL 32826-3246 • 407-823-3778 • Fax 407-823-3299

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