

TEACHER ATTRITION AND RETENTION IN EXCEPTIONAL STUDENT  
EDUCATION: AN EVALUATION OF THE SKILLS, TIPS, AND ROUTINES FOR  
TEACHER SUCCESS (STARTS) INITIATIVE OF VOLUSIA COUNTY, FLORIDA  
SCHOOLS

by

MARY ELLEN SPEIDEL  
B.M.E., Stetson University, 1991  
M.S., Nova Southeastern University, 1998  
Ed. S., University of Central Florida, 2004

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Education  
in the Department of Educational Research, Technology,  
and Leadership  
in the College of Education  
at the University of Central Florida  
Orlando, Florida

Spring Term  
2005

Major Professor: Douglas Magann

© 2005 Mary Ellen Speidel

## ABSTRACT

Teacher attrition affects the quality of services for students in K-12 education and poses an ongoing challenge for educational leaders, especially in the area of special education. Special educators leave the profession at higher rates than general educators. As a growing state, Florida has identified special education as a critical teacher shortage area.

This study evaluated the Skills, Tips, and Routines for Teacher Success (STARTS) initiative of Volusia County Schools, a large district in east central Florida. Implemented in 2001 for new ESE teachers, STARTS offered four days of training in policies and procedures, curriculum, and classroom management. Research questions addressed whether STARTS influenced retention of new ESE teachers. Because the literature cited age, ethnicity, special education program area, and grade level assignment as factors in attrition, these were assessed as well.

Incorporating employment histories from school year (SY) 1998-1999 through SY 2003-2004, the study evaluated 771 new ESE teachers. Of these, 422 teachers did not participate in STARTS; 349 teachers participated in STARTS. The study reported whether they returned the following year to an ESE position, a general education position, or exited the school system.

Contingency table analysis with crosstabulation was used to evaluate statistical relationships among variables. Effect size was assessed with Cramer's V and the contingency coefficient. All analyses were conducted with an alpha of .05.

A significant difference existed between the retention rates of new ESE teachers hired before STARTS and during STARTS. In 2000-2001, the school year preceding STARTS, 54.3% of new ESE teachers returned to an ESE position whereas in the first year of STARTS, 71.1% of new ESE teachers returned to an ESE position, an increase of 51%. By SY 2003-2004, 89.7% of new ESE teachers returned to an ESE position, an increase of 65% from the SY 2000-2001 baseline.

This dissertation is dedicated to those who value education and the people whom it serves. *Tamdiu discendum est, quamdiu vivas*: We should learn as long as we may live.

Seneca Philosophus

## ACKNOWLEDGMENTS

Several people deserve recognition for their guidance and support in completing this dissertation. First, I want to thank my committee members for their invaluable expertise. I appreciate the wisdom of committee chair and adviser, Dr. Magann, the dedication of Dr. Bozeman, the efficiency of Dr. Murray, the authenticity of Dr. Ford, and the inimitable penchant for statistics of Dr. Sivo. Although I benefited from the efforts of all my professors, these educators consistently modeled a high standard that brought out the best in their students.

Despite the setbacks of three hurricanes, the Volusia County School District provided much assistance in obtaining data for this project. Special thanks go to Dr. Chris Colwell, Deputy Superintendent for Instructional Services, Dr. Bill Fink, Director of Exceptional Student Education and Student Services, and Mr. Bill Tindall, Executive Director of Management Information Services (MIS). Dr. Barbara Bush, Assistant Director of Exceptional Student Education and first administrator of STARTS, and Pat Griesinger, resource teacher, Florida Diagnostic and Learning Resource Systems (FDLRS), were instrumental in the early development of STARTS and offered historical perspectives. Jan Kirchberger, current STARTS administrator, coordinated district resources and served as liaison to the MIS and personnel departments.

Where would we be without family? With deep gratitude, I remember my grandparents, Elena and Nicola, and Cesarea and Guiseppe, who immigrated to the

United States in the 1910s. Their perseverance enabled their descendants to realize the American dream. I also remember my dad, Joe the Barber, who, with my loving mom, Rae, instilled an insatiable desire for life-long learning and service to others. My children, Rae Ellen, Teresa, and Frances, all of whom are currently in college, have been a blessing and truly demonstrated what it means to have wonderful daughters. Most of all, I want to thank my husband, Tom, whose name should be on the diploma as well. Tom, who, several years ago, encouraged me to “just take a few classes,” modeled patience, and allowed me to put family plans on hold while “we” went to school. To my family, thank you for your love and encouragement.

## TABLE OF CONTENTS

LIST OF FIGURES .....	xi
LIST OF TABLES .....	xii
CHAPTER 1 INTRODUCTION .....	1
Statement of the Problem.....	1
Significance of the Study .....	5
Purpose of the Study .....	6
Delimitations .....	7
Assumptions.....	7
Definition of Terms.....	7
Research Questions .....	10
Hypotheses.....	11
Theoretical Framework.....	12
The Development of STARTS.....	12
The Human Resource Model .....	16
CHAPTER 2 LITERATURE REVIEW .....	23
Introduction.....	23
Overview of Teacher Attrition.....	25
Teacher Attrition in Exceptional Student Education .....	34
General Efforts to Increase Teacher Retention .....	48
Efforts to Increase Teacher Retention in Exceptional Student Education .....	59
Summary .....	68
CHAPTER 3 METHODOLOGY .....	71
Introduction.....	71
Statement of the Problem.....	73
Population and Sample .....	77
Research Questions .....	79
Hypotheses.....	80
Data Collection .....	81
Data Analysis .....	83
Summary .....	84
CHAPTER 4 RESULTS .....	86
Introduction.....	86
Demographic Data .....	86



Data Analysis .....	90
Null Hypothesis 1 .....	90
Null Hypothesis 2 .....	93
Null Hypothesis 3 .....	102
Null Hypothesis 4 .....	110
Null Hypothesis 5 .....	118
CHAPTER 5 DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS .....	126
Introduction.....	126
Demographic Summary .....	127
Discussion, Conclusions, and Recommendations.....	129
Implications for Further Research .....	141
APPENDIX A: LIST OF ACRONYMS/ABBREVIATIONS .....	148
APPENDIX B: VOLUSIA COUNTY SCHOOLS APPROVAL FORM .....	151
APPENDIX C: UNIVERSITY OF CENTRAL FLORIDA APPROVAL FORM.....	153
APPENDIX D: STARTS DEVELOPMENT FLOWCHART .....	155
APPENDIX E: SY 1998-1999 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION TEACHERS IN VOLUSIA COUNTY SCHOOLS .....	157
APPENDIX F: SY 1999-2000 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION TEACHERS IN VOLUSIA COUNTY SCHOOLS .....	159
APPENDIX G: SY 2000-2001 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION TEACHERS IN VOLUSIA COUNTY SCHOOLS .....	161
APPENDIX H: SY 2001-2002 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION TEACHERS IN VOLUSIA COUNTY SCHOOLS .....	163
APPENDIX I: SY 2002-2003 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION TEACHERS IN VOLUSIA COUNTY SCHOOLS .....	165
APPENDIX J: SY 2003-2004 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION TEACHERS IN VOLUSIA COUNTY SCHOOLS .....	167

APPENDIX K: SY 1998-1999 TO SY 2003-2004-2004 NEW EXCEPTIONAL STUDENT EDUCATION TEACHER RETENTION RATES IN VOLUSIA COUNTY SCHOOLS: OVERVIEW OF TEACHERS RETURNING TO EXCEPTIONAL STUDENT EDUCATION THE FOLLOWING YEAR.....	169
APPENDIX L: SY 1998-1999 TO SY 2003-2004 NEW EXCEPTIONAL STUDENT EDUCATION TEACHER RETENTION RATES IN VOLUSIA COUNTY SCHOOLS: OVERVIEW OF TEACHERS RETURNING TO EXCEPTIONAL STUDENT EDUCATION OR MOVING TO GENERAL EDUCATION THE FOLLOWING YEAR .....	171
LIST OF REFERENCES .....	173

## LIST OF FIGURES

Figure 1: The Development of STARTS .....	156
Figure 2: SY 1998-1999: Retention of new ESE teachers in Volusia County Schools..	158
Figure 3: SY 1999-2000: Retention of new ESE teachers in Volusia County Schools..	160
Figure 4: SY 2000-2001: Retention of new ESE teachers in Volusia County Schools..	162
Figure 5: SY 2001-2002: Retention of new ESE teachers in Volusia County Schools..	164
Figure 6: SY 2002-2003: Retention of new ESE teachers in Volusia County Schools..	166
Figure 7: SY 2003-2004: Retention of new ESE teachers in Volusia County Schools..	168
Figure 8: SY 1998-1999 to SY 2003-2004: Number of new ESE teachers hired and retained in ESE .....	170
Figure 9: SY 1998-1999 to SY 2004-2004: Number of new ESE teachers hired and retained in ESE or moved to general education.....	172

## LIST OF TABLES

Table 1 Paths to Certification in Special Education .....	36
Table 2 Special and General Educators by Age Groups.....	38
Table 3 Special and General Educators by Gender .....	38
Table 4 Special and General Educators by Ethnicity.....	39
Table 5 Teacher Demographic Data: Year of Hire and Age .....	87
Table 6 Number of Teachers by Year of Hire and Age Range.....	87
Table 7 Number of Teachers by Year of Hire and Race.....	88
Table 8 Number of Teachers by Year of Hire and Program Area .....	89
Table 9 Number of Teachers by Year of Hire and Grade Level.....	89
Table 10 Year Hired and Returned the Following Year .....	91
Table 11 STARTS Participation and Returned the Following Year.....	92
Table 12 Returned the Following Year by Age Range and Year Hired .....	95
Table 13 Returned the Following Year by Age Range and Participation in STARTS..	100
Table 14 Returned the Following Year by Race and Year Hired .....	104
Table 15 Returned the Following Year by Race and Participation in STARTS .....	108
Table 16 Returned the Following Year by Program Area and Year Hired .....	112
Table 17 Returned the Following Year by Program Area and Participation in STARTS .....	116
Table 18 Returned the Following Year by Grade Level and Year Hired .....	120

Table 19 Returned the Following Year by Grade Level and Participation in STARTS. 124

## CHAPTER 1

### INTRODUCTION

#### Statement of the Problem

Teacher attrition affects the quality of teachers, restricts planning and program continuity, increases allocations for recruitment and hiring, and impedes student learning (Shen, 1997). School districts throughout the United States continue to address the consequences of teacher attrition and retention. In this regard, exceptional student education (ESE) poses a significant challenge. Special education teachers leave their profession at rates higher than their general education peers (Billingsley, 1993). While general education experiences 13% annual turnover, special education presents an annual turnover rate of 20% (Boe, Bobbitt, & Cook, 1997).

According to the literature, teachers leave for reasons that include poor administrative support and training in curriculum (Kauffman, Johnson, Kardos, Liu, & Peske, 2002), inadequate pre-service training (Merrett & Wheldall, 1993), poor salary (Shen, 1997), isolationism (CEC, 2000), poor behavior management skills (Brownell, Smith, & McNellis, 1997), and excessive paperwork (CEC, 2002). In addition, external factors exist which influence the issues of teacher attrition and retention, especially in Florida. These include increased enrollment (FDOE, 2004c), teacher shortages (FDOE, 2004a), retirement (FDOE, 2004c), legislation (FDOE, 2004c), and the number of college students majoring in education (FDOE, 2003d).

Between 1988 and 2001, total elementary and secondary school enrollment in the United States increased 19% to about 54 million students (NCES, 2003a). Students with disabilities comprised about 13% of that population (NCES, 2002b). For public schools, national projections indicated a 4% national increase in elementary and secondary enrollment between 2001 and 2013. With Alaska, Hawaii, and California leading, thirty states can expect increased enrollments. Since the 1982-1983 school year, Florida has experienced steady growth in enrollment in its PreK-12 programs. Between 2001 and 2013, Florida anticipates an overall increase in enrollment of 5.4% (NCES, 2003a). Although projections indicate a slowing of the state growth rate over the next 10 years, Florida's student population will continue to increase at a rate of about 50,000 students per year (FDOE, 2004a). In Fall 2003, Florida schools served 2,591,033 students including 502,231 students with disabilities plus 115,002 students identified as gifted. These numbers reflected a four-year increase of 9.04% in the total number of students in Florida, but a 13.03% increase in the number of students served in special education programs (FDOE, 2003b).

Florida possesses the fourth largest school system in the nation (FDOE, 2002). To meet the demands of student enrollments, increasing numbers of teachers are hired every year. Between 1988 and 2001, the total number of elementary and secondary teachers in the US increased by 27% to about 3.4 million teachers. For public schools, projections indicated another 5% increase between 2001 and 2013 (NCES, 2003b). Between July 1, 2003 and November 1, 2003, Florida schools hired 19,317 classroom teachers and 978

other instructional personnel, such as librarians and guidance counselors, for its schools. The additional classroom teachers represented a 25% increase over the 15,388 classroom teachers hired during the fall of 2002. With these additions, Florida boosted its Fall 2003 employment to 147,957 teachers and 17,356 other instructional personnel (FDOE, 2004a). Despite these increases, shortages persisted.

Teacher shortages have been a concern in Florida for some time. In 1984, the Florida Department of Education (FDOE) identified six specializations as critical teacher shortage areas: (a) mathematics, (b) science, (c) speech therapy, (d) emotionally handicapped, (e) industrial arts, and (f) foreign languages. In 1989, the list expanded to include all areas of exceptional student education. Remaining a critical teacher shortage area for 15 years, ESE again has been identified for school year (SY) 2005-2006 (FDOE, 2004a). Shortage area indicators included the number of new hires as a percentage of all teachers and the number of new teachers lacking appropriate certification. In 2003, ESE teachers represented about 20% of new hires, and more than 20% of these teachers lacked certification in their field (FDOE, 2004a). In an effort to make it easier to find certified ESE teachers, the State of Florida, in 2003, combined several ESE certification areas into one. Former certification areas including *Mentally Handicapped*, *Emotionally Handicapped*, and *Varying Exceptionalities* were collapsed into the umbrella category of *Exceptional Student Education K-12* (FDOE, 2004b).

The total projection for the critical shortage areas for SY 2006-2007 includes about 10,000 teachers, with mathematics, science, ESE, and English for Speakers of



Other Languages (ESOL) accounting for 75% of the total need (FDOE, 2004a).

Projections from the Florida Department of Education (2004c) suggested that from 2005 to 2015, Florida would need to fill between 19,600 to 29,600 teaching positions every year during that 10-year period. More than 3000 of these annual projected classroom positions would be ESE positions.

During the 2002-2003 school year, about 9.8% of Florida's teachers left the classroom (FDOE, 2004a). Of the 13,751 teachers who left, 8538 resigned, reflecting 62.0% of the total. Retirement represented 19.6% of the total or 2706 teachers (FDOE, 2004c). With one-fifth of Florida teachers at age 49 or older, retirement will continue to pose a challenge for Florida (FDOE, 2004a). The remaining 18.2% or 2507 teachers left for other reasons (FDOE, 2004c).

Legislative and political factors influence the demand for teachers. The federal *No Child Left Behind Act (NCLB)* of 2001 and the *Class Size Reduction Amendment* passed by Florida voters in 2002 mandated highly qualified teachers in all classrooms, and reduction in the student-teacher ratio in K-12 education, respectively. As a result of the state constitutional amendment alone, projections for additional teachers ranged from 4,300 for SY 2004-2005 to 11,821 for SY 2006-2007, at which time adjustments due to the amendment are expected to wane.

In 2001-2002, 5,656 candidates completed teaching programs in Florida universities (FDOE, 2003c). Of these graduates, 1,150 majored in special education (FDOE, 2003d). However, Florida universities do not graduate enough students to meet

the demand for new ESE teachers. According to the Florida Department of Education (2004a), the number of graduates with degrees in ESE actually declined in 2002-2003. Despite over-projections in previous years, the projected overall increase in ESE graduates holds at about 9%. Projections indicated that, although about 2600 new hires will be required for ESE in SY 2006-2007, Florida universities would graduate approximately 920 new ESE teachers. Consequently, Florida may not be able to fill all its ESE teaching vacancies with certified personnel. In addition, the Florida Department of Education reported that only 61% of all Florida teacher education graduates seeking initial teaching certification taught in Florida public schools during the year following graduation. Furthermore, of all Florida teacher education graduates, 58% continued to teach four years after graduation (FDOE, 2004a).

### Significance of the Study

As the numbers of students with disabilities in Florida classrooms continue to increase, the need for additional educators and the need to retain current educators increase as well. Teacher attrition creates several ramifications. Shen (1997) asserted that attrition affects the quality of teachers, limits program continuity and planning, and hinders student learning. In addition, school systems must increase expenditures for recruitment and hiring. Private businesses understand that turnover is expensive and estimates suggest that the cost of replacing workers translates to about 25% of their salaries (Norton, 1999). Applying this estimate to education, losing just 6% of 1000

teachers earning an annual salary of \$30,000 may represent \$450,000 in replacement costs.

This study endeavored to assess whether educational leaders might gain an additional tool with which to increase teacher retention in special education. While the researcher recognized the limits of this study, focusing on this district initiative may offer potential for further research. The answers to the research questions of this STARTS evaluation could offer assistance to educational decision-makers in three ways. Primarily, the results could be used to maintain, enhance, or expand the STARTS program in Volusia County. Implemented in other Florida districts, the techniques of STARTS could be used to increase retention rates of special education teachers. Finally, whether in Volusia County or other school districts, the STARTS program could be adapted and serve as a retention initiative for teachers specializing in general education.

### Purpose of the Study

Retention of quality teachers remains a valuable component in efforts to increase achievement for students with disabilities. The literature suggested several considerations for increasing teacher retention, including staff development. As an internal program evaluation, the main objective of this study was to assess whether the Skills, Tips, and Routines for Teacher Success (STARTS) staff development program influenced retention rates of exceptional student education teachers in the school district of Volusia County, Florida. The study analyzed data from a 6-year period from school year 1998-1999

through school year 2003-2004. Following the evaluation, the results were compiled in order to assist educational leaders with decision-making regarding teacher attrition and retention.

### Delimitations

This study embodied three delimitations. The study was limited to new-to-ESE teachers. These teachers were hired in one district, Volusia County Schools, over a 6-year period from July 1, 1998 through June 30, 2004. In addition, the study was limited by the data available. Because this research was limited to a specific population, any inferences or generalizations of the results to any other populations should be made with caution.

### Assumptions

Two assumptions guided this study. The first assumption held that the technology, which merged data from two district database systems, *Total Educational Resource Management Systems (TERMS)* and *Smartstream*, functioned correctly. The second assumption posed that the data provided by the district was accurate.

### Definition of Terms

For clarification purposes, the following key terms were used throughout this study.

*Age* - The participant's chronological age at the date of hire.

*District* - The school district of Volusia County, Florida.

*Exceptional Student Education (ESE)* - Public school educational services for students with disabilities and students identified with the exceptionality of gifted. Note that the terms *disability* and *exceptionality* are not mutually exclusive. For the purposes of this study, the term *ESE* excluded services for students identified as gifted.

*Gender* - Male or female.

*Leavers* - ESE teachers who exited the school system or did not return for a consecutive year of teaching in Volusia County Schools because they moved to paraprofessional, substitute, or administrative positions within the district.

*Level* - Elementary, middle, or high school teaching assignment.

*Movers* - ESE teachers who returned to a consecutive year of teaching in Volusia County Schools in a general education position.

*New-to-ESE* - Exceptional Student Education teachers new to the district, returning after a break in service, previously on temporary contract, or non-tenured and transferring from a general education position.

*Program* - The service level provided for a student population. Pre-Kindergarten or *PreK*, represented developmental curriculum for students three to five years of age. *Mild* represented an academic curriculum for students with mild cognitive and behavioral disabilities. Multiple varying exceptionalities (*Multi or multi-VE*) represented a functional curriculum for students with severe or profound cognitive disabilities, often with multiple disabilities. Severely Emotionally Disturbed (*SED*), sometimes referred to as emotionally or behaviorally disordered or EBD, represented an academic curriculum

with a strong behavioral component for students with clinically significant behavior problems.

*Race* - An ethnic group. For this study, ethnicity was categorized into four groups, namely, Asian, Black, Hispanic, or White.

*Retention* - In the literature, a new ESE teacher returning for a consecutive year of employment in special education. For the purposes of the study, a new ESE teacher returning for a consecutive year of employment in Volusia County Schools in a special education position. For the reporting purposes of this study, additional results were considered. Because some ESE teachers did not leave the district, an expanded definition of *retention* included ESE teachers who returned for a consecutive year but moved to general education positions. These teachers were identified as *movers*. Considered as *leavers*, teachers who did not return to employment with Volusia County Schools for a consecutive year were coded as not retained.

*Session* - The summer, fall, or spring presentation of STARTS.

*Staff development* - A structured learning experience to enhance teacher quality. In the literature, staff development refers to professional learning opportunities provided for general education teachers, new-to-ESE teachers, or veteran ESE teachers.

*Special education* - Public school educational services for students with disabilities, used synonymously with exceptional student education.

### Research Questions

Because the literature suggested that four variables (age, race, program area, and grade level) affected ESE teacher retention, these were assessed. The following questions were posed:

1. Does the 4-day staff development program, STARTS, make a difference in new-to-exceptional student education teacher retention in Volusia County Schools?
2. Is there a difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to age and participation in STARTS?
3. Is there a difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to race and participation in STARTS?
4. Is there a difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to special education program area and participation in STARTS?
5. Is there a difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to grade level assignment (elementary, middle, high) and participation in STARTS?

### Hypotheses

The study tested the following null hypotheses:

Null Hypothesis 1: In Volusia County Schools, there is no significant difference between the retention rates of new exceptional student education teachers who did not participate in STARTS and those who did participate in STARTS.

Null Hypothesis 2: There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to age and participation in STARTS.

Null Hypothesis 3: There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to race and participation in STARTS.

Null Hypothesis 4: There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to special education program area and participation in STARTS.

Null Hypothesis 5: There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to grade level assignment (elementary, middle, high) and participation in STARTS.



## Theoretical Framework

### The Development of STARTS

In the late 1990s, Volusia County Schools began an evaluation of its teacher recruitment and retention data. In-house assessment revealed that retention in exceptional student education (ESE) mirrored national trends of attrition. A task force was assembled to research professional literature, especially from the Council for Exceptional Children (2000a; 2000b; 2000c) and the US Department of Education's Study of Personnel Needs in Special Education (SPeNSE) report of 1999-2000, propose a strategic design, and implement a program to increase teacher retention in special education. *Facilitative problem-solving* best described the foundations of STARTS. The program did not appear as a revelation, but rather as a result of meetings where leaders discussed research, brainstormed, and strategized. Relative to new teachers, patterns emerged. With input from all stakeholders, STARTS evolved into something that could be done with, of course, funding, resources, and authority (W.F. Fink, personal communication, August 31, 2004).

The literature suggested that among other factors, many ESE teachers leave the classroom because of poor administrative support, confusion about curriculum, overwhelming paperwork, and behavior management issues. In January 2001, the initial planning committee, representing every special education program and level, reviewed current district procedures, current research, and developed a proposal for the Assistant Superintendent for Curriculum and Instruction and School Improvement Services.

Following review, the proposal advanced to the Instructional Council and the Superintendent's senior staff. Once approved, an official STARTS committee was created. Subsequently, involvement expanded to the personnel, staff development, MIS, finance, and legal departments. After detailing the exact qualifications of the target group, personnel services began to identify teachers who would attend STARTS. From its inception, STARTS was mandatory for new ESE teachers. In order to enable participants to earn in-service credit, the ESE department worked with the staff development department to build components for a master in-service plan. Using staff development records, the ESE and MIS departments generated a tracking system. A nearly \$250,000 budget had to be prepared and administered. Because STARTS sessions occurred during the summer or on Saturdays, beyond the contractual day, ESE administrators collaborated with the legal and finance departments, worked in partnership with the teachers' union, determined a pay schedule, and created a supplemental contract. Because teachers would be paid their daily rate, the four extra days translated into a 2% pay advantage.

The STARTS program contained three elements: (a) Policies and Procedures Day, (b) Curriculum Day, and (c) CHAMPs, an acronym for Conversation, Help, Activity, Movement, and Participation. The most intensive of the four days of STARTS, Policies and Procedures Day developed from the concept of following a fictitious second grader named "Bob" through his efforts in general education, interventions, referral, evaluation, eligibility determination, staffing, Individual Education Plan (IEP) development, placement, and finally, annual IEP review. Played intermittently, a professional video

presentation depicted Bob's journey and included all the elements of a staffing and IEP review. At each stage of Bob's progression, participants received instruction about policies and discussed relevant paperwork and procedures. Breaking out into level-alike groups, participants and presenters engaged in activities that reinforced program topics. As part of this highly structured day, district representatives conducted brief presentations that introduced participants to various support services.

Assigned according to level and ESE program area, Curriculum Day offered teachers one full-day or two consecutive half-day sessions of district-adopted curricula. Enthusiastic and highly qualified presenters provided detailed instruction of materials, activities, strategies, and support resources for teaching students with disabilities. With vendor involvement, teachers left Curriculum Day with invaluable teaching tools.

The third leg of STARTS offered a two-day behavioral component. Prior to the development of STARTS, the Volusia County Behavioral Initiative (VCBI) had implemented a proactive behavior management program in order to reduce the loss of instructional time caused by behavioral issues. Because this program, CHAMPs, was already established, it was simply incorporated into STARTS. Built on Maslow's principles and created by Sprick, Garrison, and Howard (1998), CHAMPs encouraged teachers to organize their classrooms, teach expectations, and provide positive feedback. Appropriate for elementary, middle, and high school, the eight aspects of CHAMPs were:

1. Vision – What will your classroom be like?
2. Organization – What do you need to plan/

3. Clarifying expectations - How do you clarify your expectations of student behavior?
4. Teaching expectations - How do you communicate your expectations to students?
5. Motivation - How do you keep students engaged and motivated?
6. Systematic monitoring - How do you know exactly what is going on?
7. Correction - How do you correct irresponsible behavior?
8. Advanced motivation - How will you increase student motivation? (CHAMPs, n.d.)

Following the 4-day STARTS program, the CHAMPs facilitator maintained contact with the participants and visited their classrooms for follow-up over the course of the school year. Reiterating a research-based principle from the National Staff Development Council's (NSDC) standards, Hirsch (1999) noted, "effective staff development must include high-quality ongoing training programs with intensive follow up."

Prior to implementation, principals were notified about STARTS and supplied with information and materials. In order to become familiar with the initiative, school-based administrators attended the first Policies and Procedures Day of STARTS. During that first session, the local media conducted television and newspaper interviews. Eventually, STARTS became an integral part of job fairs. In addition to being introduced to the district teacher induction program (TIP), newly-hired teachers learned about STARTS and were encouraged to sign the teachers' agreement at that time. As a bonus, each participant received a colorful STARTS binder with notepad, a low-cost incentive purchased through the Florida prison system.

As a full-district effort, a revised handbook for ESE teachers emerged from STARTS with a myriad of resources, contacts lists, policies, and teaching tools. Planners

believed that STARTS was all about “highly qualified teachers” and served as an effort to give new out-of-field teachers help up front. The first session of STARTS occurred before preplanning week so that teachers were not pulled from class at a cost of instructional time. No waivers existed. All new teachers were required to attend STARTS. As illustrated in Figure 1, an impressive timeline should be noted. From development to implementation, STARTS took about 6 months to accomplish (B. Bush, personal communication, December 16, 2004 and P. Griesinger, personal communication, December 17, 2004).

### The Human Resource Model

Although the STARTS initiative was developed as a response to research of the Council for Exceptional Children and its eight guiding principles for teacher attrition: (a) ambiguous and competing responsibilities, (b) overwhelming paperwork, (c) inadequate district and administrative support, (d) significant teacher isolation, (e) insufficient focus on improved student outcomes, (f) increased demand for well-qualified special educators, (g) poorly prepared new general special and educators, and (h) fragmented state and provincial licensing systems (CEC, 2000a, 2000b, 2000c), other sources (Whitaker, 2000; Fore, Martin, & Carter, 2001; Billingsley, 1993, SPeNSE, ), and district assessments, STARTS and its subsequent evaluation reflected a broader philosophy. STARTS was designed to empower teachers and enable success in their profession. In a television interview, STARTS’ founder, W.F. Fink, commented, “too often we ask teachers just to

come in and give their time.” When asked what message should be conveyed to new teachers, he added, “We’re going to invest in you. We think you’re important. We want to keep you. We want to train you. We want to give you the tools you need to be successful” (Marsh, 2001).

Typically, organizational theorists offer models to illustrate their precepts. Bolman and Deal (1997) classified organizations according to four theoretical frames: (a) the structural frame, (b) the political frame, (c) the symbolic frame, and (d) the human resource frame. The STARTS initiative embodied the spirit of the human resource frame.

In contrast to the other frames’ emphases on hierarchy and efficiency, power, or culture, the human resource frame regarded peoples’ skills, attitudes, energy, and commitment as capable of making or breaking an organization. According to Bolman and Deal, the human resource frame espoused the following core beliefs: (a) organizations exist to serve human needs rather than the reverse, (b) people and organizations need each other, (c) when the fit between the individual and the system is poor, one or both will suffer, and (d) when the fit between the individual and the system is good, both will benefit. In essence, people ask, “How will this organization fulfill my needs?” and organizations ask, “How can we find and retain people with needed skills and attitude?” In the end, high-performing organizations attract better people. Better people are motivated. Motivated people do a better job.

Because research suggested that job satisfaction and work conditions (Norton & Kirby, 1999) affected the retention rate of exceptional student education teachers,

employee needs pose important considerations for educational leaders. What needs do human beings have? Maslow (1954) identified human needs, in ascending order, as physiological, safety, belongingness, esteem, and self-actualization. Physiological needs involved food, water, health, and comfort while safety needs included separation from danger or threat. Belongingness reflected a need for positive relationships with others and esteem called for a feeling of value or sense of worth. Self-actualization described a need to develop oneself to the fullest degree. Maslow asserted that an organism's behavior was organized only by its unsatisfied needs. According to Maslow, needs were to be met in sequential order and as needs were met, they become superfluous. Applying Maslow's theoretical hierarchy to the workplace, Bolman and Deal (1997) reiterated that basic human physiological and safety needs must be met first. Teachers need an environment conducive to learning, a living wage, and necessary resources with which to teach. Once the primary needs were satisfied, belongingness, a sense of community or team, follows. This leads to self-esteem and finally, self-actualization. The highest order cannot be reached apart from the foundation. Bolman and Deal noted that when workers feel needed and appreciated as part of a team, self-actualization occurs. Workers evolve from a narrow range of interests to an intrinsic desire to achieve their potential and benefit both themselves and the organization.

Another leading proponent of the human resource perspective, McGregor (1960) admonished that many organizational leaders believe subordinates to be passive, lazy, lacking ambition, and resistant to change. McGregor referred to this traditional condition

as Theory X. Within Theory X, McGregor delineated a hard version, which embodied coercion, tight controls, and antagonism, and a soft version, which emphasized conflict avoidance and superficial harmony. Theory X supported a self-fulfilling prophecy: If people are treated as if they are lazy, they will conform to expectations. Building on Maslow's system, McGregor suggested an alternative view called Theory Y. Theory Y proposed that "the essential task of management is to arrange organizational conditions so that people can achieve their own goals best by directing their efforts toward organizational rewards" (p. 61). Theory Y confirmed that workers have social needs and can indeed become self-motivated.

Motivation, which explains "why people do the things they do" (Owens, 2001, p. 330), serves as a central theme in the human resource frame. Using Maslow as a foundation, Herzberg's (1966) research separated work experiences into two broad categories, *motivators* and *hygiene factors*. After interviewing employees about their best and worst work experiences, Herzberg defined *motivators* as satisfying positive experiences such as promotion, recognition, increased responsibility, and learning. Conversely, *hygiene factors* included environmental influences such as working conditions, managerial support, and supervision. Poor experiences with *hygiene factors* would encourage dissatisfaction among employees and hinder motivation. As a result, Herzberg supported the intrinsic over the extrinsic as the more effective means of motivation.



The human resource frame also considers employees' perspectives. Teachers choose their vocation for reasons of the heart. Unfortunately, job demands can cause teachers to lose heart. As a result, educational leaders are called to assist teachers and help them reconnect to their vocation. The previous three statements comprised the foundation of Palmer's (1998) view of administrative responsibility in education. In proclaiming that we teach who we are, Palmer explained that

I am a teacher at heart, and there are those moments in the classroom when I can hardly hold the joy. When my students and I discover uncharted territory to explore, when the pathways out of a thicket opens up before us, when our experience is illuminated by the lightning-life of the mind – then teaching is the finest work I know. (p.1)

Although Palmer (1998) often reported his contemplations with philosophical metaphors, the author resorted to bluntness when discussing how to reform education and retain teachers in the profession. Dismissing renewal of appropriations, restructuring schools, and rewriting curricula, Palmer proposed that educational leaders compensate teachers better, allow teachers a role in governance, and provide teachers the best in methods and materials. Without these essential supports, a culture of fear might ensue and stifle the hearts of teachers.

Sergiovanni (1992), who replicated and supported Herzberg's research, stressed that moral authority serves as a basis for leadership and that leadership is linked to what a person believes and values. Using the connective symbolism of heart, head, and hand, Sergiovanni asserted that leadership often fails because it is viewed as behavior rather than action and overemphasizes bureaucratic authority. Sergiovanni explained leadership

in spiritual rather than technical terms and admonished that promotion of the managerial mystique can result in “an emphasis on doing things right at the expense of doing the right things” (p. 4).

Citing a 1975 Florida study by Lortie, Sergiovanni (1992) reiterated that teachers were attracted to the profession by a sense of serving others, working with people, and the school calendar. Referring to a 1990 Massachusetts study by Johnson, Sergiovanni confirmed that working with students, social purposes, and convenient calendar are attractive attributes of teaching. Conversely, low pay, lack of support, isolation, and job demands dissatisfy educators. Sergiovanni summarized, “what gets rewarded gets done, what is rewarding gets done, and what is good gets done” (p. 57).

Both Sergiovanni and Palmer embraced teacher satisfaction and retention with fervor. Is solving the problem of teacher retention then simple or complex? Some educational leaders suggest that the simple act of awarding higher salaries would make a difference (Shen, 1997, Grissmer & Kirby, 1997, Morice & Murray, 2003). Other leaders see the issue as more systemic. For Palmer, building communities remained essential, no matter how time-intensive the effort. Years earlier, Sergiovanni (1992) declared, “it seems obvious that schools are organizations. Less obvious is the idea that transforming schools from organizations to communities may be a key to school improvement” (p. xiv).

Teacher retention requires leadership rather than management. Yukl (2002) defined leadership as “the process of influencing others to understand and agree about

what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives” (p. 7). As Bennis and Nanus (1985) suggested, “managers are people who do things right, and leaders are people who do the right thing” (p. 21).

Human resources are valuable. In fact, in the case of educational organizations, they are often the most valuable resources available to create and maintain a high-performing organization. If thought of and treated as assets, the people in the organization – the human resources from which the human capital is formed – are expected to have greater value in the future than at the present time. This is the essential nature of assets. Therefore, one can properly think of the costs of recruiting and hiring new people, training and supporting them, encouraging their professional growth and development, and managing them sensitively and skillfully as investment in people and – one would hope – their eventual higher productivity as return on that investment. (Owens, 2001, p. 121)

Educational leaders who allocate resources to effectively promote teacher retention understand the human resource perspective and consistently apply its principles.

## CHAPTER 2

### LITERATURE REVIEW

#### Introduction

In order to organize related literature, this chapter was divided into four sections. The first section, overview of teacher attrition, discussed topics such as costs of attrition, reasons for attrition, age, ethnicity, and job satisfaction. The second section, teacher attrition in exceptional student education, focused on shortages and certification, issues associated with behavior management, and additional reasons for attrition. The third section provided an overview of efforts to promote teacher retention in general, while section four discussed specific efforts to increase teacher retention in exceptional student education.

Built on a foundation of research and professional literature, the STARTS initiative focused on providing professional development opportunities in policies and procedures, curriculum, and behavior management. STARTS also incorporated follow-up support. The following literature addresses these areas and other considerations relevant to the issues of teacher attrition and retention.

In one study over 40 years ago, McQuinn (1957) reported that 40.4% of school board presidents listed teacher turnover as the most serious problem facing schools. As educational leaders face the new issues of the 21<sup>st</sup> century, teacher retention continues to pose an ongoing challenge. Over the next 10 years, projections reflect an increased

demand for entry-level teachers (NCES, 2003b). As a growing state, Florida will be affected by these projections (FDOE, 2004c).

According to the National Commission on Teaching (NCT), teacher attrition spurs states to employ reactive measures such as “lowering standards, scrapping training, and ignoring laws in favor of stopgap hiring” (CNN.com, 2003, ¶ 2). The commission chairman lamented that, because teacher staffing issues have been poorly defined, many current solutions are wrong and will never succeed. Acknowledging that mathematics, science, and special education actually experience teacher shortages, the NCT report denounced the existence of shortages in other areas and called for increased attention on teacher retention.

Ingersoll (1988) argued that society mistakenly assumes that hiring difficulties are the result of a teacher shortage. Availability of candidates exists. The demand occurs because teachers quit at a higher rate than other professions. Agreeing that poor teacher quality affects educational performance, Ingersoll (2003) held organizational characteristics accountable for staffing issues. With teacher retirement and increasing student enrollment posing as relatively minor considerations, Ingersoll attributed teacher shortages to other reasons. Using the analogy of a bucket losing water because of holes in the bottom, the author noted that pouring more water in the bucket prolongs the problem. Insisting that recruitment programs, in and of themselves, offered little lasting solution, Ingersoll admonished educational leaders to review the organizational policies and structures that feed teacher attrition.

### Overview of Teacher Attrition

During the 1960s and 1970s, the baby-boom generation caused enrollments in teacher training institutions to increase. According to Grissmer and Kirby (1997), 115,000 new educators began their first year of teaching in 1961 and 190,000 new teachers began working in 1971. However, during the 1980s, annual enrollment in colleges of education decreased to around 50,000 and then increased to approximately 75,000 in the 1990s. In addition to affecting school district staffing, this fluctuation made planning difficult at the collegiate level.

The effects of attrition are not limited to education. In the business world, most US corporations project 6% annual turnover rates. High-tech companies present the exception as they expect personnel losses up to 30% (Norton, 1999). According to the National Center for Educational Statistics (Whitener, Gruber, Linch, Tingos, & Fondelier, 1997), education loses 9.3% of public school teachers before they complete their first year of teaching. More than 20% of public school teachers leave the profession within the first 3 years, and 30% of public school teachers leave the profession within the first 5 years. In addition, attrition rates tend to be higher in schools identified as disadvantaged. Business understands that employee turnover is expensive and estimates that the cost of replacing workers translates to about 25% of their salaries (Norton, 1999). Separation and replacement resources are spent when an employees leave. Separation costs might include severance pay or possible litigation fees. Replacement costs could include interview and hiring time, training, and bonuses, if applicable. Lack

of productivity and general disruption reflect the indirect costs of separation. For a quality employee, some business leaders suggested that separation and replacement cost estimates are too conservative and should range from 30% to 150% of an employee's annual salary (Lermusiaux, 2003).

Fear of teacher shortages during the 1980s led to the creation of expert panels that examined the number of returning teachers and new college of education graduates. Often ignored was information regarding the "reserve pool" of experienced teachers on leave or on lay-off, substitute teachers, teachers moving from state to state, teachers hired on emergency certificates, and out-of field personnel who could apply their skills to teaching (Baker & Smith, 1997). In the late 1980s, reliance on expert panels began to diminish as the National Center for Education Statistics implemented its Schools and Staffing Survey (SASS) initiative. First conducted in 1987, the SASS project surveyed educators in the public and private sectors using school, teacher, principal, and school district questionnaires. After removing identifying information from the surveys, the United States Census Bureau entered and analyzed the data. Survey results included information about school programs, school conditions, characteristics of educators, and teacher demand and shortage (NCES, 2005). Billingsley (1993) attributed teacher shortages to society's view of teaching, opportunities outside of teaching, and changing opportunities for women. According to Shen (1997), subsequent research followed two approaches, theoretical and bivariate. While theoretical research investigated a set of variables to test theories of human capital or social learning, the bivariate approach

looked at the relationship between retention and other variables. The second approach was more prevalent in the literature.

Grissmer and Kirby (1997) reported that “teacher attrition rates follow a U-shaped curve, high for teachers early in their career, very low during mid-career, and high again for retirement-eligible teachers” (p. 49). About two-thirds of teachers in the US currently profile in mid-career between the ages of 30 and 50. Baker and Smith (1997) noted that attrition is higher for teachers age 60 and above and teachers age 25 and younger.

In Florida, the Department of Education (2003a) tracked teachers under the age of 30 from 1992 to 2002. Hired in 1992, 12.1% of younger teachers left the classroom after one year and 24.4% left after 3 years. By the fifth year, 33.9% of those teachers had left. After 10 years, 48.3% had left. For teachers under 30 years of age hired in 1997, 13.9% left after one year and 31% left after 3 years. After five years, 40.9% of those teachers had left the classroom. After tracking current teachers in other age groups from 1992 to 2002, the Florida Department of Education noted that teachers in their mid years, between the ages of 35 and 54, demonstrated a likeliness to stay in the classroom. Of these teachers, 90% were still teaching after 3 years, and 84% remained in the classroom five years into the study. By 2002, some of the teachers in this age group began to retire.

In the 1960s and 1970s, increased student enrollments drove the need for new teachers. Looking to the future, Grissmer and Kirby (1997) identified six factors that will influence the demand for teachers during the period from 1998 to 2013. In addition to increased student enrollments that began rising in the late 1980s, the demand for



lower pupil-teacher ratios will be a factor. Some states, including Florida, have mandated class-size reduction initiatives. Whereas the teacher-pupil ratio was about 26:1 in 1960, the teacher-pupil ratio reached 17:1 in 1996. Nonetheless, public and educational expectations remain for lower class sizes. Early retirement presents a fourth factor. Although retirement for teachers usually occurs between 55 and 65 years of age, retiring closer to age 55 can be attractive, especially with district incentives. Furthermore, younger teachers can replace top-salary teachers at substantially less cost. Fifth, former teachers are not returning to the profession in numbers equal to previous years. Because few teachers over the age of 40 drop out and return, the result is a shrinking reserve pool. Finally, the attrition rate of new teachers poses a clear obstacle to the growing demand for teachers.

Why do teachers leave their profession? Norton and Kirby (1999) identified several work conditions that contribute to teacher turnover. These factors include:

1. problems and frustration with the variety of administrative routines and accompanying paperwork encountered,
2. concerns about the evaluation of student performance and school grading practices,
3. problems relating to student behavior and handling of student discipline,
4. problems relating to teacher load and expectations for assuming extra-curricular assignments,
5. concerns about relationships with peers and administrative personnel, including supervisory relationships and communication channels, and
6. problems of finance meeting the requirements of increased personal and professional expenditures on a first--year teacher's salary. (p. 52)

According to a Phi Delta Kappa (PDK) poll, many teachers admit that their schools have difficulty retaining teachers. When asked if they would encourage a bright

young person to become a teacher, 73% of the general public responded in the affirmative. However, only 46% of teachers responded in the affirmative (Langdon, 1996). In addition to asserting that retention should be emphasized over recruitment, Ingersoll (2001) reported the following reasons for attrition: (a) lack of administrative support, (b) salary, (c) school discipline and motivation, (d) class size, and (e) little opportunity for advancement. Ingersoll also stressed that staffing problems are not necessarily a direct result of teacher shortages in the traditional sense, but rather “a revolving door, where large numbers of teachers depart their jobs for reasons other than retirement” (p.24).

Workplace conditions present essential considerations in determining job satisfaction for teachers (Baker & Smith, 1997). While considering a move to an administrative position, a four-year teacher expressed that teaching “is the only profession where your first day on the job, you’re expected to do the exact same job as someone who’s been there 20 years” (Ponessa, 1996, p. 3). Emphasizing that beginning teachers must deal with classroom management, motivating students with different needs, assessment, and parent conferences, Stansbury and Zimmerman (2002), confirmed the expectations facing new teachers.

In teaching, new entrants – fresh out of professional training – assume the exact same responsibilities as 20-year veterans. While many novice teachers have terrific intellectual preparation and an outstanding student teaching experience, their limited experience generally yields an equally limited repertoire of classroom strategies – far more limited than the variety of teaching challenges a new teacher invariably faces. It’s a situation ripe for frustration. (p. 12)

Futrell (1999) described frustration of teachers based on a “rigid, bureaucratic hierarchy in which teachers are treated like tall children rather than like professionals” (p. 31). In this regard, administrative decisions that provide supportive working conditions make a considerable difference. After interviewing 59 teachers, Yee (1990) reported that highly-involved teachers tended to remain in education because of work conditions rather than pay. Other highly-involved teachers reported leaving the field based on unsupportive work conditions. The teachers indicated that supportive working conditions included fair workload, collegial interaction, professional development, participating in decision-making, and support with student discipline. Testing a 1983 theory by Chapman, Chapman and Green (1986) affirmed that the following six factors influence career satisfaction: teacher’ personal characteristics, educational preparation, initial commitment to teaching, quality of first teaching experience, professional and social integration into teaching, and external influences (Chapman & Hutcheson, 1982). Shen (1997) reported that salary correlates with teacher retention and well-paid teachers remain in their profession.

Ponessa (1996) reflected upon a state department of education survey of over 81,000 teachers hired in North Carolina since the 1989-90 school year. Many rookie teachers left within the first 5 years, but the brightest teachers seemed to be among the ones who left. By the fifth year after being hired, one-third of the original teachers had left. Ponessa noted that North Carolina rated 39<sup>th</sup> among the states in teacher salaries.

Studies by Chapman and Green (1982, 1986) asserted that the most-able students do not pursue teaching careers, and many most-able teachers quit teaching.

College students with low college entrance examination scores are more likely than students with high scores to prepare to become teachers and to enter the teaching profession. They are also more likely than their high-scoring peers to remain in the teaching profession. (NCES, 2002a, p. 1)

One state board member noted that the assignment of rookie teachers to the most difficult placements was “the informal and very quietly kept secret” in school districts (Ponessa, 1996, p. 3). Adams and Dial (1994) reported that teachers with master’s degrees continued to teach longer than their colleagues with bachelor’s degrees.

Ethnicity also plays a role in teacher attrition. Selecting a large urban southwestern US school district, Adams and Dial (1994) tracked the attrition of teachers hired between 1985 and 1991. In a study of 2327 first-year elementary school teachers, Adams and Dial concluded that the risk for Black teachers leaving the profession was less than Whites. White teachers were four times more likely to leave than Black teachers. White teachers were 64% more likely to leave than Hispanic teachers were. In a review of SASS literature, Murnane, Singer, Willett, Kemple, and Olson (1991) noted that attrition rates increase during the early years of teaching. Mature women tend to stay; younger women tend to leave. Urban district teachers have shorter careers. In addition, Black teachers were less likely to leave the teaching profession than their White colleagues. Even among younger teachers, between the ages of 20 and 29, the Florida Department of Education (2003a) reported that the retention rates of Black and Hispanic teachers remained consistently higher than their White colleagues. Murnane et al. (1991)

also determined that elementary teachers stay longer than any other group. In contrast, chemistry and physics teachers leave sooner than others. Shen (1997) asserted that teacher appreciation creates a climate that encourages all teachers to stay in schools.

Certo and Fox (2002) surveyed elementary teachers, middle and high school mathematics and science teachers, and K-12 special educators in seven Virginia school divisions representing urban, suburban, and rural localities. The researchers audiotaped nine 60 to 90-minute sessions with teachers from the above-mentioned focus groups. Different issues arose depending on the focus group. Special educators expressed dissatisfaction with unsupportive staff and revealed that paperwork demands are motivators to move to general education. Elementary teachers relayed the frustrations of having little or no planning time. Middle and high school mathematics and science teachers conveyed the advantages of leaving education for better employment opportunities. Three questions emerged as the core for the study: (a) What reasons do teachers give for staying in their school division? (b) What are the perceptions of teachers regarding reasons their colleagues have left the school division or the profession? and (c) What reasons do teachers give for voluntarily leaving their divisions or leaving the profession during the first five years?

As to question 1, Certo and Fox (2002) reported that teachers remain in their school divisions out of commitment to the profession, quality administration, and an appreciation for relationships with colleagues. In addressing question 2, teachers' perceptions about colleagues' attrition revealed salary, external employment

opportunities, and lack of administrative support at both the school and district level as the top factors for attrition. The remaining answers included professional development, resources and supplies, understanding special needs children, last-minute meetings and paperwork, Virginia Standards of Learning (SOL), class size, lack of parental support, student attitudes, and discipline. Complaints regarding district-level administration reflected issues such as “everything being talked down from central office” (p. 62) with little provision for teachers to participate in the decision-making process. Teachers perceived that principals pressured them after the district pressured the principals.

Conducted as an exit-interview survey of 23 teachers who had left their divisions, question 3 of Certo and Fox’s (2002) survey revealed that 1 teacher retired, 2 teachers moved, 9 found external job opportunities, 4 moved to a different divisions, 5 decided to stay at home with their children, and 2 opted for early retirement. Although 25% of those polled could not pinpoint a single reason for leaving, most cited lack of administrative support, stressful schedules, discipline, professional development, low salary, and job-sharing requirements. Exit interview data should be collected and used to determine why teachers decide to leave education. Teachers should receive advance notice of these meetings. Generated data can support recommendations for improvement and good exit interviews may prevent expensive legal action by former employees (Curriculum Review, 1999).

Teachers regularly name lack of administrative support as an element of job dissatisfaction. Decisions about curriculum add to stress for new teachers and require

consideration when addressing how administrators can support new teachers. Conducted with first and second-year teachers in Massachusetts during the 1999-2000 school year, research by Kauffman et al., (2002) found that most new teachers received little or no guidance regarding what to teach or how to teach it. As they struggled day to day, new teachers felt a great sense of urgency and pressure, but also felt they were working in isolation. One teacher commented, “no one ever told me anything I am supposed to cover...I kind of made it up on my own” (p. 279, 280). Another expressed, “no one really knows what the curriculum is for 7<sup>th</sup> grade math, which leaves it pretty much up to the teacher” (p. 280). While some teachers described how they spent personal time and money preparing instructional materials, others emphasized an inability to cover material in the allotted time. After being directed to teach history from ancient Rome to the French Revolution in one course, one teacher lamented that it was “just about 2000 years of history in 180 days or less” (p. 190). Demands for designing curriculum, new standards, and accountability increase teacher stress. Without administrative support, teachers consider leaving the classroom.

#### Teacher Attrition in Exceptional Student Education

As problematic as attrition is in the general education population, retention of exceptional student education (ESE) teachers poses a more formidable challenge. In special education, even defining *attrition* in the literature challenges consistency. According to Billingsley (1993), four categories comprise the schematics for attrition in

special education. In the strictest sense, a retained teacher is one who returns to the same ESE teaching position. In that case, attrition would include an ESE teacher who returns to a different ESE position, transfers to general education, moves to administration, or leaves the system entirely. Variations occur throughout the literature, but no consensus exists for a single definition of the term *attrition* (Grissmer & Kirby, 1987).

Teacher shortage in special education has existed since the passage of PL 94-142, the *Education for All Handicapped Children Act* (EAHCA), in 1975, and continues through its reauthorization, the *Individuals with Disabilities in Education Act* (IDEA), despite the fact that universities in the United States prepare about 17, 000 special educators every year (CEC, 2000b, ¶ 23). Notwithstanding these numbers, individuals lacking ESE certification filled approximately 30,000 special education positions in the year 2000. Administrators lamented the difficulty in locating qualified applicants. In 1999-2000, over 12,000 special education teaching positions remained vacant or were filled by substitutes. Certification supplied one reason. While 95% of general education teachers held certification in their main teaching assignment, only 92% of exceptional student education teachers reported the same (Westat, 2002e). For beginning special educators during 1999-2000, 71% possessed full-certification in their primary teaching assignment. For beginning special educators who served students with behavioral disorders, less than 50% held appropriate certification (Billingsley, 2002). Boyer and Mainzer (2003) pointed out that in addition to non-certificated personnel, many students



with disabilities have been and continue to be taught by general education teachers and paraprofessionals.

In order to meet certification requirements, new ESE teachers employ a variety of means. In addition to traditional bachelor's and master's degree programs, some universities provide 5<sup>th</sup> year programs (Billingsley, 2002). Most districts offer alternative certification and professional development options. Of the various routes to certification displayed in Table 1, a majority of teachers select a traditional degree program (Carlson, Brauen, Klein, Schroll, & Willig, 2002).

Table 1  
Paths to Certification in Special Education

Certification Option	Percentage of Participants
Master's program	41%
Bachelor's program	37%
Continuing professional development	10%
Alternative certification program	7%
Fifth year program	5%

Source: Carlson et al. (2002)

Still identified as an area of critical teacher shortage, the demand for special education teachers is expected to increase to more than 135,000 between 1998 and 2008 (Bureau of Labor Statistics, 1999). Reporting a larger projection, the Council for Exceptional Children (2000a) estimated that 200,000 new ESE teachers would be needed between 2000 and 2005. Yet, growth in the number of special educators lags behind the growth in the number of their students. Between 1990 and 1999, the number of teachers

serving students with disabilities rose 11% while the number of students with disabilities grew by 30% during the same time period (Boyer & Mainzer, 2003).

During the 1999-2000 school year, the US Department of Education, through the Office of Special Education Programs (OSEP), conducted a study of over 8000 special education teachers, general education teachers, speech and language pathologists, paraprofessionals, and ESE administrators. Often referred to as the Study of Personnel Needs in Special Education or SPeNSE study, data continues to be provided to Congress on an annual basis. As reported by the SPeNSE study, general and special educators share similar characteristics, with some notable exceptions. For example, more ESE teachers hold master's degrees than their general education counterparts (Westat, 2002e). Less inclined to relocate in order to obtain teaching positions, beginning teachers hold a propensity to work in suburban settings more than in urban or rural areas (Billingsley, 2002).

Another characteristic, age, poses as "the only demographic variable that is consistently linked to attrition in the special education literature" (Billingsley, 2003, p.13). Research has suggested that younger teachers are more likely to leave the profession (Grissmer & Kirby, 1997; Baker & Smith, 1997). Teachers in exceptional student education tend to be younger than their colleagues. According to the SPeNSE study, the median age for general education teachers posted at 44.6 years, while the median age of their special education counterparts was placed at 43.8 years. As shown in

Table 2, 39% of teachers in both general education and special education range from 45 to 54 years of age (Westat, 2002b).

Table 2  
Special and General Educators by Age Groups

Age Range	ESE %	ESE SE	Gen. Ed. %	Gen Ed. SE
Less than 25 years	1.6	0.3	1.6	0.6
25 to 34 years	20.5	1.0	22.9	2.0
35 to 44 years	28.6	1.2	23.4	1.5
45 to 54 years	39.4	1.2	39.0	1.9
55 years or older	10.0	0.8	13.1	1.6

ESE = All special education teachers; Gen. Ed. = All general education teachers;

% = Percentage of total for ESE or Gen. Ed.; SE = Standard error

Source: Westat (2002b)

Although, in the literature, the relationship of gender to attrition offered non-definitive results, most studies reported gender as a variable. Regarding gender of teachers, SPeNSE (Westat, 2002d) reported that the highest percentage of male ESE teachers (11%) serves students with behavioral disorders. Overall, women comprise a larger percentage of the teaching workforce. As illustrated in Table 2, more men work in general education than in special education.

Table 3  
Special and General Educators by Gender

	ESE %	ESE SE	Gen. Ed. %	Gen. Ed. SE
Male	15.1	0.9	24.1	1.5
Female	84.9	0.9	75.9	1.5

ESE = All special education teachers; Gen. Ed. = All general education teachers;

% = Percentage of total for ESE or Gen. Ed.; SE = Standard error

Source: Westat (2002d)

By regions of the United States, the mid-south and southeast hire more new Black teachers than any other region. The Great Lakes area hires the largest number of White teachers. Most new Native American teachers are hired in the Mountain Plains region. In the western region, more new teachers of Asian and Pacific Islander heritage are likely to be hired. As shown in Table 3, differences also exist in percentages of teachers from various ethnic groups serving students in general education and special education (Westat, 2000a; Westat, 2000c).

Table 4  
Special and General Educators by Ethnicity

	ESE %	ESE SE	Gen. Ed. %	Gen. Ed. SE
Native American	1.0	0.3	*	*
Asian	1.0	0.3	*	*
Black	11.0	1.6	8.5	1.5
Pacific Islander	0.3	0.2	*	*
White	85.5	1.7	88.1	1.9
Multi-racial	1.3	0.2	1.3	0.4

ESE = All special education teachers; Gen. Ed. = All general education teachers;  
% = Percentage of total for ESE or Gen. Ed.; SE = Standard error; \* = too few respondents to make a determination  
Source: Westat (2000a, 2000c)

Attrition rates among ESE teachers are generally higher than attrition rates for general educators (Billingsley, 1993). Using a national survey of 4812 public school teachers conducted by the National Center for Education Statistics during the 1987-1988 school year, Boe, Bobbitt, and Cook (1997) reviewed teacher movement across settings such as schools, districts, states, teaching fields, and non-education professions. While

general education teachers presented an attrition rate of 13%, the researchers reported that special education teachers demonstrated an attrition rate of 20%. In addition, 6% of general education teachers left the profession entirely while 8% of ESE teachers did the same. The Council for Exceptional Children (2000a) reported that 40% of teachers entering special education leave the field before the fifth year. Furthermore, attrition rates tend to be higher in schools identified as disadvantaged.

Regarding intent to stay, 74% of general education teachers reported that they wanted to teach until retirement or as long as possible, while 63% of their colleagues in special education reported that they intended to do the same (Westat, 2002f). The age group of students taught also affects intent to stay. In special education, 68.8% of teachers serving ages 1 to 5 expressed intent to stay until retirement, while 65.2 % of teachers serving age 6 to 12 concurred. Finally, 59.7% of teachers serving students ages 13 to 21 indicated that they planned to stay until retirement (Westat, 2002g). In addition to age, other variables associated with intent to stay included lack of an appropriate teaching certificate, excessive paperwork (Billingsley, 2002), and minimal experience (Gersten, R., Keating, T., Yovanoff, P., & Harniss, M. (2001).

Why do special education teachers leave and where do they go? In a telephone survey of 93 randomly-selected former ESE teachers, Brownell, Smith, McNellis, and Miller (1997) endeavored to answer that question by completing the following four objectives: (a) identify the reasons why special educators leave the special education classroom, (b) determine the occupations they subsequently choose, (c) make distinctions

between disgruntled and non-disgruntled leavers, and (d) identify plausible retention strategies. The interviews posed the following questions:

1. What is your current employment situation?
2. What were your primary and secondary reasons for leaving special education?
3. Was there anything the school system could have done to make you remain in the special education classroom?
4. What incentives would cause you to consider returning to teaching in a special education classroom?
5. What are your future career plans?
6. If you could do it all over again, would you become a special education teacher? (p.146)

Survey results indicated that the majority of leavers went to other educational fields such as general education, administration, and central office. Identified as the largest group, 25% of the surveyed teachers moved to general education. The second largest group left for non-educational positions. The remaining leavers retired or took maternity leave.

Although 8 of the 93 respondents were unable to discern their positions, 49 of 93 appeared most disgruntled and 36 of 93 appeared non-disgruntled. According to Brownell, Smith, McNellis, and Miller (1997), many of the disgruntled employees left due to students with behavior problems and subsequent lack of support. Susan, who quit after 15 years in special education, reported that she managed dangerous students in undesirable work conditions and stated:

It was very clear that the kids were not wanted there. They had the worst of everything. The kids lacked security. They did not even have a permanent classroom, and they had to move from room to room. They knew they were not wanted. And there was a lack of administrative support. I felt unsafe. I had no buzzer or phone. Some of my kids were very dangerous. (p.149)

Another educator, Lenora, felt ill prepared to teach students with emotional or behavioral disorders (EBD). Lenora, a beginning teacher with an emergency special education certificate, lamented, “you have all these outbursts you don’t know quite how to deal with, because in the elementary [training} program you don’t have any kind of training or...knowledge of special education” (p. 150).

In their reflections about their earlier study, Brownell, Smith, and McNellis (1997) noted that teachers of EBD are over-represented among disgruntled teachers. Disturbed or disruptive student behavior can challenge even the most experienced teacher and remains a serious issue in schools. After reviewing 95 studies, Veenman (1987) identified classroom discipline as the highest-ranking problem for new teachers. According to Clarizio (1980), “classroom management has always been one of the foremost problems for teachers. Indeed, the adequate control of a class is a prerequisite to achieving instructional objectives and to safeguarding the psychological and physical well-being of students” (p. 1).

In a summary of interviews with 176 secondary teachers, Merrett and Wheldall (1993) reported that the vast majority of teachers believe that classroom management skills are important, however, three-quarters of those surveyed indicated dissatisfaction with training in behavior management. Teachers felt that staff development in this area, particularly in preservice education, was inadequate and not a priority among university programmers. Teachers reported that training would reduce stress and indicated that more time than anticipated was spent in keeping order and control. In addition, many teachers

revealed their belief that young teachers would benefit from behavior management training. Of those surveyed, 82% reported that they learned behavior management on the job. Merrett and Wheldall expressed the following:

It is strange that issues which are manifestly of prime importance to practicing teachers should receive so little attention from the people who are engaged in initial training courses for teachers. The answers to the questions about the length of time teachers believe that they and their colleagues are having to give to matters of order and control are very revealing and suggest that disciplinary issues bulk large in the stress and anxiety felt by many teachers. (p. 106)

Stress serves as a predictor for teacher attrition (Morvant, Gersten, Gillman, Keating, & Blake, 1995; Singh & Billingsley, 1996). Using the descriptors *stress* and *teacher*, Wrobel (1993) reviewed 339 citations from the Educational Resources Information Center (ERIC) database. Covering the years from 1988 to 1991, these articles indicated that student discipline problems, considered as normal stressors, were more prevalent in teachers who serve students with emotional or behavioral disorders. According to Farber (1984), “the word ‘teacher’ modifies the word ‘burnout’ all too well” (p. 321).

Although Wrobel (1993) admitted that the effects of stress were difficult to assess because of different tolerance levels, sources of stress can be identified and interventions can be applied. Following a review of the teaching literature related to stress from the 1930s to the 1980s, Smith and Milstein (1984) identified the following issues:

1. rewards by years in the profession rather than by achievement,
2. little opportunity for collegial feedback,
3. role conflicts,
4. little control by teachers over decisions that affect their work,
5. lack of career ladders,
6. preservice training that appears to be inadequate or irrelevant,



7. perception that many administrators are poorly prepared or at least do not seem to care, and
8. the failure of school districts to protect teachers in basic survival areas. (p. 48)

Another source of stress is that education and teachers often encounter the brunt of criticism from society. Wrobel (1993) supported these observations and suggested that teacher-training programs should foster competence in creative problem solving within organizations. Encouraging an attitude of ownership, Wrobel noted that:

if training program administrators do not perceive the problems of teacher burnout and attrition as part of their responsibility, they have little reason to modify their training...is it the primary focus simply to meet the requirements for credentialing, or have the training program administrators clearly thought through their perceptions of how an EBD teacher's role is defined and what skills an EBD teacher will need? (§ 15).

In addition to student behavior problems, special education teachers ascribed other influences to stress and attrition. While 25% of new ESE teachers reported that their preservice education did not prepare them for their first assignment, over 50% indicated relatively little experience with students who were culturally or linguistically different from themselves (Billingsley, 2002). Brownell, Smith, McNellis, and Miller (1997) cited high diverse caseloads, lack of paraprofessionals, difficulty managing multiple disabilities in one class, inadequate resources, and feeling powerless to remedy situations as factors. Karen, a teacher who left after 3 years, stated:

My caseload was 20 [and I had] no help, [and] no administrative back up...Every time I would ask for some help I was told I was the one with the special education degree. I had to keep them in the class [because the administration] did not want them sent to the dean. I got no support. I was told I had to use the county adopted books, but I was never given any resources. And the books they chose were far beyond my kids' capabilities. I work in a [multicategorical] classroom with

[students with emotional or behavioral disorders and learning disabilities] and before I left they were sticking in [students with developmental disabilities].  
(p. 149)

Karen indicated that she would have stayed in special education if given more personal control.

Noting that increased caseload translates into more meetings and paperwork, Russ, Chiang, Rylance, and Bongers (2001) determined caseload to be a factor in teacher attrition. Commenting on instructional group size and academic achievement, the authors conceded that ESE students, particularly those with severe disabilities, were more difficult to assess than general education students. However, lower class size allows for greater student engagement. In addition, the 1999 Council for Exceptional Children study on adverse teaching conditions reported that 61% of surveyed teachers cited caseload and class size as major problems.

In a survey of 1000 special educators, the Council for Exceptional Children (CEC) concluded that “poor working conditions contribute to the high rate of special educators leaving the field, teacher burnout, and substandard quality of education for students with special needs” (CEC, 1998, p. 2). CEC suggested that high turnover in special education stems from expectations for inclusive instruction, changes in disciplinary tactics, and ever-increasing paperwork. Reflecting on the logistics of an earlier study on special education attrition, Smith, Brownell, and McNellis (1995) explained their satisfaction with the interview process but added:

We also felt devastated, however, by the disempowering conditions in which some of the participants worked. For example, in one group interview a

participant broke into tears as she related the story of her futile struggle to obtain even minimal resources for her students. (p.110)

Workplace conditions include salary, school climate, and administrative support.

According to Brownell, Sindelar, Bishop, Langley, and Seo (2002), quality of work-life surpasses teachers' desire to earn money. Following a survey of 658 special education teachers, Singh and Billingsley (1996) reported that workplace conditions were the most important determinant of intent to stay among teachers. Job satisfaction had the strongest positive effect on intent to stay. Job satisfaction was most influenced by principal support and role-related problems. Among working conditions, Gersten, Keating, Yovanoff, and Harniss (2001) reported that a poorly designed job could negatively affect teachers. The resulting withdrawal can lead to teachers who "retire on the job" (Yee, 1990, p.120).

In 2000, the CEC wrote, "Imagine...your dentist practicing without a license" (2000b, ¶ 1). Drawing a comparison to special education teachers, the CEC reported that education tolerates what other professions would not. Consequently, some of the most inexperienced teachers serve the most challenging students.

Based on an intensive two-year study begun in 1998, the CEC identified several factors of attrition including ambiguous responsibilities, inadequate administrative and district support, teacher isolation, high caseloads, poor preparation for new teachers, and overwhelming paperwork. Due to these conditions, 68% of special educators reported that "they spend less than two hours per week in individual instruction with each of their students" (CEC, 2000b, ¶ 8). As with general educators, time remains a problem area. With the average length of an Individual Education Plan (IEP) between 8 and 16 pages,

teachers estimated 4 hours of planning is required in addition to the actual meeting time. One teacher noted, “When is there time for IEPs and paperwork? I find myself up until 10:00 and 11:00 at night doing IEPs” (CEC, 2000b, ¶11). Paperwork such as district forms, notification letters, psychological and other reports, parent notes, due process documentation, and progress reports supplement the IEP. Some special educators see paperwork responsibilities as time-consuming obstacles. Following their 1995 research study, Morvant, et al, (1995) reported a teacher’s comments on paperwork:

You don’t only have to test ‘em. You have to write up your results. But, before you ever do it, you have to get all these permission forms signed and all the referrals and the request for services - and the paperwork...gets worse every year. And then test, write up the results, get all the paperwork ready for the first conference, notify all the other people that have to sit in on that. And then you have your professional conference, and then you have to have another one where the parent comes. And it goes on and on. And you have paperwork for every one of those conferences. (p. 3-14)

Demanding clerical help, another teacher expressed feelings of deep frustration:

We had to photocopy for every one of those kids, a copy for the cum (folder), a copy for the special ed folder, and a copy for the regional office. That’s three copies of this. And some of the pages, mind you, are like - well all of them are at least two pages in length, ‘cause you’ve got to have a cover sheet, you’ve got to have what the assessment was that you’ve used in the instruction. So we had to photocopy all those, and send them. You’ve got to do it twice a year! Now to me that’s a lot of waste of time for somebody who has an education, to stand and xerox 60, 100, about 200 copies. I thought, this job is not what I was trained to do. If they want it done, send out somebody that’s going to xerox it. (p. 3-15)

In addition to the frustration associated with paperwork demands, ESE teachers experience the consequences of limited resources. The Council for Exceptional Children (2000b) reported that special education teachers spend about \$500 of their own money on supplies for their students. One teacher complained, “the principal refuses to purchase

reading curriculum material for my students...” (§ 14) and another added, “I have a small, narrow room with one dry erase board and 15 desks. I do not have access to an overhead [projector]. My school’s supply money ran out before Special Ed got their equipment” (§ 17).

### General Efforts to Increase Teacher Retention

Several proposed solutions to the teacher attrition dilemma exist in the literature. Grissmer and Kirby (1997) agreed that the issue of teacher quality in retention has little to do with supply and demand. In their recommendations, they direct more responsibility to institutional reform in the teacher preparation process and the compensation system. With the need to set higher standards for teacher entrance requirements, a demanding course of study, and a compensation system that rewards quality, Grissmer and Kirby asserted that outstanding teachers would be encouraged to stay. In a statement before a House Subcommittee, Assistant Secretary for the Office of Education Research and Improvement (OERI), Whitehurst (2002), concurred,

The most robust finding in current research literature is the effect of teacher verbal and cognitive ability on student achievement...One key challenge ...is balancing the need to be more selective in the cognitive abilities required for entry into the teaching profession with the need for more teachers. (§ 9)

Reporting on efforts to improve teacher quality, Whitehurst continued,

A wide variety of strategies may to be used to approach this difficult challenge including changing the current structure of teacher compensation...and conducting further research on the dynamics of teacher labor markets. OERI currently supports research within each of these areas. (§ 10)

Advocating teacher quality, Whitehurst referred to the *Changing Teacher Compensation* project, a study conducted through University of Wisconsin. Intended to assist Cincinnati Public Schools, the effort helped to restructure the compensation system and develop a dual-pronged approach. The measurement of individual teacher's knowledge and skills determined the teacher's base pay. Using district-adopted standards for teaching practice and a performance evaluation system, teachers were assessed against five levels of performance. Whitehurst commented,

Major salary increases occur only when the teacher's clinical classroom practice (or the school as a whole) meets the next highest performance level. A recent value-added analysis of student test score gains showed that higher teacher evaluation scores translate directly into greater student achievement. This important finding suggests that the school compensation structures may be an effective variable for improving teacher quality - which, in turn, boosts student academic achievement. (¶ 10)

When faced with fewer applicants than openings, school districts consider several options. According to Baker and Smith (1997), these options include increasing salaries, improving working conditions, reducing class size, canceling course offerings, relaxing certification requirements, and allowing teachers to work out-of-field. With an abundant supply of prospective educators, school systems can either set tougher hiring standards or pay lower salaries without affecting quality. However, if the teacher supply is limited, lower salaries will affect quality.

Shen (1997) offered four solutions to teacher attrition, namely, building career ladders into teaching, raising salaries, empowering teachers, and paying greater attention to schools with more minority students. Ingersoll (2003) reported that teachers cited

salary increase as the primary incentive for returning to the classroom. Grissmer and Kirby (1997) also noted that higher salaries encourage teachers to remain in their field and attract higher quality applicants. Most current salary models are based on the type of school district, years of experience, and academic degree, rather than teacher quality. Consequently, teachers could increase their pay simply by relocating to another district. Although research suggested that higher-paid teachers are less likely to leave (Ingersoll, 2001), the SPeNSE study noted that salary does not determine teacher quality or predict intent to stay.

In 2003, the Ladue school district, a suburb of St. Louis, celebrated the 50<sup>th</sup> anniversary of its teacher evaluation and salary program. A small district of 3200 students, Ladue boasted that 90% of its graduates attend college. Most parents report that they are college graduates. Since 1953, teachers have developed Ladue's performance criteria. Evaluated by principals and assistant principals twice yearly with pre-observation and post-observation conferences, the teachers earn points which determine their salary increase. As of 2003, one point equaled \$150. Teachers with zero to five years experience can earn a maximum of 10 instructional points and 4 extra-curricular points. Teachers with at least 5 years experience can earn a maximum of 13 instructional points and 4 extra-curricular points. Ladue offers annual across-the-board salary increases without a maximum salary and without a salary schedule. Although Ladue provides a \$6000 tuition reimbursement for continuing education, teachers cannot earn points or additional compensation for advanced degrees. When a 2001 district evaluation

form queried, “Does the evaluation and salary program provide you with an incentive to improve your teaching,” 79.17% of teachers replied, “yes” (Morice & Murray, 2003, p. 42). Since 1993, the Ladue district maintained a 4.8% rate of teacher attrition. In addition, Ladue enjoys a student-teacher ratio of 12:1 and a per-pupil spending rate of \$11,200. The local community values education and student achievement is high. According to Morice and Murray, “the fact that teachers enter their profession for the intrinsic satisfaction of working with students does not rule out the possibility that they will be motivated by extrinsic factors as well” (p. 43).

Pre-service attention from university supervisors provides necessary support for teaching interns. Transition to the workforce can be overwhelming. In order to relieve the sense of isolation felt by new teachers, Certo and Fox (2002) encouraged professional development and mentoring. New teachers require help with parent conferencing, transitioning students, including students with disabilities, and short and long-range planning. Supporting the benefits of professional development, NCES (2002a) concluded:

Teachers who participate in more than 8 hours of professional development activity in a single area of development per year are more likely than teachers who participate in 1 to 8 hours to report that activity improved their teaching “a lot.” However, most teachers participate in such an activity 1 to 8 hours. (¶ 1)

Lieberman (1999) concluded that short workshops do not provide the most effective means to support teachers. Training that incorporates teachers’ experiences and offers in-depth instruction stands a better chance of encouraging acceptance and application of best teaching practices.



As advocates for staff development and smart induction programs, Stansbury and Zimmerman (2002) referred to new teacher attrition as a “brain drain” (p.10). Citing the need for school districts to offer quality induction programs, the authors suggested that such efforts would enhance teacher retention, increase teacher satisfaction, and enhance best practices. Stansbury and Zimmerman supported Huling-Austin’s (1990) five goals for induction programs: (a) improving teacher performance, (b) increasing the retention of promising beginning teachers, (c) promoting the personal and professional well-being of beginning teachers, (d) satisfying mandated requirements for induction and/or licensure, and (e) transmitting the culture of the system to beginning teachers.

Stansbury and Zimmerman (2002) offered guidelines for first-year support. Acknowledging that the early years of teaching foster stress, new teachers often require assistance with lesson plans and unfamiliar materials. With the help of veteran teachers, they also need to develop problem-solving skills regarding their students. The opportunity to observe effective models can be invaluable. In addition to demonstrating effective practices, experienced teachers could show newcomers how to be guided by evidence. As self-confidence builds, the new teacher becomes less dependent upon the support of the mentor.

Support strategies vary. While some induction programs stem from school-based initiatives, most programs are sponsored at the district level. Mentor monies, for example, are sometimes used to release veteran teachers from their classrooms in order to assist newer colleagues. Regarding support strategies, Stansbury and Zimmerman (2002)

categorized them as low-intensity or high-intensity. In order to meet the definition for low-intensity support, strategies must make minimal demands on district resources. For example, teachers would be expected to use non-instructional time for peer mentoring. Low-intensity activities include orienting new teachers before school opens, adjusting working conditions by reducing caseload, or establishing collaboration with level-alike meetings during a common planning period. High-intensity supports tend to be more effective, but more is expected from veteran teachers. Strategies from this category include selecting and training support providers, providing release time, and offering workshops.

In addition to recommending the allocation of ample time as a resource for beginning teachers, Stansbury and Zimmerman (2002) outlined five supportive conditions for a successful induction program: (a) early identification of beginning teachers by the personnel office, (b) realistic expectations for beginners, (c) cooperative agreements with unions, (d) coordination of efforts within the district, and (e) protected release time. Managing the relationship between mentors and mentees must be monitored. Getting resources to struggling teachers offers challenges as well. Finding time to do these things always poses an obstacle. According to Stansbury and Zimmerman, even low-intensity support strategies foster teacher retention and improve student learning.

According to Scharfenberg (2004), the mentoring project of Santa Cruz, California presented an effective model for teacher retention. Begun in 1988 as part of the

Beginning Teacher Support and Assessment (BTSA) Program, the New Teacher Project enlisted experienced teachers as full-time mentors for new educators. Required to meet with mentees weekly in a one-on-one format, the veteran teachers assisted with lesson plans, analysis of student work, and instructional strategies. The director of the Center for Education Policy in Menlo Park, California stated, “the Santa Cruz New Teacher Project stands out because of its commitment to making mentors...full-time professionals” (¶ 10). Of its 1992-1993 class of new teachers, the Santa Cruz district reported that 89% of the teachers were still teaching in 2004 and 94% continued to work in the field of education. Over time, the New Teacher project expanded to 150 sites across California. In 1998, organizers began nationwide promotion of the New Teacher Project.

Sometimes mentors arrive ill prepared for their assignment. Denmark and Podsen (2002) outlined qualities to look for when selecting mentors. Typically, mentor teachers exhibit leadership qualities and tend to be busy. In addition to commitment, competency in understanding the mentoring role remains essential. A mentor serves as more than a “buddy,” and mentors should have clear expectations and organized schedules for their contacts. Mentors should attend seminars and possess motivation for their own betterment. Mentors must be willing to share. According to Denmark and Podsen, mentors must initiate relationships and in doing so, create a positive climate of peer support. In addition, mentors must model best practices and apply effective classroom management strategies on a daily basis. Mentors also need to experience diversity and

encourage an appreciation of cultural differences. Finally, mentors need to embrace their responsibility as an investment in professional development.

Following the review of a program for teachers in Sioux City, Nevada, Brown (2003) commented that mentoring offers a good approach to teacher retention. The Sioux City program incorporates lively cooperative activities and games to familiarize new teachers with the school system. The elements of success, however, appear in the personal qualities of the mentors. Brown asserted that successful mentors must be good listeners, be aware of others' perceptions, possess subject area expertise, be successful teachers, maintain confidentiality, work collaboratively, manage time effectively, and reflect good interpersonal skills. Mentors make a two-year commitment and earn a \$1000 annual stipend. Prior to implementation of the program, all participants attend a full day of mentor training at a nearby conference center. Assigned to one beginning teacher, mentors complete four observations per year. The beginning teachers may visit model classrooms twice. Substitutes are provided for both mentors and mentees. According to Iowa's District Facilitator for mentoring, "the best way to improve student achievement is to improve teacher quality" (Brown, p. 62). A supporter of mentoring, Bobek (2002) reported that districts in 28 states require or encourage mentors. Mentoring fosters resiliency that is critical to teacher success. Significant relationships help people understand what is going on around them.

Some researchers borrow ideas from the business field to address teacher retention. Norton (1999) proposed motivators and perks to improve climates in the

workplace. Norton suggested offering school-based childcare services, exercise rooms, stipends for university fees, and career planning opportunities.

National initiatives present another way to encourage teaching as a profession. Founded in 1990 as a service organization under Americorps, *Teach for America* requires a two-year commitment from teachers to work in the nation's 12 most impoverished school districts. Hired directly by the school districts, Corps members fill difficult vacancies. Every year, Americorps places about 800 college graduates in teacher-shortage locations such as Baltimore, Los Angeles, the Bay Area, New York, the Rio Grande Valley, and the Mississippi Delta (Ness, 2000). Fulfilling an agreement with Americorps, Ness was placed at Roosevelt Middle School in East Oakland, California. Roosevelt Middle School presented a 60% rate of teacher retention. Feeling abused by students and staff, Ness considered quitting by November of her first year. In *A First Year Teacher Tells it All*, Ness (2000) lamented,

Too many teachers are thrown into their classrooms with meager tangible support. Teachers do not receive enough concrete incentives to make teaching a life-long profession. Our best teachers are often lost before they can even start to achieve success in the classroom. It is no secret that teachers are over-worked, underpaid, and underappreciated; I am living proof of that. (p. 12)

Following many challenges and a growing belief in student resiliency, Ness began a second year at Roosevelt Middle School.

Florida supports recruitment efforts. For teachers seeking employment who want to schedule interviews with district staff, the *Florida's Teach-In* in June provides a forum. Conducted in central Florida, prospective employees participate in meetings and

obtain information about living and teaching in Florida. Future plans include a web-based application procedure. As efforts in teacher recruitment, the State of Florida, offers two programs for potential teachers. The national *Troops to Teachers* initiative provides assistance with referral and placement of eligible military personnel who aspire to gain teaching credentials. With either a \$5,000 stipend for certification requirements or a \$10,000 bonus for teaching in a high-need school, participants agree to a three-year commitment. Although not a certification program, *Troops to Teachers* provides support in acquiring certification. Designed for people experiencing mid-career changes, paraprofessionals, and college graduates with degrees outside of education, the federally funded *Transition to Teaching* provides mentoring and incentives to attract non-traditional employees to critical shortage teaching areas. Participating Florida counties include Polk, Marion, and Volusia. Florida counties with district-based transition to teaching initiatives include Broward, Duval, Martin, Orange, and Palm Beach (FDOE, 2004d).

Central Florida school districts offer supports for teacher recruitment and retention. In order to assist new teachers during their first days of school, Brevard County conducted a three-day workshop during preplanning week. Topics included classroom management and teaching resources. Although participants expressed that managing a classroom could be overwhelming, they reported that talking with each other and exchanging ideas helped them prepare for their first day of teaching (NewsChannel2000, 2004).

In an effort to simplify the application process, Orange County, Florida employed technology to attract teachers. According to the Orange County Schools recruitment director, electronic job applications serve as an effective follow up to job fairs and out-of-state recruitment projects that focus on attracting quality teachers to Orange County. The director stated, “I can assure the parents that their children are going to have teachers. Not only are they going to have teachers, but they’re going to have talented individuals before their children are in the classrooms” (NewsChannel2000, 2002a).

Orange County Schools, in collaboration with Orange County, the city of Orlando, Fannie Mae, and private lenders, instituted a program that offers home mortgage breaks to teachers. The program features flexible down-payment and credit qualifications. A one- or two-person household making less than \$49, 600 would qualify to purchase a new home costing up to \$95,838 in Orange County or up to \$126,382 in the city of Orlando. Required to contribute at least \$1000 toward the down-payment, teachers can receive up to \$7,500 for the balance. In the form of a forgivable second mortgage, the obligation to repay the down-payment disappears after the teacher has taught in Orange County for five years (NewsChannel2000, 2002b).

In addition to increasing salaries, Ingersoll (2003) admonished school districts to reduce student discipline problems, enable teachers to become decision-makers, and reduce class size. Believing that all teacher retention efforts must begin with the recognition of a difficult occupation, Chase (2001) asked, “Why make teaching even harder than it already is?” He added, “Give teachers the time they need to plan and

confer with their colleagues. Provide them with the mentors and professional development they need. Reduce class size. And, for heaven's sake, pay them a professional salary" (p. 5).

### Efforts to Increase Teacher Retention in Exceptional Student Education

What are the proposed solutions to teacher attrition in special education?

Billingsley (2003) advocated in-depth research as a good place to start. *Knowledge gaps* exist which limit the tools for decision-makers. Billingsley's research topics and administrative priorities included: (a) framing issues from teacher perspectives, (b) examining teacher preparation and quality, (c) addressing the early career period, (d) supporting teachers, and (e) reducing role overload and dissonance.

Based on their study that considered how job design affects attrition, Gersten et al., (2001) advised that administrators could do much to enhance the job performance of teachers. For example, school leaders can ensure that teachers receive adequate resources and relevant information. Furthermore, administrators can set the tone of the school to support special programs, mediate disputes, and reward laudable behavior. These options present positive interventions at little or low cost.

Theorizing that "a poorly designed job can affect teachers in negative ways, leading to withdrawal from involvement on the job and eventual decisions to leave the position or the field" (p.351), Gersten et al., (2001) distributed a survey to 887 teachers



across three large urban school districts in the southwestern United States. Conducted in 1992, the distribution yielded an 81% rate of return. The authors asserted that:

for an organization, poor job design results in failure to achieve valued goals. For an individual, it results in frustration and work-related stress, which in turn may lead to lowered self-efficacy and increased employee attrition. Negative responses to day-to-day work may also lead teachers to remain in their positions but simply reduce their overall involvement and effort, and to lower their expectations for students. (p. 352)

Using the following variables in the path analysis: (a) support from principal and teachers, (b) central office support, (c) professional development opportunities, (d) role dissonance, (e) stress due to job design, (f) satisfaction with career position, (g) commitment to the profession, and (h) years in education, the results demonstrated that job design may influence both teacher retention and the performance of those who remain in teaching. According to the study, central offices effect perceptions of support, but not teachers' intent to stay in the profession. Building-level support from principals exerts strong direct and indirect effects on teachers' working conditions. Gersten et al., (2001) argued that because colleagues affect working conditions, the definition of building-level support should extend to other teachers and not be limited to principals. By showing an understanding of ESE roles, engaging in meaningful conversations, and providing learning opportunities for special education teachers, principals and their staff members can demonstrate support for their peers who serve students with special needs.

Brownell, Sindelar, et al. (2002) suggested offering web-based advertising as a way to attract young teachers and providing financial incentives as a way to keep them. Teachers earn 20% less than professionals in other fields with similar educational

requisites. The authors also recommended development of programs for paraprofessionals to encourage transition into instructional positions.

The Council for Exceptional Children (2000c) recommended improving working conditions for special education teachers through implementation of the following actions:

1. define the roles of special and general educators relative to students with exceptionalities,
2. create the context for high quality practice,
3. leverage time with technology tools and clerical supports to reduce the paperwork burden,
4. standardize decision-making processes,
5. create a career continuum in special education,
6. recruit and prepare sufficient qualified diverse special educators to fill the demand,
7. develop cohesive professional licensure systems, and
8. provide systems support. (¶ 2)

The CEC emphasized that like other professions, teaching demands continuous professional development. Using research-based practices, educational leaders should provide teachers with sound content, organized curriculum, and opportunities for formative practice. Looking toward the future of teacher preparation programs,

Billingsley (2002) reported the following SPeNSE recommendations:

1. Recruit students from diverse cultural and ethnic backgrounds as well as males.
2. Recruit prospective teachers to work with students with emotional disturbance and increase enrollments in these teacher preparation programs.
3. Form partnerships with school systems to provide coursework and other forms of support for the many beginning teachers who are not certified for their assignments.
4. Create more opportunities for prospective teachers to have experience with students who are linguistically and culturally diverse.

5. Evaluate the extent to which current teacher education curricula provide opportunities for students to develop skills in: (a) accommodating culturally and linguistically diverse students' instructional need, (b) interpreting the results of standardized tests, and (c) using the professional literature to address problems in teaching.
6. Enhance field-based experiences for prospective teachers to help them acquire practical skills, understand the challenges and rewards of teaching special education (including the range of professional responsibilities), and access the supports available through many school systems to reduce the difficulties experienced by many teachers. (p. 6)

Finding solutions to increasing demands for paperwork remains important. CEC (2000c) recommended clerical and technological support for teachers to address issues such as case management, data analysis, and communication. ESE teachers spend up to one and one-half days per week doing paperwork (Reducing Special Education Paperwork, 2003). CEC suggested that funding be provided to purchase technology such as computerized Individual Education Plans (IEP) software and laptop computers for teachers. Opportunity for change exists in the pending reauthorization of the Individual with Disabilities in Education Act (IDEA). In addition, CEC proposed that IEPs be streamlined and written only once every 3 years. Based on the CEC findings, Representative R. Keller (R-Fla.) stated:

when a principal testifies that his IEP teams spend an average of 83.5 hours filling out paperwork in preparation to sit down with a student's parents - something makes me wonder about the 83.5 hours taken away from classroom instruction time" (§ 9)

Keller subsequently introduced a bill, the IDEA Paperwork Reduction Act of 2002, with co-sponsors, Representative M. Castle (R-Del) and Representative J. Boehner (R-Ohio).

Some researchers suggested that incentives might attract teachers back to the profession. Brownell, Smith, McNellis, and Miller (1997) reported in their survey that the largest group of disgruntled leavers, 24 out of 49 teachers, would not return to special education even with incentives. However, the second largest group indicated that they would return if granted more administrative support, reduced workloads, and flexibility in certification requirements. The authors suggested that school principals should become sensitized to the needs of special educators and involve ESE teachers in scheduling decisions.

Ideally, new teachers should be well prepared for their careers. In addition to supporting mentoring programs, Fore III, Martin, and Bender (2002) offered suggestions such as proactive stress identification, reduction of caseloads and paperwork, and limitation of class size as ways to relieve stress for teachers. They also recommended “acquainting pre-service educators with the stark realities of their chosen profession prior to induction” (§ 21). Finally, they offered so-called *politically risky* options to decrease stress and increase retention. These options included paying higher salaries for special education teachers, hiring experienced teachers between the ages of 35 and 55 to increase the maturity of the group, hiring fully-certified teachers with master’s degrees, helping pre-service teachers develop a more realistic view of the first year of teaching, employing more male teachers, and making demands reasonable for beginning teachers. Brownell, Sindelar, et al. (2002) explained that beginning ESE teachers experience vulnerability because they are expected to know as much as experienced teachers. New teachers must

prepare for and participate in Individual Education Plan (IEP) meetings from day one. Teachers require support during the critical early years, but induction and professional development should focus on teacher quality rather than simply retention. These supports should be in place even with a surplus of teachers (Billingsley, 2003).

About 85% of beginning teachers reported the availability of a formal mentoring program in their district (Billingsley, 2002). Supporting the CEC's (2000c) call for school-based support of new teachers, Whitaker (2000) discussed mentoring and the needs of first-year special education teachers. A teacher named Jessica explained, "My first year was much tougher than I expected. I had no curriculum, no support, no experienced special education teacher in the building, and no real experience at the district level" (p.28). Another teacher, Linda, concurred, "I was glad that I was older. I think if I had been 20 or 21, I would not have stuck it out. I probably would have finished my first year and said forget it" (p.28)! Whitaker observed that although many young teachers leave the profession, few research studies addressed the first year of teaching. In response, Whitaker facilitated five homogenous focus groups comprised of 7 to 8 people each. The study involved three groups of new ESE teachers, one group of mentors, and one group of administrators. Thirty-five educators from 8 different school districts participated. Of these, 13 worked in urban areas, 16 worked in rural areas, and 6 worked in mixed areas. The focus groups included 30 women and five men. Regarding ethnicity of the 35 participants, 30 were White and 5 were Black.

After audiotaping the focus groups, Whitaker (2000) used qualitative methods to analyze the data. New teachers reported that meetings with mentors provided the highest level of support. Although scheduled meetings were recommended, teachers indicated that frequent informal contacts offered much-needed opportunities for encouragement. In addition, observing others and being observed by others surfaced as a recurring request of new teachers. In total, the new special education teachers identified eight broad areas of need: (a) emotional support, (b) system information related to special education, (c) system information related to the school district, (d) material resources, (e) discipline, (f) curriculum and instruction, (g) management, and (h) interactions with others. Teachers amplified these categories. Emotional support depicted listening and sharing. System information included policies and procedures, unwritten rules, and culture. Resource needs included locating and obtaining information and materials. While discipline covered student behavior, curriculum addressed teaching strategies and evaluation of student progress. Management had to do with daily routines, planning, and organizing and interactions focused on how to work with parents and colleagues.

In SY 1998-1999, the State of South Carolina mandated mentoring for every beginning teacher. Based on the results of the focus groups, Whitaker (2000) outlined a one-day teacher induction program in Spartanburg County, South Carolina, School District 7, which addressed the needs outlined above. In addition to the training in policies and procedures, participants worked in small groups to draft an IEP from a simple scenario. Following the induction program, participants engaged in a year-long

mentoring plan. Following the 1998-1999 school year, more than one-third of South Carolina's beginning special education teachers left the classroom. In contrast, after combining induction with mentoring, all eight of Spartanburg's new ESE teachers returned the following year.

Additional support exists for induction initiatives. According to Seyfarth (2002), "Organizations that provide planned induction programs for new employees increase the chances that those employees will obtain accurate information about the job and the organization and that they will be more satisfied and productive as a result" (p. 105). Asserting the benefits of Whitaker's (2000) research on induction and mentoring, Boyer & Gillespie added the following recommendations to support new ESE teachers: (a) states, rather than only districts, should offer induction programs, (b) effective special educators should volunteer to assist with the development of state-level initiatives, (c) districts should match new teachers' assignments to their background and experience, (d) provide professional development in the areas of curriculum, behavior management, and collaborative skills, and (e) alleviate excessive paperwork tasks.

Some considered certification reciprocity across states as an incentive for improving recruitment and reducing teacher shortages. However, the SPeNSE study (Westat, 2002e) indicated that this was not a significant issue. Of employed ESE teachers, about 75% maintained employment in the state that provided them with initial preparation. Nonetheless, the SPeNSE study did not include non-employed teachers certified in one state who did not find employment in another. Because of this, SPeNSE

expressed caution when interpreting its findings. According to SPeNSE, an increasing number of teachers earn certification through alternative programs. Christophel (2003) reported that alternatively-certified ESE teachers leave the classroom at rates higher than their traditionally-certified peers.

Offering an international perspective, Martinez and Hallahan (2000) reported that despite demographic differences, special education challenges are similar throughout the world. However, one major difference exists. Although relatively well-funded in the United States, special education receives fewer resources in other countries. Wealthier societies, which require an educated workforce, tend to provide services for people with learning disabilities. Less-affluent societies use their scarce resources to assist people with more severe disabilities. The researchers asserted that deficient teacher preparation often translates into teacher attrition. In order to promote professionalism, they also recommended that alternative certification should be discouraged.

Not all teachers who leave special education are disgruntled. Some enjoyed teaching and left their profession to raise a family, retire, or pursue other job opportunities. Some could not complete certification requirements. Nonetheless, teacher turnover in special education generates consequences and affects services for students with disabilities. Brownell, Smith, McNellis, and Miller (1997) expressed concern that attrition creates “difficulty ensuring that programs are consistent in philosophy and implementation” (p.143). Special education teachers often move to general education positions, but no evidence exists to confirm that general education teachers are moving to



ESE (Boe et al., 1997). At the district level, “a transfer has no effect on the overall composition of the workforce” (Seyfarth, 2002). Boe et al. noted, however, that ESE teachers moving to general education have a positive effect on the larger system. The impending reauthorization of IDEA offers opportunity to assist that larger system. Who teaches students with disabilities? The answer to that question involves more than teachers certified in exceptional student education. As the application toward least restrictive environment continues, the demarcation between general and special education may be lessened.

### Summary

Increased student enrollments, mandates for reduction in class size, and early retirements influence the need for new teachers (Grissmer & Kirby, 1997). However, teacher attrition poses an obstacle to meeting staffing needs. For reasons that include excessive paperwork responsibilities, concerns about student performance evaluations, problems related to student discipline (Norton & Kirby, 1999), low salary (Shen, 1997), poor administrative support (Kauffman et al, 2002; Certo & Fox, 2002), and workplace conditions (Baker & Smith, 1997), general education loses up to 30% of its public school teachers within the first 5 years (Whitener, et al, 1997).

With overall attrition at its highest levels in early and late career (Grissmer & Kirby, 1997), age influences teacher attrition. Ethnicity also plays a role. White teachers tend to leave their profession at rates higher than their Black and Hispanic colleagues

(Adams & Dial, 1994). Regarding grade level assignment, elementary school teachers tend to remain in the classroom longer than middle and high school teachers (Murnane, et al, 1994). Program area influences retention as well. In general education, teachers of math and science possess marketable skills and can readily find employment in the private sector (Certo & Fox, 2002). In special education, teachers in programs that serve students with emotional disabilities tend to leave the profession at a higher rates (Brown, Smith, McNellis, & Miller, 1997).

Overall, exceptional student education teachers represent the highest percentage of those who leave the classroom (Billingsley, 1993); 40% exit the field before their fifth year (CEC, 2000a). In addition to leaving because of excessive paperwork responsibilities (CEC, 2002), student discipline issues (Brown, Smith, McNellis, & Miller, 1997), poor working conditions (CEC, 1998), and poor administrative support (Kauffman, et al, 2002), a growing percentage of special educators lack appropriate certification (Westat, 2002e), especially new teachers who serve students with behavioral disorders (Billingsley, 2002). A majority of these new teachers reported that they received inadequate preservice training in classroom management and indicated a need for professional development in this area (Merrett & Wheldall, 1993).

As a critical teacher shortage area, special education's demand for teachers remains high, in part, because the number of students with disabilities continues to grow (Boyer & Mainzer, 2003). Larger caseloads increase the number of parent meetings and require that more time be spent completing paperwork duties, especially the Individual

Education Plan. In addition to time constraints, ESE teachers often work with limited resources and spend money out-of-pocket for student supplies (CEC, 2000b).

Suggestions to increase overall teacher retention include major salary increases (Baker & Smith, 1997; Ingersoll, 2003), career ladders (Shen, 1997), professional development (Certo & Fox, 2002; NCES, 2002a), quality induction programs (Stansbury & Zimmerman, 2002), and mentoring (Scharfenberg, 2004; Brown, 2003).

National and state incentives such as *Teach for America* (Ness, 2000) and *Florida's Teach-In* (FDOE, 2004d) are in place to attract non-traditional students to the field of education. In special education, suggestions for increasing teacher retention include provision of adequate resources (Gersten, et al, 2001), improvement of working conditions (CEC, 2000c), recruitment from diverse ethnic backgrounds (Billingsley, 2002), recruitment of men to the profession (Billingsley, 2002), paperwork reduction, especially through the use of technology (CEC, 2002c), improvement of preservice programs (Fore III, et al, 2002), effective induction programs (Seyfarth, 2002), and formal mentoring (Whitaker, 2000). Whether in general or special education, teacher recruitment, attrition, and retention will continue to pose an ongoing challenge educational leaders.

## CHAPTER 3

### METHODOLOGY

#### Introduction

After researching professional literature and evaluating its attrition rates in ESE, Volusia County Schools implemented a staff development approach to increase teacher retention. A 4-day program for teachers new to ESE, Skills, Tips, and Routines for Teacher Success (STARTS), incorporated one day of policies and procedures instruction, one day of curriculum development, and two days of behavior and classroom management training with follow up sessions. STARTS sessions were offered three times during the school year: summer, fall, and spring. Created by Sprick, Garrison, and Howard (1998), the behavioral component, CHAMPs, an acronym for Conversation, Help, Activity, Movement, and Participation, encouraged teachers to organize their classrooms and plan for proactive behavior management. Following the 4-day STARTS program, the CHAMPs facilitator maintained contact with the participants and visited their classrooms over the course of the school year.

With 70 schools, over 3000 general education classroom teachers, and nearly 900 special education teachers, excluding teachers of gifted and speech and language clinicians, Volusia County Schools, a large district in east Central Florida, serves approximately 63,000 students (Volusia County Schools, 2003). Of these, nearly 11,000 students receive special education services for disabilities while another 2000 students receive services in the gifted program (FDOE, 2003b). Excluding students participating

in the gifted program, approximately 17.4% of Volusia County's students receive support from exceptional student education, compared to the state average of 19.3%.

Regarding racial and ethnic distribution of its 8323 full-time staff members, 6,766 Volusia County employees classify as White (81%), 1,074 classify as Black (12.9%), 445 classify as Hispanic (5.3%), and 38 (.4%) classify as Asian or Pacific Islander (Volusia County Schools, 2003). According to the Florida Department of Education (2003b), state numbers for full-time staff members reflected the following distribution by ethnicity: Teachers classified as White comprised 67.22%, teachers classified as Black comprised 20.13%, teachers classified as Hispanic comprised 11.57%, and teachers classified as Asian comprised .81%. Nationally (NCES, 2002b), 84.8% of approximately 3,000,000 public school teachers classify as White, 7.6% classify as Black, 5.6% classify as Hispanic, and 1.6% classify as Asian or Pacific Islander.

Volusia County's dropout rate of 1.5%, compared to the state rate of 3.2%, indicated fourth place among Florida's 10 largest districts. About 82% of Volusia County's high school seniors reported that they intended to go to college. Volusia County's high school graduation rate posts at 81.5% compared to the state rate of 67.9% (Volusia County Schools, 2003).

After compiling demographic and employment data of ESE teachers in Volusia County Schools, the researcher analyzed data in order to assess whether STARTS influenced retention of ESE teachers in Volusia County. Chapter 3 describes the methodology used in the study. The chapter is organized into the following sections:

(a) Introduction, (b) Statement of the Problem, (c) Population and Sample, (d) Research Questions, (e) Data Collection, (f) Data Analysis, and (g) Summary.

### Statement of the Problem

Teacher attrition affects the quality of teachers, restricts planning and program continuity, increases allocations for recruitment and hiring, and impedes student learning (Shen, 1997). School districts throughout the United States continue to address the consequences of teacher attrition and retention. In this regard, exceptional student education (ESE) poses a significant challenge. Special education teachers leave their profession at rates higher than their general education peers (Billingsley, 1993). While general education experiences 13% annual turnover, special education presents an annual turnover rate of 20% (Boe et al., 1997).

According to the literature, teachers leave for reasons that include poor administrative support and training in curriculum (Kauffman et al., 2002), inadequate pre-service training (Merrett & Wheldall, 1993), poor salary (Shen, 1997), isolationism (CEC, 2000), poor behavior management skills (Brownell, Smith, & McNellis, 1997), and excessive paperwork (CEC, 2002). In addition, external factors exist which influence the issues of teacher attrition and retention, especially in Florida. These include increased enrollment (FDOE, 2004c), teacher shortages (FDOE, 2004a), retirement (FDOE, 2004c), legislation (FDOE, 2004c), and the number of college students majoring in education (FDOE, 2003d).

Between 1988 and 2001, total elementary and secondary school enrollment in the United States increased 19% to about 54 million students (NCES, 2003a). Students with disabilities comprised about 13% of that population (NCES, 2002b). For public schools, national projections indicated a 4% national increase in elementary and secondary enrollment between 2001 and 2013. With Alaska, Hawaii, and California leading, thirty states can expect increased enrollments. Since the 1982-1983 school year, Florida has experienced steady growth in enrollment in its PreK-12 programs. Between 2001 and 2013, Florida anticipates an overall increase in enrollment of 5.4% (NCES, 2003a). Although projections indicate a slowing of the state growth rate over the next 10 years, Florida's student population will continue to increase at a rate of about 50,000 students per year (FDOE, 2004a). In Fall 2003, Florida schools served 2,591,033 students including 502,231 students with disabilities plus 115,002 students identified as gifted. These numbers reflected a four-year increase of 9.04% in the total number of students in Florida, but a 13.03% increase in the number of students served in special education programs (FDOE, 2003b).

Florida possesses the fourth largest school system in the nation (FDOE, 2002). To meet the demands of student enrollments, increasing numbers of teachers are hired every year. Between 1988 and 2001, the total number of elementary and secondary teachers in the US increased by 27% to about 3.4 million teachers. For public schools, projections indicated another 5% increase between 2001 and 2013 (NCES, 2003b). Between July 1, 2003 and November 1, 2003, Florida schools hired 19,317 classroom teachers and 978

other instructional personnel, such as librarians and guidance counselors, for its schools. The additional classroom teachers represented a 25% increase over the 15,388 classroom teachers hired during the fall of 2002. With these additions, Florida boosted its Fall 2003 employment to 147,957 teachers and 17,356 other instructional personnel (FDOE, 2004a). Despite these increases, shortages persisted.

Teacher shortages have been a concern in Florida for some time. In 1984, the Florida Department of Education (FDOE) identified six specializations as critical teacher shortage areas: (a) mathematics, (b) science, (c) speech therapy, (d) emotionally handicapped, (e) industrial arts, and (f) foreign languages. In 1989, the list expanded to include all areas of exceptional student education. Remaining a critical teacher shortage area for 15 years, ESE again has been identified for school year (SY) 2005-2006 (FDOE, 2004a). Shortage area indicators included the number of new hires as a percentage of all teachers and the number of new teachers lacking appropriate certification. In 2003, ESE teachers represented about 20% of new hires, and more than 20% of these teachers lacked certification in their field (FDOE, 2004a). In an effort to make it easier to find certified ESE teachers, the State of Florida, in 2003, combined several ESE certification areas into one. Former certification areas including *Mentally Handicapped*, *Emotionally Handicapped*, and *Varying Exceptionalities*, were collapsed into the umbrella category of *Exceptional Student Education K-12* (FDOE, 2004b).

The total projection for the critical shortage areas for SY 2006-2007 includes about 10,000 teachers, with mathematics, science, ESE, and English for Speakers of



Other Languages (ESOL) accounting for 75% of the total need (FDOE, 2004a).

Projections from the Florida Department of Education (2004c) suggested that from 2005 to 2015, Florida would need to fill between 19,600 to 29,600 teaching positions every year during that 10-year period. More than 3000 of these annual projected classroom positions would be ESE positions.

During the 2002-2003 school year, about 9.8% of Florida's teachers left the classroom (FDOE, 2004a). Of the 13,751 teachers who left, 8538 resigned, reflecting 62.0% of the total. Retirement represented 19.6% of the total or 2706 teachers (FDOE, 2004c). With one-fifth of Florida teachers at age 49 or older, retirement will continue to pose a challenge for Florida (FDOE, 2004a). The remaining 18.2% (2507 teachers) left for other reasons (FDOE, 2004c). Legislative and political factors influence the demand for teachers. The federal *No Child Left Behind Act (NCLB)* of 2001 and the *Class Size Reduction Amendment* passed by Florida voters in 2002 mandated highly qualified teachers in all classrooms, and reduction in the student-teacher ratio in K-12 education, respectively. As a result of the state constitutional amendment alone, projections for additional teachers ranged from 4,300 for SY 2004-2005 to 11,821 for SY 2006-2007, at which time adjustments due to the amendment are expected to wane.

In 2001-2002, 5,656 candidates completed teaching programs in Florida universities (FDOE, 2003c). However, Florida universities do not graduate enough students to meet the demand for new teachers. According to the Florida Department of Education (2004a), the number of graduates with degrees in ESE actually declined in

2002-2003. Despite over-projections in previous years, the projected overall increase in ESE graduates holds at about 9%. Projections indicated that, although about 2600 new hires will be required for ESE in SY 2006-2007, Florida universities would graduate approximately 920 new ESE teachers. Consequently, Florida may not be able to fill all its ESE teaching vacancies with certified personnel. In addition, the Florida Department of Education reported that only 61% of all Florida teacher education graduates seeking initial teaching certification taught in Florida public schools during the year following graduation. Furthermore, of all Florida teacher education graduates, 58% continued to teach four years after graduation.

### Population and Sample

All of the teachers in the study were employed by the Volusia County school district in east central Florida for various lengths of service between July 1, 1998 and June 30, 2004. Over the course of 3 years, from SY 2001-2002 to SY 2003-2004, a purposive sample of 349 new-to-ESE teachers completed the 4-day STARTS training. An additional 422 new-to-ESE teachers, hired 3 years prior to the implementation of the STARTS initiative, served as comparatives.

Identified by central office personnel as having met the conditions for *new-to-ESE*, all STARTS participants, beginning in SY 2001-2002, were notified by mail that they were required to attend one of the three training sessions offered during the school year. The district offered three sessions because participants were hired throughout out

the school year. Failure to participate would result in non-renewal for a position in ESE or general education for the school district. Because training occurred beyond the contractual school day, during the summer or on Saturdays, participants were also notified that they would be compensated for their time. Applicants signed a contractual agreement to attend the 4-day STARTS training.

All participants remained together in a large group for the two-day CHAMPs training in classroom management. For curriculum instruction, teachers were separated by level and program. Elementary teachers were further separated into Pre-K, primary, and intermediate groups, while middle school and high school teachers combined to form a secondary level. Program designations included Pre-Kindergarten (PreK), Mild to Moderate Varying Exceptionalities (Mild), Multiple Varying Exceptionalities (Multi), and Severely Emotionally Disturbed (SED). The same personnel conducted the STARTS curriculum and behavior components for all nine sessions over the three-year period. On five of the policies and procedures days, substitutes were required. However, the policies and procedures training used a scripted lesson plan in order to ensure consistency. Teachers could choose which STARTS session they attended, but were encouraged to attend as early in the school year as possible.

The study identified ESE teachers as *not returning* if they did not return to special education positions the following school term. However, some teachers moved to general education positions. Because these teachers maintained employment in Volusia County schools and continued to serve students with special needs in their general education

classrooms, they were identified as *movers* rather than *leavers* and included in a separate category of overall teacher retention.

Because some teachers no longer had primary responsibility for student instruction in the classroom in the subsequent year, the study coded as *not retained* those who exited the school system entirely or moved to administrative, paraprofessional, or substitute teaching positions. Although ESE typically includes teachers of gifted and speech and language clinicians, no teachers of gifted or speech and language clinicians participated in the STARTS training. Other than an optional survey to evaluate the effectiveness of the trainer, content, and facilities, no instrument was given to the participants. Full-day attendance at all four days of training satisfied the contractual agreement.

### Research Questions

Because the literature suggested that four variables (age, race, program area, and grade level) affected ESE teacher retention; these were assessed. The following questions were posed:

1. Does the 4-day staff development program, STARTS, make a difference in new-to-exceptional student education teacher retention in Volusia County Schools?
2. Is there a difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to age and participation in STARTS?

3. Is there a difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to race and participation in STARTS?
4. Is there a difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to special education program area and participation in STARTS?
5. Is there a difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to grade level assignment (elementary, middle, high) and participation in STARTS?

### Hypotheses

The study tested the following null hypotheses:

Null Hypothesis 1: In Volusia County Schools, there is no significant difference between the retention rates of new exceptional student education teachers who did not participate in STARTS and those who did participate in STARTS.

Null Hypothesis 2: There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to age and participation in STARTS.

Null Hypothesis 3: There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to race and participation in STARTS.

Null Hypothesis 4: There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to special education program area and participation in STARTS.

Null Hypothesis 5: There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to grade level assignment (elementary, middle, high) and participation in STARTS.

### Data Collection

After securing appropriate permissions from Volusia County Schools and the University of Central Florida (UCF) as shown in APPENDIXES B and C, the researcher requested and received personnel data from the district Management Information Service department. The request generated a comprehensive employment history listing for all teachers new to ESE in Volusia County from July 1, 1998 through June 30, 2004. In order to satisfy the *new* requirement, an additional year, July 1, 1997 through June 30 1998 was required. This information enabled the researcher to identify and eliminate the records of those teachers who were already ESE teachers at the beginning of the history.

The MIS department drew data from two separate Human Resource (HR) systems, because the district changed systems during SY 1999-2000. The older data was stored in Total Education Resource Management System, *TERMS*, a Virtual Storage Access Method (VSAM). Used on International Business Machine (IBM) mainframes, VSAM manages system files. The post 1999-2000 data was housed in *Smartstream*, a Structured Query Language (SQL) relational database. As a standardized language, SQL allows users to pose a query and request information from a database (R. Lawrence, personal communication, December 17, 2004).

Extracting data from separate systems presented a time-intensive, but feasible task. However, merging data from separate systems required a high level of technical expertise. The MIS department successfully extracted data from the two systems and merged them into a common format showing a continual history of jobs held by the teachers who qualified as being new to ESE in Volusia County. In addition to gender, ethnicity, and date of birth, the complete history included date of hire, school at time of hire, special education program areas and, if applicable, dates of STARTS attendance or termination. With this information, a new database was created to facilitate data retrieval and manipulation. Because the teachers' employment histories generated multiple rows of data, over 11,000 records were compressed to 771 records. As a final product, these records represented 422 new ESE teachers hired from July 1, 1998 to June 30, 2001 who did not participate in STARTS and 349 new ESE hired from July 1, 2001 to June 30, 2004 who did participate in STARTS.

### Data Analysis

Using the Statistical Package for Social Science, 11<sup>th</sup> edition (SPSS, 2003), computer program, the researcher assigned the following data categories: (a) STARTS participant, (b) year of hire, (c) age, (d) age range, (e) gender, (f) race, (g) grade level, (h) program area, and (i) retained. Following input into categories, data were analyzed using descriptive statistics. Descriptive statistics allow users to tabulate and efficiently summarize data in a manner useful to consumers (Lomax, 2001).

Appropriate for nominal or ordinal data (Lomax, 2001), further data analysis incorporated non-parametric measures. The two-way contingency table analysis with crosstabulation evaluates statistical relationships between two variables and compares the observed and expected frequencies of two or more categorical variables when the expected proportion is unknown. Two assumptions exist for this test. First, all observations must be independent of one another (Green & Salkind, 2003). That means that a subject cannot be in two categories at the same time. Second, the “two-way contingency table analyses yield a test statistic that is approximately distributed as a chi-square when the sample size is relatively large” (p. 352). In this study, the researcher compared retention in ESE (yes, no, or moved to general education) to (a) the year of hire, (b) participation in STARTS, (c) the age of the teacher, (d) the race of the teacher, (e) the program in which the teacher taught, and (f) the grade level taught by the teacher. No teacher data could be in more than one cell. Using a relatively large sample size assured meeting the assumptions. The researcher used the contingency coefficient and



Cramer's V to address effect size. As a measure of association based on chi square, the values of Cramer's V range from zero to one and are appropriate for tables of any dimensions. The closer Cramer's V is to zero, the weaker the association between row and column variables. Values closer to one indicate a high degree of association. All analyses were conducted with an alpha of .05.

### Summary

As a large east central Florida school district, Volusia County Schools employs about 900 special education teachers who serve 11,000 students with disabilities. After reviewing its special education teacher retention rates and comparing them to national trends, the school district of Volusia County, Florida, developed a research-based staff development program to address teacher attrition and retention. Implemented in 2001, the Skills, Tips, and Routines, for Teacher Success (STARTS) initiative provided intensive support in policies and procedures, curriculum, and classroom and behavior management with follow-up coaching.

After securing appropriate permissions, the researcher conducted an internal program evaluation. Electronic data was drawn from two separate systems, because the district changed systems during SY 1999-2000. The older data from 1998-1999, stored in the Total Education Resource Management System, the *TERMS* database, merged with *Smartstream*, a relational database, to create a comprehensive set of employment histories.

With district data from July 1, 1998 to June 30, 2004, the researcher extrapolated personnel information including year of hire, age, ethnicity, grade level taught, and special education program area taught at time of hire. Two groups emerged: 422 ESE teachers employed prior to STARTS, and 322 ESE teachers who participated in STARTS. After coding the data into the SPSS computer program and applying descriptive and non-parametric statistical procedures, the researcher analyzed tabular data from the two groups. Two-way and multi-way contingency table analysis, supported with Cramer's V and the contingency coefficient, endeavored to determine if the STARTS program affected ESE teacher retention rates in Volusia County Schools. Comparing teacher retention rates by age range, ethnicity, program area, grade level assignment, year of hire, and participation in STARTS, Chapter 4 reports demographic data and the results of the analysis.

## CHAPTER 4

### RESULTS

#### Introduction

The purpose of this study was to evaluate whether the 4-day staff development program, STARTS, made a difference in new-to-exceptional student education (ESE) teacher retention in Volusia County Schools. Because the literature suggested that four variables (age, race, program area, and grade level) affected ESE teacher retention, these were assessed as well. Chapter Four describes the results of data analyses used in this study. The chapter presents information in two major sections as follows: (a) demographic data, and (b) data analysis. The second section reports each of the null hypotheses with tabular data.

#### Demographic Data

All of the teachers in this study were employed by the Volusia County school district in east central Florida for various lengths of service between July 1, 1998 and June 30, 2004. Over the course of 3 years, from SY 2001-2002 to SY 2003-2004, a purposive sample of 349 new-to-ESE teachers completed the 4-day STARTS training. An additional 422 new-to-ESE teachers, hired 3 years prior to the implementation of the STARTS initiative, served as comparatives. Data included whether the participants returned to a teaching position for a second year in either ESE or general education, or exited the profession. Categorized by year of hire, the 771 teachers described in this study

reflected the following demographic information with regard to age, race, program area taught, and grade level assignment.

As shown in Table 5, 36.73 years represented the mean age of the 771 new-to-ESE teachers discussed in the study. During the six school years from 1998-1999 to 2003-2004, the youngest teacher was 20 years of age at time of hire while the oldest teacher was 70 years of age. As illustrated in Table 6, the majority of new ESE teachers were within the range of 26 to 35 years of age.

Table 5  
Teacher Demographic Data: Year of Hire and Age

	N	Mean Age	Standard Deviation	Minimum to Maximum
1998-1999	127	34.91	9.93	21 to 58
1999-2000	167	35.75	10.77	21 to 67
2000-2001	128	36.42	11.20	21 to 63
2001-2002	127	38.26	10.33	23 to 63
2002-2003	105	37.53	10.93	21 to 59
2003-2004	117	38.09	11.29	20 to 70
Overall	771	36.73	10.78	20 to 70

Table 6  
Number of Teachers by Year of Hire and Age Range

	≤25	26-35	36-45	46-54	55≤	Total
1998-1999	30	41	30	23	3	127
1999-2000	36	53	41	30	7	167
2000-2001	30	35	26	32	5	128
2001-2002	10	54	26	31	6	127
2002-2003	20	30	26	24	5	105
2003-2004	18	37	29	23	10	117
Total	144	250	178	163	36	771

The study reported demographic data regarding ethnicity. As shown in Table 7, 612 (79.3%) of the 771 participants in this study were identified as White while 130 (16.8%) were identified as Black. Of the remaining participants, 24 (3.1%) were identified as Hispanic and 5 (.6%) were identified as Asian. Regarding ethnicity, the remaining .2% would represent ethnic categories unavailable in the employment history data and consequently, not reported in this study.

Table 7  
Number of Teachers by Year of Hire and Race

	White	Black	Hispanic	Asian	Total
1998-1999	104	17	6	0	127
1999-2000	132	29	5	1	167
2000-2001	99	26	3	0	127
2001-2002	107	17	3	0	127
2002-2003	84	16	4	1	105
2003-2004	86	25	3	3	117
Total	612	130	24	5	771

Exceptional student education program area and year of hired are reported in Table 8. As illustrated, most new hires in ESE (639 or 82.8%) taught in the mild program areas that served students with mild to moderate cognitive or emotional disabilities including *Specific Learning Disabled*, *Educable Mentally Handicapped*, and *Emotionally Handicapped*. From SY 1998-1999 to SY 2003-2004, teachers in the low-incidence programs, Multi-VE, SED, and PreK comprised only 17.2% of new hires.

Table 8  
Number of Teachers by Year of Hire and Program Area

	Mild	Multi-VE	SED	PreK	Total
1998-1999	103	13	8	3	127
1999-2000	142	14	8	3	167
2000-2001	113	7	5	3	128
2001-2002	103	13	8	3	127
2002-2003	81	14	8	2	105
2003-2004	97	12	6	2	117
Total	639	73	43	16	771

The final demographic category, grade level assignment, categorized teachers by grade level assignment at time of hire. As illustrated in Table 9, more elementary teachers (164) were hired during the first 3 years of the study and more high school teachers (157) were hired during the last 3 years of the study. Overall, more new ESE teachers were hired at the high school level (295). Overall, fewer teachers were hired at the middle school level (213) than at either the elementary (263) or high school (295) levels.

Table 9  
Number of Teachers by Year of Hire and Grade Level

	Elementary	Middle	High	Total
1998-1999	51	29	47	127
1999-2000	62	56	49	167
2000-2001	51	35	42	128
2001-2002	34	38	55	127
2002-2003	25	22	58	105
2003-2004	40	33	44	117
Total	263	213	295	771

### Data Analysis

Five null hypotheses guided this study. Null Hypothesis 1 addressed differences between the retention rates of new exceptional student education teachers who did not participate in STARTS and those who did participate in STARTS. Null Hypothesis 2 addressed participation in STARTS and differences in age between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year. Null Hypothesis 3 addressed participation in STARTS and differences in race between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year. Null Hypothesis 4 addressed participation in STARTS and differences in special education program area between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year. Null Hypothesis 5 addressed participation in STARTS and differences in grade level assignment (elementary, middle, high) between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year.

### Null Hypothesis 1

In Volusia County Schools, there is no significant difference between the retention rates of new exceptional student education teachers who did not participate in STARTS and those who did participate in STARTS.

Table 10 illustrates the results of the crosstabulation analysis of year hired and returned the following year. In the table, N equals the number of teachers in each category. For the two *Yes* columns, the percent within year hired represented the

percentage of new ESE teachers who returned to an ESE position for a second year. For the *No* columns, percent within year hired represented the percentage of new ESE teachers who did not return to an instructional position the following year. For the *General Education* columns, the percent within year hired represented the percentage of new ESE teachers who returned for a second year, but moved to a general education position.

Table 10  
Year Hired and Returned the Following Year

Year Hired	Yes N	% within year hired	No N	% within year hired	Gen. Ed. N	% within year hired
1998-1999	69	54.3	53	41.7	5	3.9
1999-2000	102	61.1	57	34.1	8	4.8
2000-2001	60	46.9	58	45.3	10	7.8
2001-2002	91	71.1	28	22.0	8	6.3
2002-2003	89	84.8	9	8.6	7	6.7
2003-2004	105	89.7	9	7.7	3	2.6

A two-way contingency table analysis was conducted to evaluate whether a relationship existed between the retention rates of new ESE teachers and year of hire. The two variables of interest were year hired with six levels (1998-1999, 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004) and returned the following year with three levels (yes, no, and moved to general education). Retention rates and year of hire were



found to be significantly related,  $p = .000$ , Cramer's  $V = .239$ , Contingency Coefficient = 321.

Table 11 illustrates the results of the crosstabulation analysis of participation in STARTS and returned the following year. The row headings indicate whether the new ESE teachers participated in STARTS. In the table, N equals the number of teachers in each category. For the *Yes* columns, the percent within participation in STARTS represented the percentage of new ESE teachers who returned to an ESE position for a second year. For the *No* columns, percent within participation in STARTS represented the percentage of new ESE teachers who did not return to an instructional position the following year. For the *General Education* columns, the percent within participation in STARTS represented the percentage of new ESE teachers who returned for a second year, but moved to a general education position.

Table 11  
STARTS Participation and Returned the Following Year

	Yes N	% within participation in STARTS	No N	% within participation in STARTS	Gen. Ed. N	% within participation in STARTS
STARTS - No	231	54.7	168	39.8	23	5.5
STARTS - Yes	285	81.7	46	13.2	18	5.2

A two-way contingency table analysis was conducted to evaluate whether a difference existed between the retention rates of new ESE teachers and whether they participated in STARTS. The two variables of interest were STARTS participation with

two levels (yes or no) and returned the following year with three levels (yes, no, and moved to general education). STARTS participation and retention rates were found to be significantly related,  $p = .000$ , Cramer's  $V = .300$ , Contingency Coefficient = .288.

### Null Hypothesis 2

There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to age and participation in STARTS.

Table 12 illustrates the results of the crosstabulation analysis of age range, returned the following year, and year hired. Column headings indicate age range, whether new ESE teachers returned the following year, and year of hire. In the table, N equals the number of new ESE teachers in each category.

For the *Yes* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given age range who returned the following year to an ESE position. For the given age range, *percent within returned* compares the number of teachers who returned each year with the total number returned. For the given age range, *percent within year hired* compares the number returned with the number of teachers hired in a given year. *Percent of total* compares the number returned with all the teachers in the given age range.

For the *No* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given age range who did not return the following year. For the given age range, *percent within returned* compares the number who did not return

each year with the total number who did not return. For the given age range, *percent within year hired* compares the number who did not return with the number of teachers hired in the given year. *Percent of total* compares the number who did not return with all the teachers in the given age range.

For the *General Education* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given age range who returned the following year, but moved to a general education position. For the given age range, *percent within returned* compares the number of teachers who moved to general education each year with the total number of teachers who moved to general education. For the given age range, *percent within year hired* compares the number of teachers who moved to general education with the number of teachers hired in the given year. *Percent of total* compares the number of teachers who moved to general education with all the teachers in the given age range.

For the *Total* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate all the teachers in the given age range. *Percent within returned* compares all the teachers hired in the given year with the total number of teachers in the given age range. *Percentage within year hired* compares all the teachers who were hired in a given year with all the teachers hired in that given year. This percentage is always reported as 100%. *Percent of total* compares all the teachers hired in the given year with the total number of teachers in the given age range. For *Total*, this percentage is the same as *percent within returned*.

Table 12  
Returned the Following Year by Age Range and Year Hired

Age Range	Returned the Following Year		98-99	99-00	00-01	01-02	02-03	03-04
≤ 25	Yes	N	11	25	17	7	15	13
		% within returned	12.5	28.4	19.3	8.0	17.0	14.8
		% within yr. hired	36.7	69.4	56.7	70.0	75.0	72.2
		% of total	7.6	17.4	11.8	4.9	10.4	9.0
	No	N	17	10	10	3	1	4
		% within returned	36.2	21.3	21.3	6.4	6.4	8.5
		% within yr. hired	56.7	27.8	33.3	30.0	15.0	22.2
		% of total	11.8	6.9	6.9	2.1	2.1	2.8
	Gen Ed.	N	2	1	3	0	2	1
		% within returned	22.2	11.1	33.3	0.0	22.2	11.1
		% within yr. hired	6.7	2.8	10.0	0	10.0	5.6
		% of total	1.4	.7	2.1	0.0	1.4	.7
	Total	N	30	36	30	10	20	18
		% within returned	20.8	25.0	20.8	6.9	13.9	12.5
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	20.8	25.0	20.8	6.9	13.9	12.5
26-35	Yes	N	23	32	17	41	26	33
		% within returned	13.4	18.6	9.9	23.8	15.1	19.2
		% within yr. hired	56.1	60.4	48.6	75.9	86.7	89.2
		% of total	9.2	12.8	6.8	16.4	10.4	13.2
	No	N	16	21	16	11	2	4
		% within returned	22.9	30.0	22.9	15.7	2.9	5.7
		% within yr. hired	39.0	39.6	45.7	20.4	6.7	10.8
		% of total	6.4	8.4	6.4	4.4	.8	1.6
	Gen. Ed	N	2	0	2	2	2	0
		% within returned	25.0	0.0	25.0	25.0	25.0	0.0
		% within yr. hired	4.9	0.0	5.7	3.7	6.7	0.0
		% of total	.8	0.0	.8	.8	.8	0.0
	Total	N	41	53	35	54	30	37
		% within returned	16.4	21.2	14.0	21.6	12.0	14.8
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	16.4	21.2	14.0	21.6	12.0	14.8
36-45	Yes	N	19	27	10	21	24	27
		% within returned	14.8	21.1	7.8	16.4	18.8	21.1
		% within yr. hired	63.3	65.9	38.5	80.8	92.3	93.1
		% of total	10.7	15.2	5.6	11.8	13.5	15.2
	No	N	11	13	15	3	1	1
		% within returned	25.0	29.5	34.1	6.8	2.3	2.3
		% within yr. hired	36.7	31.7	57.7	11.5	3.8	3.4
		% of total	6.2	7.3	8.4	2.1	2.1	2.8
	Gen. Ed	N	0	1	1	2	1	1
		% within returned	0.0	16.7	16.7	33.3	16.7	16.7

Age Range	Returned the Following Year		98-99	99-00	00-01	01-02	02-03	03-04
	Total	% within yr. hired	0.0	2.4	3.8	7.7	3.8	3.4
		% of total	0.0	.6	.6	0.0	1.4	.7
		N	30	41	26	26	26	29
		% within returned	16.9	23.0	14.6	14.6	14.6	16.3
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	16.9	23.0	14.6	14.6	14.6	16.3
46-54	Yes	N	15	17	15	19	21	23
		% within returned	13.6	15.5	13.6	17.3	19.1	20.9
		% within yr. hired	65.2	56.7	46.9	61.3	87.5	100.0
	No	% of total	9.2	10.4	9.2	11.7	12.9	14.1
		N	7	9	13	8	1	0
		% within returned	18.4	23.7	34.2	21.1	2.6	0.0
	Gen. Ed.	% within yr. hired	30.4	30.0	40.6	25.8	4.2	0.0
		% of total	4.3	5.5	8.0	4.9	.6	0.0
		N	1	4	4	4	2	0
	Total	% within returned	6.7	26.7	26.7	26.7	13.3	0.0
		% within yr. hired	4.3	13.3	12.5	12.9	8.3	0.0
		% of total	.6	2.5	2.5	2.5	1.2	0.0
	Total	N	23	30	32	31	24	23
		% within returned	14.1	18.4	19.6	19.0	14.7	14.1
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	14.1	18.4	19.6	19.0	14.7	14.1
55≥	Yes	N	1	1	1	3	3	9
		% within returned	5.6	5.6	5.6	16.7	16.7	50.0
		% within yr. hired	33.3	14.3	20.0	50.0	60.0	90.0
	No	% of total	2.8	2.8	2.8	8.3	8.3	25.0
		N	2	4	4	3	2	0
		% within returned	13.3	26.7	26.7	20.0	13.3	0.0
	Gen. Ed.	% within yr. hired	66.7	57.1	80.0	50.0	40.0	0.0
		% of total	5.6	11.1	11.1	8.3	5.6	0.0
		N	0	2	0	0	0	1
	Total	% within returned	0.0	66.7	0.0	0.0	0.0	33.3
		% within yr. hired	0.0	28.6	0.0	0.0	0.0	10.0
		% of total	0.0	5.6	0.0	0.0	0.0	2.8
	Total	N	3	7	5	6	5	10
		% within returned	8.3	19.4	13.9	16.7	13.9	27.8
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	8.3	19.4	13.9	16.7	13.9	27.8

A multi-way contingency table analysis was conducted to evaluate whether a difference existed among the retention rates of new ESE teachers, the year of hire, and

age range. The three variables of interest were age range with five levels (25 and below, 26 to 35, 36 to 45, 46 to 54, and 55 and above), year of hire with six levels (1998-1999, 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004), and returned the following year with three levels (yes, no, and moved to general education). Age range, year of hire and retention rates were found to be significantly related, with the exception of the category for age range 25 and below. For the age range 25 and below,  $p = .127$ , Cramer's  $V = .229$ , and the Contingency Coefficient = .308. For the age range 26 to 35,  $p = .001$ , Cramer's  $V = .249$ , and the Contingency Coefficient = .332. For the age range 36 to 45,  $p = .000$ , Cramer's  $V = .320$ , and the Contingency Coefficient = .412. For the age range 46 to 54,  $p = .003$ , Cramer's  $V = .284$ , and the Contingency Coefficient = .373. For the age range 55 and above,  $p = .053$ , Cramer's  $V = .501$ , and the Contingency Coefficient = .578.

Table 13 illustrates the results of the crosstabulation analysis of age range, returned the following year, and STARTS participation. Column headings indicate age range, whether new ESE teachers returned the following year, and whether new ESE teachers participated in STARTS. In the table,  $N$  equals the number of new ESE teachers in each category.

For the *Yes* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given age range who returned the following year to an ESE position. *Percent within returned* compares participation in STARTS with the number of teachers who returned to ESE. *Percent within STARTS* compares STARTS participants

who returned with all STARTS participants in the given age range. *Percent within STARTS* also compares non-STARTS participants who returned with all non-STARTS participants in the given age range. *Percent of total* compares STARTS participation with all the teachers in the given age range.

For the *No* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given age range who did not return the following year. *Percent within returned* compares STARTS participation with the number of teachers who did not return. *Percent within STARTS* compares STARTS participants who did not return with all STARTS participants in the given age range. *Percent within STARTS* also compares non-STARTS participants who did not return with all non-STARTS participants in the given age range. *Percent of total* compares STARTS participation with all the teachers in the given age range.

For the *General Education* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given age range who returned the following year, but moved to a general education position. *Percent within returned* compares participation in STARTS with the number of teachers who moved to general education. *Percent with STARTS* compares STARTS participants who moved to general education with all STARTS participants in the given age range. *Percent within STARTS* also compares non-STARTS participants who moved to general education with all non-STARTS participants in the given age range. *Percent of total* compares STARTS participation with all the teachers in the given age range.

For the *Total* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate all the teachers in the given age range. *Percent within returned* compares participation in STARTS with the total number of teachers in the given age range. *Percentage within STARTS* compares all the teachers who did and did not participate in STARTS with all the teachers in the given age range. This percentage is always reported as 100%. *Percent of total* compares participation in STARTS with the total number of teachers in the given age range. For *Total*, this percentage is the same as *percent within returned*.



Table 13  
Returned the Following Year by Age Range and Participation in STARTS

Age Range	Returned the Following Year		STARTS Yes	STARTS No	Total
≤ 25	Yes	N	35	53	88
		% within returned	39.8	60.2	100.0
		% within STARTS	72.9	55.2	61.1
		% of total	24.3	36.8	61.1
	No	N	10	37	47
		% within returned	21.3	78.7	100.0
		% within STARTS	20.8	38.5	32.6
		% of total	6.9	25.7	32.6
	Gen. Ed.	N	3	6	9
		% within returned	33.3	66.7	100.0
		% within STARTS	6.3	6.3	6.3
		% of total	2.1	4.2	6.3
	Total	N	48	96	144
		% within returned	33.3	66.7	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	33.3	66.7	100.0
26-35	Yes	N	100	72	172
		% within returned	58.1	41.9	100.0
		% within STARTS	82.6	55.8	68.8
		% of total	40.0	28.8	68.8
	No	N	17	53	70
		% within returned	24.3	75.7	100.0
		% within STARTS	14.0	41.1	28.0
		% of total	6.8	21.2	28.0
	Gen. Ed.	N	4	4	8
		% within returned	50.0	50.0	100.0
		% within STARTS	3.3	3.1	3.2
		% of total	1.6	1.6	3.2
	Total	N	121	129	250
		% within returned	48.4	51.6	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	48.4	51.6	100.0
36-45	Yes	N	72	56	128
		% within returned	56.3	43.8	100.0
		% within STARTS	88.9	57.7	71.9
		% of total	40.4	31.5	71.9
	No	N	5	39	44
		% within returned	11.4	88.6	100.0
		% within STARTS	6.2	40.2	24.7
		% of total	2.8	21.9	24.7
	Gen. Ed.	N	4	2	6
		% within returned	66.7	33.3	100.0
		% within STARTS	4.9	2.1	3.4

Age Range	Returned the Following Year		STARTS Yes	STARTS No	Total
	Total	% of total	2.2	1.1	3.4
		N	81	97	178
		% within returned	45.5	54.5	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	45.5	54.5	100.0
46-54	Yes	N	63	47	110
		% within returned	57.3	42.7	100.0
		% within STARTS	80.8	55.3	67.5
		% of total	38.7	28.8	67.5
	No	N	9	29	38
		% within returned	23.7	76.3	100.0
		% within STARTS	11.5	34.1	23.3
		% of total	5.5	17.8	23.3
	Gen. Ed.	N	6	9	15
		% within returned	40.0	60.0	100.0
		% within STARTS	7.7	10.6	9.2
		% of total	3.7	5.5	9.2
	Total	N	78	85	163
		% within returned	47.9	52.1	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	47.9	52.1	100.0
55 ≤	Yes	N	15	3	18
		% within returned	83.3	16.7	100.0
		% within STARTS	71.4	20.0	50.0
		% of total	41.7	8.3	50.0
	No	N	5	10	15
		% within returned	33.3	66.7	100.0
		% within STARTS	23.8	66.7	41.7
		% of total	13.9	27.8	41.7
	Gen. Ed.	N	1	2	3
		% within returned	33.3	66.7	100.0
		% within STARTS	4.8	13.3	8.3
		% of total	2.8	5.6	8.3
	Total	N	21	15	36
		% within returned	58.3	41.7	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	58.3	41.7	100.0

A multi-way contingency table analysis was conducted to evaluate whether a difference existed among the retention rates of new ESE teachers, participation in STARTS, and age range. The three variables of interest were age range with five levels

(25 and below, 26 to 35, 36 to 45, 46 to 54, and 55 and above), participation in STARTS with two levels (yes or no), and returned the following year with three levels (yes, no, and moved to general education). Except for the age group 25 and below, age range, participation in STARTS and retention rates were found to be significantly related. For the age range 25 and below,  $p = .95$ , Cramer's  $V = .181$ , and the Contingency Coefficient = .178. For the age range 26 to 35,  $p = .000$ , Cramer's  $V = .302$ , and the Contingency Coefficient = .289. For the age range 36 to 45,  $p = .000$ , Cramer's  $V = .395$ , and the Contingency Coefficient = .367. For the age range 46 to 54,  $p = .001$ , Cramer's  $V = .284$ , and the Contingency Coefficient = .273. For the age range 55 and above,  $p = .010$ , Cramer's  $V = .507$ , and the Contingency Coefficient = .452.

### Null Hypothesis 3

There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to race and participation in STARTS.

Table 14 illustrates the results of the crosstabulation analysis of race, returned the following year, and year hired. Column headings indicate race, whether new ESE teachers returned the following year, and year of hire. In the table, N equals the number of new ESE teachers in each category.

For the *Yes* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given ethnic category who returned the following year to an ESE position. For the given ethnic category, *percent within returned* compares the

number of teachers who returned each year with the total number returned. For the given ethnic category, *percent within year hired* compares the number returned with the number of teachers hired in a given year. *Percent of total* compares the number returned with all the teachers in the given ethnic category.

For the *No* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given ethnic category who did not return the following year. For the given ethnic category, *percent within returned* compares the number who did not return each year with the total number who did not return. For the given ethnic category, *percent within year hired* compares the number who did not return with the number of teachers hired in the given year. *Percent of total* compares the number who did not return with all the teachers in the given ethnic category.

For the *General Education* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given ethnic category who returned the following year, but moved to a general education position. For the given ethnic category, *percent within returned* compares the number of teachers who moved to general education each year with the total number of teachers who moved to general education. For the given ethnic category, *percent within year hired* compares the number of teachers who moved to general education with the number of teachers hired in the given year. *Percent of total* compares the number of teachers who moved to general education with all the teachers in the given ethnic category.

For the *Total* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate all the teachers in the given ethnic category. *Percent within returned* compares all the teachers hired in the given year with the total number of teachers in the given ethnic category. *Percentage within year hired* compares all the teachers who were hired in a given year with all the teachers hired in that given year. This percentage is always reported as 100%. *Percent of total* compares all the teachers hired in the given year with the total number of teachers in the given ethnic category. For *Total*, this percentage is the same as *percent within returned*.

Table 14  
Returned the Following Year by Race and Year Hired

Race	Returned the Following Year		98-99	99-00	00-01	01-02	02-03	03-04
White	Yes	N	59	83	48	79	70	76
		% within returned	14.2	20.0	11.6	19.0	16.9	18.3
		% within yr. hired	56.7	62.9	48.5	73.8	83.3	88.4
		% of total	9.6	13.6	7.8	12.9	11.4	12.4
	No	N	41	43	42	21	8	7
		% within returned	25.3	26.5	25.9	13.0	4.9	4.3
		% within yr. hired	39.4	32.6	42.4	19.6	9.5	8.1
		% of total	6.7	7.0	6.9	3.4	1.3	1.1
	Gen. Ed.	N	4	6	9	7	6	3
		% within returned	11.4	17.1	25.7	20.0	17.1	8.6
		% within yr. hired	3.8	4.5	9.1	6.5	7.1	3.5
		% of total	.7	1.0	1.5	1.1	1.0	.5
	Total	N	104	132	99	107	84	86
		% within returned	17.0	21.6	16.2	17.5	13.7	14.1
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	17.0	21.6	16.2	17.5	13.7	14.1
Black	Yes	N	6	14	10	10	14	23
		% within returned	7.8	18.2	13.0	13.0	18.2	29.9
		% within yr. hired	35.3	48.3	38.5	58.8	87.5	92.0
		% of total	4.6	10.8	7.7	7.7	10.8	17.7

Returned the Following			Year					
Race			98-99	99-00	00-01	01-02	02-03	03-04
	No	N	10	13	15	6	1	2
		% within returned	21.3	27.7	31.9	12.8	2.1	4.3
		% within yr. hired	58.8	44.8	57.7	35.3	6.3	8.0
		% of total	7.7	10.0	11.5	4.6	.8	1.5
	Gen. Ed.	N	1	2	1	1	1	0
		% within returned	16.7	33.3	16.7	16.7	16.7	0.0
		% within yr. hired	5.9	6.9	3.8	5.9	6.3	0.0
		% of total	.8	1.5	.8	.8	.8	0.0
	Total	N	17	29	26	17	16	25
		% within returned	13.1	22.3	20.0	13.1	12.3	19.2
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	13.1	22.3	20.0	13.1	12.3	19.2
Hispanic	Yes	N	4	4	2	2	4	3
		% within returned	21.1	21.1	10.5	10.5	21.1	15.8
		% within yr. hired	66.7	80.0	66.7	66.7	100.0	100.0
		% of total	16.7	16.7	8.3	8.3	16.7	12.5
	No	N	2	1	1	1	0	0
		% within returned	40.0	20.0	20.0	20.0	0.0	0.0
		% within yr. hired	33.3	20.0	33.3	33.3	0.0	0.0
		% of total	8.3	4.2	4.2	4.2	0.0	0.0
	Total	N	6	5	3	3	4	3
		% within returned	25.0	20.8	12.5	12.5	16.7	12.5
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	25.0	20.8	12.5	12.5	16.7	12.5
Asian	Yes	N	0	1	0	0	1	3
		% within returned	0.0	20.0	0.0	0.0	20.0	60.0
		% within yr. hired	0.0	100	0.0	0.0	100	100
		% of total	0.0	20.0	0.0	0.0	20.0	60.0
	Total	N	0	1	0	0	1	3
		% within returned	0.0	20.0	0.0	0.0	20.0	60.0
		% within yr. hired	0.0	100	0.0	0.0	100	100
		% of total	0.0	20.0	0.0	0.0	20.0	60.0

A multi-way contingency table analysis was conducted to evaluate whether a difference existed among the retention rates of new ESE teachers, year of hire, and race. The three variables of interest were race with four levels (White, Black, Hispanic, and Asian), year of hire with six levels (1998-1999, 1999-2000, 2000-2001, 2001-2002.

2002-2003, and 2003-2004), and returned the following year with three levels (yes, no, and moved to general education). For the ethnicities White and Black, retention rates and year of hire were found to be significantly related. For the ethnicity White,  $p = .000$ , Cramer's  $V = .223$ , and the Contingency Coefficient = .300. For the ethnicity Black,  $p = .002$ , Cramer's  $V = .330$ , and the Contingency Coefficient = .423. The ethnicities Hispanic and Asian were not found to be significantly related. For the ethnicity Hispanic,  $p = .703$ , Cramer's  $V = .352$ , and the Contingency Coefficient = .352. For the ethnicity Asian, no statistics were computed because the variable *returned the following year* was a constant.

Table 15 illustrates the results of the crosstabulation analysis of race, returned the following year, and STARTS participation. Column headings indicate race, whether new ESE teachers returned the following year, and whether new ESE teachers participated in STARTS. In the table, N equals the number of new ESE teachers in each category.

For the *Yes* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given ethnic category who returned the following year to an ESE position. *Percent within returned* compares participation in STARTS with the number of teachers who returned to ESE. *Percent within STARTS* compares STARTS participants who returned with all STARTS participants in the given ethnic category. *Percent within STARTS* also compares non-STARTS participants who returned with all non-STARTS participants in the given ethnic category. *Percent of total* compares STARTS participation with all the teachers in the given ethnic category.

For the *No* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given ethnic category who did not return the following year. *Percent within returned* compares STARTS participation with the number of teachers who did not return. *Percent within STARTS* compares STARTS participants who did not return with all STARTS participants in the given ethnic category. *Percent within STARTS* also compares non-STARTS participants who did not return with all non-STARTS participants in the given ethnic category. *Percent of total* compares STARTS participation with all the teachers in the given ethnic category.

For the *General Education* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given ethnic category who returned the following year, but moved to a general education position. *Percent within returned* compares participation in STARTS with the number of teachers who moved to general education. *Percent with STARTS* compares STARTS participants who moved to general education with all STARTS participants in the given ethnic category. *Percent within STARTS* also compares non-STARTS participants who moved to general education with all non-STARTS participants in the given ethnic category. *Percent of total* compares STARTS participation with all the teachers in the given ethnic category.

For the *Total* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate all the teachers in the given ethnic category. *Percent within returned* compares participation in STARTS with the total number of teachers in the given ethnic category. *Percentage within STARTS* compares all the teachers who did and did not



participate in STARTS with all the teachers in the given ethnic category. This percentage is always reported as 100%. *Percent of total* compares participation in STARTS with the total number of teachers in the given ethnic category. For *Total*, this percentage is the same as *percent within returned*.

Table 15 Returned the Following Year by Race and Participation in STARTS

Race	Returned the Following Year		STARTS Yes	STARTS No	Total
White	Yes	N	225	190	415
		% within returned	54.2	45.8	100.0
		% within STARTS	81.2	56.7	67.8
		% of total	36.8	31.0	67.8
	No	N	36	126	162
		% within returned	22.2	77.8	100.0
		% within STARTS	13.0	37.5	26.5
		% of total	5.9	20.6	26.5
	Gen. Ed.	N	16	19	35
		% within returned	45.7	54.3	100.0
		% within STARTS	5.8	5.7	5.7
		% of total	2.6	3.1	5.7
	Total	N	277	335	612
		% within returned	45.3	54.7	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	45.3	54.7	100.0
Black	Yes	N	47	30	77
		% within returned	61.0	39.0	100.0
		% within STARTS	81.0	41.7	59.2
		% of total	36.2	23.1	59.2
	No	N	9	38	47
		% within returned	19.1	80.9	100.0
		% within STARTS	15.5	52.8	36.2
		% of total	6.9	29.2	36.2
	Gen. Ed.	N	2	4	6
		% within returned	33.3	66.7	100.0
		% within STARTS	3.4	5.6	4.6
		% of total	1.5	3.1	4.6
	Total	N	58	72	130
		% within returned	44.6	55.4	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	44.6	55.4	100.0

Race	Returned the Following Year		STARTS		Total
			Yes	No	
Hispanic	Yes	N	9	10	19
		% within returned	47.4	52.6	100.0
		% within STARTS	90.0	71.4	79.2
		% of total	37.5	41.7	79.2
	No	N	1	4	5
		% within returned	20.0	80.0	100.0
		% within STARTS	10.0	28.6	20.8
		% of total	4.2	16.7	20.8
	Total	N	10	14	24
		% within returned	41.7	58.3	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	41.7	58.3	100.0
Asian	Yes	N	4	1	5
		% within returned	80.0	20.0	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	80.0	20.0	100.0
	Total	N	4	1	5
		% within returned	80.0	20.0	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	80.0	20.0	100.0

A multi-way contingency table analysis was conducted to evaluate whether a difference existed among the retention rates of new ESE teachers, participation in STARTS, and race. The three variables of interest were race with four levels (White, Black, Hispanic, and Asian), participation in STARTS with two levels (yes or no), and returned the following year with three levels (yes, no, and moved to general education). For the ethnicities White, Black, and Hispanic, retention rates and participation in STARTS were found to be significantly related. For the ethnicity White,  $p = .000$ , Cramer's  $V = .280$ , and the Contingency Coefficient = .270. For the ethnicity Black,  $p = .000$ , Cramer's  $V = .402$ , and the Contingency Coefficient = .373. For the ethnicity Hispanic,  $p = .269$ , Cramer's  $V = .225$ , and the Contingency Coefficient = .220. For the

ethnicity Asian, no statistics were computed because the variable *returned the following year* was a constant.

#### Null Hypothesis 4

There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to special education program area and participation in STARTS.

Table 16 illustrates the results of the crosstabulation analysis of special education program area, returned the following year, and year hired. Column headings indicate program area, whether new ESE teachers returned the following year, and year of hire. In the table, N equals the number of new ESE teachers in each category.

For the *Yes* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given program area who returned the following year to an ESE position. For the given program area, *percent within returned* compares the number of teachers who returned each year with the total number returned. For the given program area, *percent within year hired* compares the number returned with the number of teachers hired in a given year. *Percent of total* compares the number returned with all the teachers in the given program area.

For the *No* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given program area who did not return the following year. For the given program area, *percent within returned* compares the number who did not return each year with the total number who did not return. For the given program area,

*percent within year hired* compares the number who did not return with the number of teachers hired in the given year. *Percent of total* compares the number who did not return with all the teachers in the given program area.

For the *General Education* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given program area who returned the following year, but moved to a general education position. For the given program area, *percent within returned* compares the number of teachers who moved to general education each year with the total number of teachers who moved to general education. For the given program area, *percent within year hired* compares the number of teachers who moved to general education with the number of teachers hired in the given year. *Percent of total* compares the number of teachers who moved to general education with all the teachers in the given program area.

For the *Total* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate all the teachers in the given program area. *Percent within returned* compares all the teachers hired in the given year with the total number of teachers in the given program area. *Percentage within year hired* compares all the teachers who were hired in a given year with all the teachers hired in that given year. This percentage is always reported as 100%. *Percent of total* compares all the teachers hired in the given year with the total number of teachers in the given program area. For *Total*, this percentage is the same as *percent within returned*.

Table 16  
Returned the Following Year by Program Area and Year Hired

Program	Returned The Following Year		98-99	99-00	00-01	01-02	02-03	03-04
Mild	Yes	N	47	80	51	75	69	88
		% within returned	11.5	19.5	12.4	18.3	16.8	21.5
		% within yr. hired	45.6	56.3	45.1	72.8	85.2	90.7
		% of total	7.4	12.5	8.0	11.7	10.8	13.8
	No	N	51	54	52	21	6	6
		% within returned	26.8	28.4	27.4	11.1	3.2	3.2
		% within yr. hired	49.5	38.0	46.0	20.4	7.4	6.2
		% of total	8.0	8.5	8.1	3.3	.9	.9
	Gen. Ed.	N	5	8	10	7	6	3
		% within returned	12.8	20.5	25.6	17.9	15.4	7.7
		% within yr. hired	4.9	5.6	8.8	6.8	7.4	3.1
		% of total	.8	1.3	1.6	1.1	.9	.5
	Total	N	103	142	113	103	81	97
		% within returned	16.1	22.2	17.7	16.1	12.7	15.2
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	16.1	22.2	17.7	16.1	12.7	15.2
Multi	Yes	N	11	12	5	10	13	10
		% within returned	18.0	19.7	8.2	16.4	21.3	16.4
		% within yr. hired	84.6	85.7	71.4	76.9	92.9	83.3
		% of total	15.1	16.4	6.8	13.7	17.8	13.7
	No	N	2	2	2	2	1	2
		% within returned	18.2	18.2	18.2	18.2	9.1	18.2
		% within yr. hired	15.4	14.3	28.6	15.4	7.1	16.7
		% of total	2.7	2.7	2.7	2.7	1.4	2.7
	Gen. Ed.	N	0	0	0	1	0	0
		% within returned	0.0	0.0	0.0	100.0	0.0	0.0
		% within yr. hired	0.0	0.0	0.0	7.7	0.0	0.0
		% of total	0.0	0.0	0.0	1.4	0.0	0.0
	Total	N	13	14	7	13	14	12
		% within returned	17.8	19.2	9.6	17.8	19.2	16.4
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	17.8	19.2	9.6	17.8	19.2	16.4
SED	Yes	N	8	7	2	5	7	5
		% within returned	23.5	20.6	5.9	14.7	20.6	14.7
		% within yr. hired	100.0	87.5	40.0	62.5	87.5	83.3
		% of total	18.6	16.3	4.7	11.6	16.3	11.6
	No	N	0	1	3	3	1	1
		% within returned	0.0	11.1	33.3	33.3	11.1	11.1
		% within yr. hired	0.0	12.5	60.0	37.5	12.5	16.7
		% of total	0.0	2.3	7.0	7.0	2.3	2.3

Program	Returned The Following Year		98-99	99-00	00-01	01-02	02-03	03-04
	Total	N	8	8	5	8	8	6
		% within returned	18.6	18.6	11.6	18.6	18.6	14.0
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	18.6	18.6	18.6	18.6	18.6	14.0
PreK	Yes	N	3	3	2	1	0	2
		% within returned	27.3	27.3	18.2	9.1	0.0	18.2
		% within yr. hired	100.0	100.0	66.7	33.3	0.0	100.0
		% of total	18.8	18.8	12.5	6.3	0.0	12.5
	No	N	0	0	1	2	1	0
		% within returned	0.0	0.0	25.0	50.0	25.0	0.0
		% within yr. hired	0.0	0.0	33.3	66.7	50.0	0.0
		% of total	0.0	0.0	6.3	12.5	6.3	0.0
	Gen. Ed.	N	0	0	0	0	1	0
		% within returned	0.0	0.0	0.0	0.0	100.0	0.0
		% within yr. hired	0.0	0.0	0.0	0.0	50.0	0.0
		% of total	0.0	0.0	0.0	0.0	6.3	0.0
	Total	N	3	3	3	3	2	2
		% within returned	18.8	18.8	18.8	18.8	12.5	12.5
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	18.8	18.8	18.8	18.8	12.5	12.5

A multi-way contingency table analysis was conducted to evaluate whether a difference existed among the retention rates of new ESE teachers, year of hire, and special education program area taught. The three variables of interest were program areas with four levels (mild, multi, SED, and PreK), year of hire with six levels (1998-1999, 1999-2000, 2000-2001, 2001-2002, 2002-2003, 2003-2004), and returned the following year with three levels (yes, no, and moved to general education). For the Mild program area, retention rates and year of hire were found to be significantly related. For the Mild program area,  $p = .000$ , Cramer's  $V = .274$ , and the Contingency Coefficient = .361. For the program areas of Multi-VE, SED, and PreK, retention rates and year of hire were not

found to be significantly related. For the Multi-VE program area,  $p = .779$ , Cramer's  $V = .210$ , and the Contingency Coefficient = .284. For the SED program area,  $p = .117$ , Cramer's  $V = .453$ , and the Contingency Coefficient = .412. For the PreK program area,  $p = .142$ , Cramer's  $V = .678$ , and the Contingency Coefficient = .662.

Table 17 illustrates the results of the crosstabulation analysis of special education program area, returned the following year, and STARTS participation. Column headings indicate program area, whether new ESE teachers returned the following year, and whether new ESE teachers participated in STARTS. In the table,  $N$  equals the number of new ESE teachers in each category.

For the *Yes* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given program area who returned the following year to an ESE position. *Percent within returned* compares participation in STARTS with the number of teachers who returned to ESE. *Percent within STARTS* compares STARTS participants who returned with all STARTS participants in the given program area. *Percent within STARTS* also compares non-STARTS participants who returned with all non-STARTS participants in the given program area. *Percent of total* compares STARTS participation with all the teachers in the given program area.

For the *No* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given program area who did not return the following year. *Percent within returned* compares STARTS participation with the number of teachers who did not return. *Percent within STARTS* compares STARTS participants who did not

return with all STARTS participants in the given program area. *Percent within STARTS* also compares non-STARTS participants who did not return with all non-STARTS participants in the given program area. *Percent of total* compares STARTS participation with all the teachers in the given program area.

For the *General Education* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given program area who returned the following year, but moved to a general education position. *Percent within returned* compares participation in STARTS with the number of teachers who moved to general education. *Percent with STARTS* compares STARTS participants who moved to general education with all STARTS participants in the given program area. *Percent within STARTS* also compares non-STARTS participants who moved to general education with all non-STARTS participants in the given program area. *Percent of total* compares STARTS participation with all the teachers in the given program area.

For the *Total* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate all the teachers in the given program area. *Percent within returned* compares participation in STARTS with the total number of teachers in the given program area. *Percentage within STARTS* compares all the teachers who did and did not participate in STARTS with all the teachers in the given program area. This percentage is always reported as 100%. *Percent of total* compares participation in STARTS with the total number of teachers in the given program area. For *Total*, this percentage is the same as *percent within returned*.



Table 17

## Returned the Following Year by Program Area and Participation in STARTS

Program	Returned the Following Year		STARTS Yes	STARTS No	Total
Mild	Yes	N	232	178	410
		% within returned	56.6	43.4	100.0
		% within STARTS	82.6	49.7	64.2
		% of total	36.3	27.9	64.2
	No	N	33	157	190
		% within returned	17.4	82.6	100.0
		% within STARTS	11.7	43.9	29.7
		% of total	5.2	24.6	29.7
	Gen. Ed.	N	16	23	39
		% within returned	41.0	59.0	100.0
		% within STARTS	5.7	6.4	6.1
		% of total	2.5	3.6	6.1
	Total	N	281	358	639
		% within returned	44.0	56.0	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	44.0	56.0	100.0
Multi	Yes	N	33	28	61
		% within returned	54.1	45.9	100.0
		% within STARTS	84.6	82.4	83.6
		% of total	45.2	38.4	83.6
	No	N	5	6	11
		% within returned	45.5	54.5	100.0
		% within STARTS	12.8	17.6	15.1
		% of total	6.8	8.2	15.1
	Gen. Ed.	N	1	0	1
		% within returned	100.0	0.0	100.0
		% within STARTS	2.6	0.0	1.4
		% of total	1.4	0.0	1.4
	Total	N	39	34	73
		% within returned	53.4	46.6	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	53.4	46.6	100.0
SED	Yes	N	17	17	34
		% within returned	50.0	50.0	100.0
		% within STARTS	77.3	81.1	79.1
		% of total	39.5	39.5	79.1
	No	N	5	4	9
		% within returned	55.6	44.4	100.0
		% within STARTS	22.7	19.0	20.9
		% of total	11.6	9.3	20.9

Program	Returned the Following Year		STARTS	STARTS	Total
			Yes	No	
	Total	N	22	21	43
		% within returned	51.2	48.8	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	51.2	48.8	100.0
PreK	Yes	N	3	8	11
		% within returned	27.3	72.7	100.0
		% within STARTS	42.9	88.9	68.8
		% of total	18.8	50.0	68.8
	No	N	3	1	4
		% within returned	75.0	25.0	100.0
		% within STARTS	42.9	11.1	25.0
		% of total	18.8	6.3	25.0
	Gen. Ed.	N	1	0	1
		% within returned	100.0	0.0	100.0
		% within STARTS	14.3	0.0	6.3
		% of total	6.3	0.0	6.3
	Total	N	7	9	16
		% within returned	43.8	56.3	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	43.8	56.3	100.0

A multi-way contingency table analysis was conducted to evaluate whether a difference existed among the retention rates of new ESE teachers, participation in STARTS, and special education program area taught. The three variables of interest were program area with four levels (mild, multi, SED, and PreK), participation in STARTS with two levels (yes or no), and returned the following year with three levels (yes, no, and moved to general education). For the Mild program area, retention rates and participation in STARTS were found to be significantly related. For the Mild program area,  $p = .000$ , Cramer's  $V = .356$ , and the Contingency Coefficient = .336. The Multi-VE, SED, and PreK program areas were not found to be significantly related. For the Multi-VE program area,  $p = .559$ , Cramer's  $V = .126$ , and the Contingency Coefficient =

.125. For the SED program area,  $p = .767$ , Cramer's  $V = .045$ , and the Contingency Coefficient = .045. For the PreK program area,  $p = .130$ , Cramer's  $V = .505$ , and the Contingency Coefficient = .451.

#### Null Hypothesis 5

There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to grade level assignment (elementary, middle, high) and participation in STARTS.

Table 18 illustrates the results of the crosstabulation analysis of grade level assignment, returned the following year, and year hired. Column headings indicate grade level assignment, whether new ESE teachers returned the following year, and year of hire. In the table,  $N$  equals the number of new ESE teachers in each category.

For the *Yes* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given grade level assignment who returned the following year to an ESE position. For the given grade level assignment, *percent within returned* compares the number of teachers who returned each year with the total number returned. For the given grade level assignment, *percent within year hired* compares the number returned with the number of teachers hired in a given year. *Percent of total* compares the number returned with all the teachers in the given grade level assignment.

For the *No* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given grade level assignment who did not return the following year. For the given grade level assignment, *percent within returned* compares

the number who did not return each year with the total number who did not return. For the given grade level assignment, *percent within year hired* compares the number who did not return with the number of teachers hired in the given year. *Percent of total* compares the number who did not return with all the teachers in the given grade level assignment.

For the *General Education* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate teachers in the given grade level assignment who returned the following year, but moved to a general education position. For the given grade level assignment, *percent within returned* compares the number of teachers who moved to general education each year with the total number of teachers who moved to general education. For the given grade level assignment, *percent within year hired* compares the number of teachers who moved to general education with the number of teachers hired in the given year. *Percent of total* compares the number of teachers who moved to general education with all the teachers in the given grade level assignment.

For the *Total* rows, *percent within returned*, *percent within year hired*, and *percent of total* indicate all the teachers in the given grade level assignment. *Percent within returned* compares all the teachers hired in the given year with the total number of teachers in the given grade level assignment. *Percentage within year hired* compares all the teachers who were hired in a given year with all the teachers hired in that given year. This percentage is always reported as 100%. *Percent of total* compares all the teachers

hired in the given year with the total number of teachers in the given grade level

assignment. For *Total*, this percentage is the same as *percent within returned*.

Table 18  
Returned the Following Year by Grade Level and Year Hired

Level	Returned the Following Year		98-99	99-00	00-01	01-02	02-03	03-04
Elem.	Yes	N	28	38	24	20	20	38
		% within returned	16.7	22.6	14.3	11.9	11.9	22.6
		% within yr. hired	54.9	61.3	47.1	58.8	80.0	95.0
		% of total	10.6	14.4	9.1	7.6	7.6	14.4
	No	N	22	23	23	10	2	0
		% within returned	27.5	28.8	28.8	12.5	2.5	0.0
		% within yr. hired	43.1	37.1	45.1	29.4	8.0	0.0
		% of total	8.4	8.7	8.7	6.8	.8	0.0
	Gen. Ed.	N	1	1	4	4	3	2
		% within returned	6.7	6.7	26.7	26.7	20.0	13.3
		% within yr. hired	2.0	1.6	7.8	11.8	12.0	5.0
		% of total	.4	.4	1.5	1.5	1.1	.8
	Total	N	51	62	51	34	25	40
		% within returned	19.4	23.6	19.4	12.8	9.5	15.2
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	19.4	23.6	19.4	12.9	9.5	15.2
Middle	Yes	N	23	34	18	31	17	31
		% within returned	14.9	22.1	11.7	20.1	11.0	20.1
		% within yr. hired	79.3	60.7	51.4	81.6	77.3	93.9
		% of total	10.8	16.0	8.5	14.6	8.0	14.6
	No	N	6	16	15	6	3	2
		% within returned	12.5	33.3	31.3	12.5	6.3	4.2
		% within yr. hired	20.7	28.6	42.9	15.8	13.6	6.1
		% of total	2.8	7.5	7.0	2.8	1.4	.9
	Gen. Ed.	N	0	6	2	1	2	0
		% within returned	0.0	54.5	18.2	9.1	18.2	0.0
		% within yr. hired	0.0	10.7	5.8	2.6	9.1	0.0
		% of total	0.0	2.8	.9	.5	.9	0.0
	Total	N	29	56	36	38	22	33
		% within returned	13.6	26.3	16.4	17.8	10.3	15.5
		% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
		% of total	13.6	26.3	14.4	17.8	10.3	15.5
High	Yes	N	18	30	18	40	52	36
		% within returned	9.3	15.5	9.3	20.6	26.8	18.6
		% within yr. hired	38.3	61.2	42.9	72.7	89.7	81.8

Level	Returned the Following Year	98-99	99-00	00-01	01-02	02-03	03-04
No	% of total	6.1	10.2	6.1	13.6	17.6	12.2
	N	25	18	20	12	4	7
	% within returned	29.1	20.9	23.3	14.0	4.7	8.1
	% within yr. hired	53.2	36.7	47.6	21.8	6.9	15.9
Gen. Ed.	% of total	8.5	6.1	6.8	4.1	1.4	2.4
	N	4	1	4	3	2	1
	% within returned	26.7	6.7	26.7	20.0	13.3	6.7
	% within yr. hired	8.5	2.0	9.5	5.5	3.4	2.3
Total	% of total	1.4	.3	1.4	1.0	.7	.3
	N	47	49	42	55	58	44
	% within returned	15.9	16.6	14.2	18.6	19.7	14.9
	% within yr. hired	100.0	100.0	100.0	100.0	100.0	100.0
	% of total	15.9	16.6	14.2	18.6	19.7	14.9

A multi-way contingency table analysis was conducted to evaluate whether a difference existed among the retention rates of new ESE teachers, year of hire, and grade level taught. The three variables of interest were grade level with three levels (elementary, middle, and high), year of hire with six levels (1998-1999, 1999-2000, 2000-2001, 2001-2002, 2002-2003, 2003-2004), and returned the following year with three levels (yes, no, and moved to general education). For all three grade levels, retention rates and year of hire were found to be significantly related. For the elementary school level,  $p = .000$ , Cramer's  $V = .280$ , and the Contingency Coefficient = .368. For the middle school level,  $p = .003$ , Cramer's  $V = .250$ , and the Contingency Coefficient = .333. For the high school level,  $p = .000$ , Cramer's  $V = .289$ , and the Contingency Coefficient = .379.

Table 19 illustrates the results of the crosstabulation analysis of grade level assignment, returned the following year, and STARTS participation. Column headings

indicate grade level assignment, whether new ESE teachers returned the following year, and whether new ESE teachers participated in STARTS. In the table, N equals the number of new ESE teachers in each category.

For the *Yes* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given grade level assignment who returned the following year to an ESE position. *Percent within returned* compares participation in STARTS with the number of teachers who returned to ESE. *Percent within STARTS* compares STARTS participants who returned with all STARTS participants in the given grade level assignment. *Percent within STARTS* also compares non-STARTS participants who returned with all non-STARTS participants in the given grade level assignment. *Percent of total* compares STARTS participation with all the teachers in the given grade level assignment.

For the *No* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given grade level assignment who did not return the following year. *Percent within returned* compares STARTS participation with the number of teachers who did not return. *Percent within STARTS* compares STARTS participants who did not return with all STARTS participants in the given grade level assignment. *Percent within STARTS* also compares non-STARTS participants who did not return with all non-STARTS participants in the given grade level assignment. *Percent of total* compares STARTS participation with all the teachers in the given grade level assignment.

For the *General Education* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate teachers in the given grade level assignment who returned the following year, but moved to a general education position. *Percent within returned* compares participation in STARTS with the number of teachers who moved to general education. *Percent with STARTS* compares STARTS participants who moved to general education with all STARTS participants in the given grade level assignment. *Percent within STARTS* also compares non-STARTS participants who moved to general education with all non-STARTS participants in the given grade level assignment. *Percent of total* compares STARTS participation with all the teachers in the given grade level assignment.

For the *Total* rows, *percent within returned*, *percent within STARTS*, and *percent of total* indicate all the teachers in the given grade level assignment. *Percent within returned* compares participation in STARTS with the total number of teachers in the given grade level assignment. *Percentage within STARTS* compares all the teachers who did and did not participate in STARTS with all the teachers in the given grade level assignment. This percentage is always reported as 100%. *Percent of total* compares participation in STARTS with the total number of teachers in the given grade level assignment. For *Total*, this percentage is the same as *percent within returned*.



Table 19  
Returned the Following Year by Grade Level and Participation in STARTS

Level	Returned the Following Year		STARTS Yes	STARTS No	Total
Elem.	Yes	N	78	90	168
		% within returned	46.4	53.6	100.0
		% within STARTS	78.8	54.9	63.9
		% of total	29.7	34.2	63.9
	No	N	12	68	80
		% within returned	15.0	85.0	100.0
		% within STARTS	12.1	41.5	30.4
		% of total	4.6	25.9	30.4
	Gen. Ed.	N	9	6	15
		% within returned	60.0	40.0	100.0
		% within STARTS	9.1	3.7	5.7
		% of total	3.4	2.3	5.7
	Total	N	99	164	263
		% within returned	37.6	62.4	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	37.6	62.4	100.0
Middle	Yes	N	79	75	154
		% within returned	51.3	48.7	100.0
		% within STARTS	84.9	62.5	72.3
		% of total	37.1	35.2	72.3
	No	N	11	37	48
		% within returned	22.9	77.1	100.0
		% within STARTS	11.8	30.8	22.5
		% of total	5.2	17.4	22.5
	Gen. Ed.	N	3	8	11
		% within returned	27.3	72.7	100.0
		% within STARTS	3.2	6.7	5.2
		% of total	1.4	3.8	5.2
	Total	N	93	120	213
		% within returned	43.7	56.3	100.0
		% within STARTS	100.0	100.0	100.0
		% of total	43.7	56.3	100.0
High	Yes	N	128	66	194
		% within returned	66.0	34.0	100.0
		% within STARTS	81.5	47.8	65.8
		% of total	43.4	22.4	65.8
	No	N	23	63	86
		% within returned	26.7	73.3	100.0
		% within STARTS	14.6	45.7	29.2
		% of total	7.8	21.4	29.2

Level	Returned the Following Year		STARTS Yes	STARTS No	Total
Gen. Ed.	N		6	9	15
	% within returned		40.0	60.0	100.0
	% within STARTS		3.8	6.5	5.1
	% of total		2.0	3.1	5.1
Total	N		157	138	295
	% within returned		53.2	46.8	100.0
	% within STARTS		100.0	100.0	100.0
	% of total		53.2	46.8	100.0

A multi-way contingency table analysis was conducted to evaluate whether a difference existed among the retention rates of new ESE teachers, participation in STARTS, and grade level assignment. The three variables of interest were grade level with three levels (elementary, middle, and high), participation in STARTS with two levels (yes or no), and returned the following year with three levels (yes, no, and moved to general education). For all three grade levels, retention rates and participation in STARTS were found to be significantly related. For the elementary school level,  $p = .000$ , Cramer's  $V = .316$ , and the Contingency Coefficient = .301. For the middle school level,  $p = .001$ , Cramer's  $V = .249$ , and the Contingency Coefficient = .242. For the high school level,  $p = .000$ , Cramer's  $V = .359$ , and the Contingency Coefficient = .338.

## CHAPTER 5

### DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

#### Introduction

Teacher attrition affects the quality of teachers, restricts planning and program continuity, increases allocations for recruitment and hiring, and impedes student learning (Shen, 1997). Throughout the United States, school districts continue to address the consequences of teacher attrition and retention. In Florida, projections from the Florida Department of Education (2004c) suggested that from 2005 to 2015, Florida would need to fill between 19,600 to 29,600 teaching positions every year during that 10-year period. More than 3000 of these annual projected classroom positions would be positions in exceptional student education. Despite the need for new special education teachers in Florida, shortages continue. Remaining a critical teacher shortage area for 15 years, ESE again has been identified for school year 2005-2006 (FDOE, 2004a)

As an internal program evaluation, the main objective of this study was to assess whether the Skills, Tips, and Routines for Teacher Success (STARTS) staff development program influenced retention rates of exceptional student education teachers in the school district of Volusia County, Florida. The study analyzed data covering a 6-year period from school year 1998-1999 through school year 2003-2004. Following the evaluation, the results were compiled in order to assist educational leaders with decision-making regarding teacher attrition and retention.

Five null hypotheses guided this study. Null Hypothesis 1 addressed differences between the retention rates of new exceptional student education teachers who did not participate in STARTS and those who did participate in STARTS. Null Hypothesis 2 addressed participation in STARTS and differences in age between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year. Null Hypothesis 3 addressed participation in STARTS and differences in race between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year. Null Hypothesis 4 addressed participation in STARTS and differences in special education program area between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year. Null Hypothesis 5 addressed participation in STARTS and differences in grade level assignment (elementary, middle, high) between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year.

### Demographic Summary

From SY 1998-1999 to SY 2003-2004, the school district of Volusia County, Florida hired 771 new ESE teachers. Of these new teachers, 422 did not participate in STARTS and 349 did participate in STARTS. Effective July 1, 2001, STARTS became a mandatory program for new teachers. Because the literature suggested that four variables (age, race, program area, and grade level) influenced teacher attrition and retention in special education, these were assessed.

The overall mean age of the 771 new-to-ESE teachers discussed in this study was 36.73 years. During the six school years from 1998-1999 to 2003-2004, the youngest teacher was 20 years of age at time of hire while the oldest teacher was 70 years of age. The majority of the new ESE teachers presented within the range of 26 to 35 years of age.

Data results for ethnicity indicated that 612 (79.3%) of the 771 participants in this study were identified as White while 130 (16.8%) were identified as Black. Of the remaining participants, 24 (3.1%) were identified as Hispanic and 5 (.6%) were identified as Asian. Regarding ethnicity, the remaining .2% would represent ethnic categories unavailable in the employment history data and, consequently, not reported in this study.

Data were reported for special education program area and year of hire. Most new hires in ESE (82.8%) taught in the mild program areas that served students with mild to moderate cognitive or emotional disabilities including *Specific Learning Disabled*, *Educable Mentally Handicapped*, and *Emotionally Handicapped*. From SY 1998-1999 to SY 2003-2004, teachers in the low-incidence programs, Multi-VE, SED, and PreK comprised only 17.2% of new hires.

The final demographic category, grade level assignment, categorized teachers by grade level assignment at time of hire. More elementary teachers (164) were hired during the first 3 years of the study and more high school teachers (157) were hired during the last 3 years of the study. Overall, more new ESE teachers were hired at the high school level (295). Overall, fewer teachers were hired at the middle school level (213) than at either the elementary (23) or high school (295) levels.

## Discussion, Conclusions, and Recommendations

### Null Hypothesis 1

In Volusia County Schools, there is no significant difference between the retention rates of new exceptional student education teachers who did not participate in STARTS and those who did participate in STARTS.

A two-way contingency table analysis compared the dependent variable, retention, with the independent variable, year hired (a proxy for participation in STARTS). At the alpha level of .05, a significant difference existed between the retention rates of new exceptional student education teachers hired during the 3 years prior to the initiation of STARTS and those hired during the 3 years that included STARTS. In SY 2000-2001, the school year preceding STARTS, 54.3% of new ESE teachers returned to an ESE position whereas in SY 2001-2002, the first year of STARTS, 71.1% of new ESE teachers returned to an ESE position. Comparing these two years, the percentage of new ESE teachers who returned to an ESE position the following year increased by 51%. By SY 2003-2004, 89.7% of new ESE teachers returned to an ESE position, an increase of 65% from the SY 2000-2001 baseline.

Defined by each of the school years in the study, Appendixes E, F, G, H, I, and J (Figures 3-7) illustrate the number of new ESE teachers hired, and the number of teachers who returned to Volusia County Schools in either a special or general education position for each of the study's six years. Figure 8, in Appendix K, shows a 6-year overview that compares the number of teachers hired and the number of teachers retained in ESE the following year. The gap between the number of teachers hired and the number retained

can be observed as becoming smaller during the years that included the STARTS program.

A second two-way contingency table analysis compared the dependent variable, retention, with the independent variable, participation in STARTS. At the alpha level of .05, a significant difference existed between the retention rates of new exceptional student education teachers who did not participate STARTS compared with those who did participate in STARTS. Of the 231 teachers who did not participate in STARTS, 54.7% returned to an ESE position the following year. Of the 285 teachers who did participate in STARTS, 81.7% returned to an ESE position the following year. Therefore, Null Hypothesis 1 was rejected.

As retention rates increased for each year of STARTS, consequently, attrition rates decreased. However, some teachers returned the following year, but moved to a general education position. According to the results, returning to Volusia County Schools, but moving to a general education position, did not make a significant difference in any of the years included in the study. An average of 7.6 new ESE teachers moved to general education in the 3 years prior to the initiation of STARTS. In the 3 years of STARTS, an average of 6.6 new ESE teachers returned the following year and moved to a general education.

#### Null Hypothesis 2

There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to age and participation in STARTS.

A multi-way contingency table analysis compared the dependent variable, retention, with the independent variables, year hired and age range. A second multi-way contingency table analysis compared the dependent variable, retention, with the independent variables, participation in STARTS and age range. At the alpha level of .05, a significant difference existed between the retention rates of new exceptional student education teachers with respect to age range. The mean age of new teachers ranged from 34.91 years (SY 1998-1999) to 38.36 years (SY 2001-2002), with an overall mean of 36.73 years.

Baker and Smith (1997) reported that attrition rates are higher for teachers who are age 25 or younger. Of the 144 teachers in the age 25 and below category, 88 (61.1%) returned to an ESE position over a 6-year period, the second lowest percentage compared to the other age groups. During the 3 years preceding STARTS, 55.2% of these new teachers returned to ESE following their first year of teaching. During the 3 years of STARTS, 72.9% of the teachers in this age group returned to an ESE position in Volusia County Schools. However, based on the result of  $p = .095$ , statistical significance could not be assigned for this age range.

The age range of 26 to 35 years included 250 teachers, the largest number in an age category. Of these, 172 (68.8%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 55.8% of the new teachers in this age range returned to ESE after their first year of teaching. During the 3 years of STARTS, 82.6% of the teachers in this age range returned to an ESE position in Volusia County Schools.



Of the 178 new ESE teachers in the age range of 36 to 45 years, 128 (70.7%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 56 (57.7%) of the new teachers in this age range returned to ESE after their first year of teaching. During the 3 years of STARTS, 72 (88.9%) of the teachers in this age range returned to an ESE position in Volusia County Schools.

The age range of 46 to 54 years included 163 new ESE teachers. Of these, 110 (67.5%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 55.3% of the new teachers in this age range returned to ESE after their first year of teaching. During the 3 years of STARTS, 80.8% of the teachers in this age range returned to an ESE position in Volusia County Schools.

Baker and Smith (1997) noted that attrition rates increased for teachers who were age 60 and older. Retention rates prior to STARTS supported this. The smallest category for age range, 55 years and older, included 36 teachers. Of these, 18 (50%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, an average of 20% of the new teachers in this age range returned to ESE after their first year of teaching, a lower percentage than any other age group. During the 3 years of STARTS, 71.4% of the teachers in this age range returned to an ESE position in Volusia County Schools. Data analysis showed statistical significance for this category.

Teachers in this study ranged in age from 20 years to 70 years at time of hire. The category of 26 to 35 years presented the highest number of new ESE teachers (250), representing 32.4% of all teachers in this study. Although the ages of the new ESE

teachers that left the profession after one year compared to those who returned were similar, in every age range category, the retention rates were higher for teachers who had participated in STARTS. With the notable exception of the 20% retention rate prior to STARTS in the 55 years and older category, all other age ranges presented about a 55% retention rate prior to STARTS. Following STARTS, retention rates increased in all age range categories, suggesting that STARTS, rather than age, influenced retention rates. Therefore, Null Hypothesis 2 was accepted.

Further research regarding the age of teachers entering the profession may be warranted. The overall mean age of the participants in this study was 36.73 years, suggesting that, in Volusia County Schools, new ESE recruits may be older than generally perceived. If this holds true in other school districts, then recruitment efforts should be reviewed concerning what may be a non-traditional trend. Beyond recruitment, preservice programs at the university level may require review as well to address the needs of an older population of new teachers.

### Null Hypothesis 3

There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to race and participation in STARTS.

A multi-way contingency table analysis compared the dependent variable, retention, with the independent variables, year hired and race. A second multi-way contingency table analysis compared the dependent variable, retention, with the independent variables, participation in STARTS and race. At the alpha level of .05, a

significant difference existed between the retention rates of new exceptional student education teachers with respect to race in the ethnic categories of *White* and *Black*. In the study, the four categories of ethnicity included *Asian*, *Black*, *Hispanic*, and *White*.

Of the 612 teachers in the *White* category, the largest ethnic group in the study, 415 (67.8%) returned to an ESE position over a 6-year period, the second lowest percentage compared to the other ethnic categories. During the 3 years preceding STARTS, 56.7% of White teachers returned to ESE following their first year of teaching. During the 3 years of STARTS, 81.2% of White teachers returned to an ESE position in Volusia County Schools.

Of the 130 teachers in the *Black* category, 77 (59.2%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 41.7% of the new teachers in this ethnic category returned to ESE after their first year of teaching. During the 3 years of STARTS, 81.0% of the teachers in this ethnic category returned to an ESE position in Volusia County Schools.

Of the 24 new ESE teachers in the *Hispanic* category, 19 (79.2%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 71.4% of the new teachers in this ethnic category returned to ESE after their first year of teaching. During the 3 years of STARTS, 90.0% of the teachers in this ethnic category returned to an ESE position in Volusia County Schools. None of the Hispanic teachers moved to a general education position. Statistical significance was not found for this category.

Of the 5 new ESE teachers in the *Asian* category, all five (100%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 1 new teacher (100%) in this ethnic category returned to ESE after the first year of teaching. During the 3 years of STARTS, four of the teachers (100%) in this ethnic category returned to an ESE position in Volusia County Schools. For the Asian ethnicity, no statistics were computed because the variable *returned the following year* remained a constant.

Teachers in this study embodied four major ethnic categories. Regarding ethnicity, 0.2% of the participants represented additional ethnic categories unavailable in the employment history data and consequently, not reported in this study. The largest ethnic group, White, included 612 new ESE teachers, which represented 79.3% of all the teachers in this study. With the notable exception of Asian teachers, who maintained 100% retention before and after STARTS, the retention rates increased to at least 81% in every ethnic category for teachers who had participated in STARTS, suggesting that STARTS, rather than race, influenced retention rates. Therefore, Null Hypothesis 3 was accepted.

Adams and Dial (1994) reported that White teachers were four times more likely to leave the profession than their Black colleagues. Even among younger teachers, between the ages of 20 and 29, the Florida Department of Education (2003a) reported that the retention rates of Black and Hispanic teachers remained consistently higher than those of their White colleagues. Contrary to the literature, prior to STARTS, Black teachers in Volusia County presented the lowest retention rate (41.7%) for new ESE

teachers, followed by White teachers (56.7%). Although the number of teachers was smaller in the Hispanic category (24), prior to STARTS, Hispanic teachers demonstrated a higher rate of retention (71.4%), thus supporting the literature. With the smallest number of teachers, teachers of Asian ethnicity presented the highest retention rate (100%), irrespective of STARTS. Following the implementation of STARTS, retention rates for White teachers increased by 43%. Following the implementation of STARTS, retention rates for Black teachers nearly doubled from 41.7% to 81.0%, an increase of 94%. Additional explanation for this marked percentage of increase poses interest beyond the scope of this study, but might warrant further research in order to maximize benefit.

#### Null Hypothesis 4

There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to special education program area and participation in STARTS.

A multi-way contingency table analysis compared the dependent variable, retention, with the independent variables, year hired and special education program area. A second multi-way contingency table analysis compared the dependent variable, retention, with the independent variables, participation in STARTS and special education program area. At the alpha level of .05, a significant difference existed between the retention rates of new exceptional student education teachers with respect to the *Mild* special education program area. In the study, the four categories of program area included Mild, Multi, SED, and PreK.

Of the 639 teachers in the *Mild* category, the largest program area group in the study, 410 (64.2%) returned to an ESE position over a 6-year period, the lowest percentage compared to the other program area categories. During the 3 years preceding STARTS, 49.7% of teachers in the *Mild* program returned to ESE following their first year of teaching. During the 3 years of STARTS, 82.6% of these teachers returned to an ESE position in Volusia County Schools. The relationship was found to be statistically significant.

Of the 73 teachers in the *Multi* category, 61 (83.6%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 82.4% of the new teachers in this program area returned to ESE after their first year of teaching. During the 3 years of STARTS, 84.6% of the new teachers in this program area returned to an ESE position in Volusia County Schools, representing a 2.6% increase. For the category of *Multi-VE*, the relationship between program area and retention was not found to be significant.

Of the 43 new ESE teachers teaching in the *SED* program, 34 (79.1%) returned to an ESE position over a 6-year period. Although 17 teachers returned prior to STARTS and 17 teachers returned in the years including STARTS, the numbers represent varying percentages. During the 3 years preceding STARTS, 81.0% (17) of the new teachers working in this program area returned to ESE after their first year of teaching. During the 3 years of STARTS, 77.3% (17) of the teachers working in this program area returned to an ESE position in Volusia County Schools. For new teachers in the SED program, retention rates (and number of teachers retained) for the three school years preceding

STARTS were 100% (8 of 8), 87.5% (7 of 8), and 40% (2 of 5), respectively. For the 3 years of STARTS, the retention rates were 62.5% (5 of 8), 87.5% (7 of 8), and 83.3% (5 of 6), respectively. For the category of *SED*, the relationship between program area and retention was not found to be significant.

Of the 16 new ESE teachers in the *PreK* category, 11 (68.8%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 8 new teachers (88.9%) in this program area returned to ESE after the first year of teaching. During the 3 years of STARTS, 3 of the new teachers (42.9%) in this program area returned to an ESE position in Volusia County Schools, a decrease of 107%. The number of teachers retained in this category should be noted. During SY 1998-1999 and SY 1999-2000, 3 out of 3 teachers returned, while the following year, 2 out of 3 teachers returned. During SY 2001-2002, 1 out of 3 teachers returned and in SY 2002-2003, 1 out of 2 teachers returned. For the last year of the study, SY 2003-2004, 2 out of 2 teachers returned. The low numbers in this category strongly affect percentage rates. For the category of *PreK*, the relationship between program area and retention was not found to be significant.

Brownell, Smith, and McNellis (1997) noted that a large number of teachers who serve students with behavioral disorders are disgruntled. Teachers serving students with emotional or behavioral disorders experience greater stress (Wrobel, 1993) and consequently can present a strong inclination towards attrition (Morvant, et al., 1995). Although the results of this study appear to conflict with the literature regarding teachers who serve students with behavioral disorders, caution suggests that the large differences

in the number of teachers in each program category should be considered. Although there was not a significant relationship between STARTS and retention rates of the teachers in the low-incidence programs, *Multi*, *SED*, and *PreK*, a significant difference was found in the retention rates of the largest number of teachers, those who served students in the Mild program. Therefore, Null Hypothesis 4 was rejected.

#### Null Hypothesis 5

There is no significant difference between new ESE teachers that left the profession after one year compared to new ESE teachers who returned for a second year with respect to grade level assignment (elementary, middle, high) and participation in STARTS.

A multi-way contingency table analysis compared the dependent variable, retention, with the independent variables, year hired and grade level assignment. A second multi-way contingency table analysis compared the dependent variable, retention, with the independent variables, participation in STARTS and grade level assignment program area. At the alpha level of .05, a significant difference existed between the retention rates of new exceptional student education teachers with respect to the three grade level assignments discussed in this study, elementary, middle, and high school.

Of the 263 elementary teachers in the study, 168 (63.9%) returned to an ESE position over a 6-year period, the lowest percentage compared to the other grade level assignments. During the 3 years preceding STARTS, 54.9% of teachers at the elementary level returned to ESE following their first year of teaching. During the 3 years of STARTS, 78.8% of these teachers returned to an ESE position in Volusia County



Schools, representing a 43.5% increase. The relationship between retention and participation in STARTS was found to be statistically significant.

Of the 213 middle school teachers in the study, 154 (72.3%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 62.5% of the new middle school teachers returned to ESE after their first year of teaching. During the 3 years of STARTS, 84.9% of the new middle school teachers returned to an ESE position in Volusia County Schools, representing nearly a 36% increase. For the new middle schools teachers, the relationship between retention and participation in STARTS was found to be statistically significant.

Of the 295 high school teachers in this study, 194 (65.8%) returned to an ESE position over a 6-year period. During the 3 years preceding STARTS, 47.8% of the new ESE teachers working at the high school level returned to ESE after their first year of teaching. During the 3 years of STARTS, 81.5% of the new ESE teachers working at the high school level returned to an ESE position in Volusia County Schools, representing an increase of 70.5%. For the new ESE teachers at the high school level, the relationship between retention and participation in STARTS was found to be statistically significant.

Although the literature suggested that elementary school teachers tend to remain in the profession more than teachers at higher grade levels (Murnane, et al., 1991), this was not the case in Volusia County Schools prior to STARTS. However, following the implementation of STARTS, retention rates increased at the elementary level by 43.5%, the middle school level by 35.8%, and at the high school level by 70.5 %. Teacher

retention increased in all categories, suggesting that STARTS, rather than grade level assignment, influenced retention rates. Therefore, Null Hypothesis 5 was accepted.

Although not found to be statistically significant in the 25 years and younger category, by age range, teacher retention increased in all categories. For ethnicity, retention increased in all categories, except for Asian teachers, who maintained 100% retention before and after STARTS. Black teachers demonstrated a 94% increase in retention, the largest increase for any category in the study. For special education program area, teacher retention increased for the Mild and Multi programs, but following STARTS, actually decreased for the SED and PreK programs. However, the SED and PreK programs only included 43 and 16 teachers, respectively. For grade level assignment, retention rates increased at the elementary, middle, and high school levels. Overall, the results strongly suggest that participation in STARTS made a difference in teacher retention in Volusia County Schools.

### Implications for Further Research

The Skills, Tips, and Routines for Teacher Success initiative of Volusia County Schools (STARTS) appears to have made a positive difference in the retention rates for new exceptional student education teachers who participated in the program. Based on the analysis, the positive difference proved to be statistically significant, and not due to chance. Due to the delimitations of the study, however, results could not be generalized

beyond the given population. How, then, could this program be replicated in other settings?

STARTS began as a comprehensive initiative with district-wide support and application of resources. Funding was a major resource, but the efforts of dedicated district personnel in the Exceptional Student Education Department should not be underestimated. Leadership, clear vision, and creativity guided the success of the program. Coordinated efforts included the use of research studies and professional literature to form the foundation of the STARTS program. Without these principles, replication of the STARTS initiative might not be possible.

The institution of the STARTS program had a notable effect on retention rates. Modest effect size indicators suggested that, although the program had an effect, other variables might have been in play with respect to teacher retention. As with any school district initiative, STARTS did not occur in a vacuum. During the six years of the study, Volusia County Schools implemented other initiatives to enhance teacher quality and influence teacher retention in special education.

In SY 1996-1997, behavioral initiatives became an area of major focus. A task force was assembled to conduct a needs assessment and develop a long-term strategic plan for classroom management. In SY 1997-1998, 18 temporary clerks were hired through a local temporary employment agency. Assigned to a cluster of schools, these clerks scheduled regular days at each of their schools and assisted ESE teachers with clerical and paperwork responsibilities. During the 1998-1999 school year, the

Demonstration Classroom Project was begun. This project provided paid substitutes and enabled beginning ESE teachers to observe a master teacher in the master teacher's classroom. During that same year, a computerized program for developing individual education plans was piloted. In an effort to help teachers decode student behavior, SY 1999-2000 included district-wide training in the development of functional behavior assessments (FBA) and behavior intervention plans (BIP). Direct Instruction was adopted as a district-wide curriculum initiative during the 2000-2001 school year. In an effort to provide more administrative support in SY 2001-2002, Volusia County Schools allocated IDEA funds for the hiring of middle school administrators with expertise in special education. These assistant principals supported ESE programs at their schools and served as school-based ESE contacts. In SY 2002-2003, the administrative assignments were expanded and assistant principals with expertise in special education were added to each of the district's high schools. In addition, the Superintendent authorized the creation of a select committee of teachers and administrators to address issues related to ESE paperwork. As part of the committee's recommendations to support the electronic IEP initiative and lead a transition to web-based technology, the district established an IEP Technology Office staffed with a full-time helpdesk operator, full-time trainer, full-time specialist in quality IEP training, and full-time technical specialist affiliated with the MIS department. All new ESE teachers were required to attend a two-day workshop for electronic IEP training that included a quality IEP component. Stipended technical support assistants, teachers proficient with the electronic IEP computer program,

provided school-based help for their colleagues. In an effort to support national and state reading initiatives, Volusia County added itinerant reading coaches during the 2003-2004 school year. All of the above initiatives continued to be in effect at the time of this writing (P. Griesinger, personal communication, December 17, 2004).

This study can serve as a foundation for future research. While data were collected to determine whether new ESE teachers returned for a second year of teaching, data existed which could be used to track Volusia County teachers, including those represented in this study, beyond the second year of teaching. With modifications added to the personnel database, the school district could continue to track the teachers in this study and assess retention efforts as well as track the progression of new teachers in the future. Such data could assist educational leaders in making informed policy decisions regarding teacher retention in special education.

Smith and Milstein (1984) reported that teachers often perceived preservice training as inadequate or irrelevant, implying a need to support all beginning teachers. A possible application for the STARTS initiative would be to adapt the program to enhance retention of general education teachers in Volusia County Schools. Not exclusive to ESE, paperwork demands resulting from calls for accountability add procedural responsibilities for general educators. General education teachers also share the responsibility to implement approved curriculum. In addition, students with behavioral issues are served in general education classrooms. General education teachers

may benefit from intensive training in district policies and procedures, curriculum, and classroom management.

About 5.3% of new ESE teachers returned to Volusia County Schools for a second year, but moved to a general education position. Although these teachers did not return to ESE, they continued to benefit the school district and may, because of their expertise in special education, potentially continue to benefit students with disabilities. Applying a broader view of retention, *Movers*, *Leavers*, and *Stayers* represent three distinct tracks for beginning ESE teachers and offer an alternative or supplemental definition for retention. From this perspective, a second report of teacher retention rates was included in this study. As illustrated in Appendix L, Figure 9, in SY 2000-2001, the year preceding STARTS, 54.7% of new ESE teachers returned to either an ESE or general education position in Volusia County Schools. During the first year of STARTS, the retention rate increased to 78% and by SY 2003-2004, reached 92.8%. For Volusia County Schools, new ESE teachers moving to general education was not a significant issue. Reasons may have included lack of appropriate certification or general educators securing a position with the intent to move to general education as vacancies became available. For districts where few ESE teachers move to general education, leaders may reconsider the benefits of new ESE teachers moving to general education.

Beyond Volusia County Schools, other comparable school districts may benefit from a STARTS-like initiative. As a collaborative exercise among stakeholders, STARTS requires facilitative leadership and choreography. As noted, financial resources and

district-wide commitment remain essential to successful implementation. Baseline teacher retention data may not be readily available and acquisition may require assistance from the district personnel and information technology departments. Data retrieval and extrapolation serve as valuable, but time-intensive efforts.

According to Posavac and Carey (2003), the only overall purpose for program evaluation activities is “contributing to the provision of quality services to people in need” (p. 13). This study endeavored to provide a basis for conversation regarding support for new ESE teachers and the students whom they serve. Based on the literature, schools districts may begin to place greater emphasis on teacher retention over teacher recruitment, although both efforts present expensive options. Teacher retention will continue to pose a challenge for the profession in the 21<sup>st</sup> century. Progressive educational leaders, cognizant of the value of human resources, must weigh the price of current recruitment and retention initiatives and compare these expenditures to the cost of losing quality teachers in special education. For school districts, the costs incurred by separation and replacement may be determined by mathematical formula, but the cost to students with special needs may be incalculable.

#### Summary of Recommendations

1. Continue the STARTS evaluation begun in this study and track attrition and retention of the current participants beyond the second year.
2. As they enter Volusia County School system, include new ESE teachers in the STARTS evaluation.

3. Adapt the STARTS initiative to support new general education teachers.
4. Expand the STARTS initiative to support new special educators in comparable school districts.



APPENDIX A:  
LIST OF ACRONYMS/ABBREVIATIONS

BIP	Behavior Intervention Plan
CEC	Council for Exceptional Children
DOE	Department of Education
EBD	Emotionally or Behaviorally Disturbed
ESE	Exceptional Student Education
FBA	Functional Behavior Assessment
FDOE	Florida Department of Education
FL	Florida
HR	Human Resource
IEP	Individual Education Plan
IBM	International Business Machines
IDEA	Individuals with Disabilities in Education Act
Mild	Mild to Moderate Varying Exceptionalities
Multi/Multi-VE	Severe to Profound Multiple Varying Exceptionalities
NCES	National Center for Education Statistics
NCLB	No Child Left Behind Act
NCT	National Commission on Teaching
NSDC	National Staff Development Council

OERI	Office of Education Research and Improvement
OSEP	Office of Special Education Programs
PDK	Phi Delta Kappa
PL 94-142	Public Law 94-142 (1975)
PreK	Pre-Kindergarten
SASS	Schools and Staffing Survey
SED	Severely Emotionally Disturbed
SPeNSE	Study of Personnel Needs in Special Education
SPSS	Statistical Package for Social Science
STARTS	Skills, Tips, and Routines for Teacher Success
SQL	Structured Query Language
TERMS	Total Education Resource Management
TFS	Teacher Follow up Survey
UCF	University of Central Florida
USDOE	United States Department of Education
VCS	Volusia County Schools
VSAM	Virtual Storage Access Model

APPENDIX B:  
VOLUSIA COUNTY SCHOOLS APPROVAL FORM



Dr. Margaret A. Smith  
Superintendent of Schools

P.O. Box 2410  
Daytona Beach, Florida 32115-2410

DeLand  
(386) 734-7190

Daytona Beach  
(386) 255-6475

729 Loomis Avenue  
Daytona Beach, Florida 32114

New Smyrna Beach  
(386) 427-5223

Osteen  
(386) 860-3322

**School Board of Volusia County**

Ms. Judy Conte, Chairman  
Ms. Candace Lankford, Vice-Chairman  
Mrs. Vicki Bumpus  
Ms. Judy Andersen  
Mr. Earl C. McCrary

August 3, 2004

Ms. Mary Ellen Speidel  
860 Arroyo Parkway  
Ormond Beach, Florida 32174

Dear Ms. Speidel:

I have received your 7/23/04; request to conduct research with Volusia County Schools. I understand you will be conducting research on *"Teacher Attrition and Retention in Exceptional Student Education: An Evaluation of the STARTS Initiative"*. I am approving your request to conduct this study with the Volusia County School District. Participation in your study will be at the discretion and direction of Dr. William Fink, Director of ESE Services for the district.

By copy of this letter, you may inform Dr. Fink of my decision. It will be your responsibility to contact him and work out any arrangements for data collection and confidentiality.

I would appreciate receiving a copy of your project report at the completion of your study.

Sincerely,

Chris J. Colwell, Assistant Superintendent  
Curriculum and School Improvement Services

CJC/mf

cc: Dr. William Fink, Director of Exceptional Education Services

APPENDIX C:  
UNIVERSITY OF CENTRAL FLORIDA APPROVAL FORM



Office of Research

September 8, 2004

Mary Ellen Speidel  
860 Arroyo Parkway  
Ormond Beach, FL 32174

Dear Ms. Speidel:

With reference to your protocol entitled, "Teacher Attrition and Retention in Exceptional Student Education: An Evaluation of the Skills, Tips, and Routines for Teacher Success (STARTS) Initiative," I am enclosing for your records the approved, expedited document of the UCFIRB Form you had submitted to our office.

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur. Further, should there be a need to extend this protocol, a renewal form must be submitted for approval at least one month prior to the anniversary date of the most recent approval and is the responsibility of the investigator (UCF).

Should you have any questions, please do not hesitate to call me at 407-823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

*Barbara Ward*

Barbara Ward, CIM  
Institutional Review Board (IRB)

Copies: IRB office  
Dr. Douglas Magann, Educational Leadership, Room 222J

APPENDIX D:  
STARTS DEVELOPMENT FLOWCHART



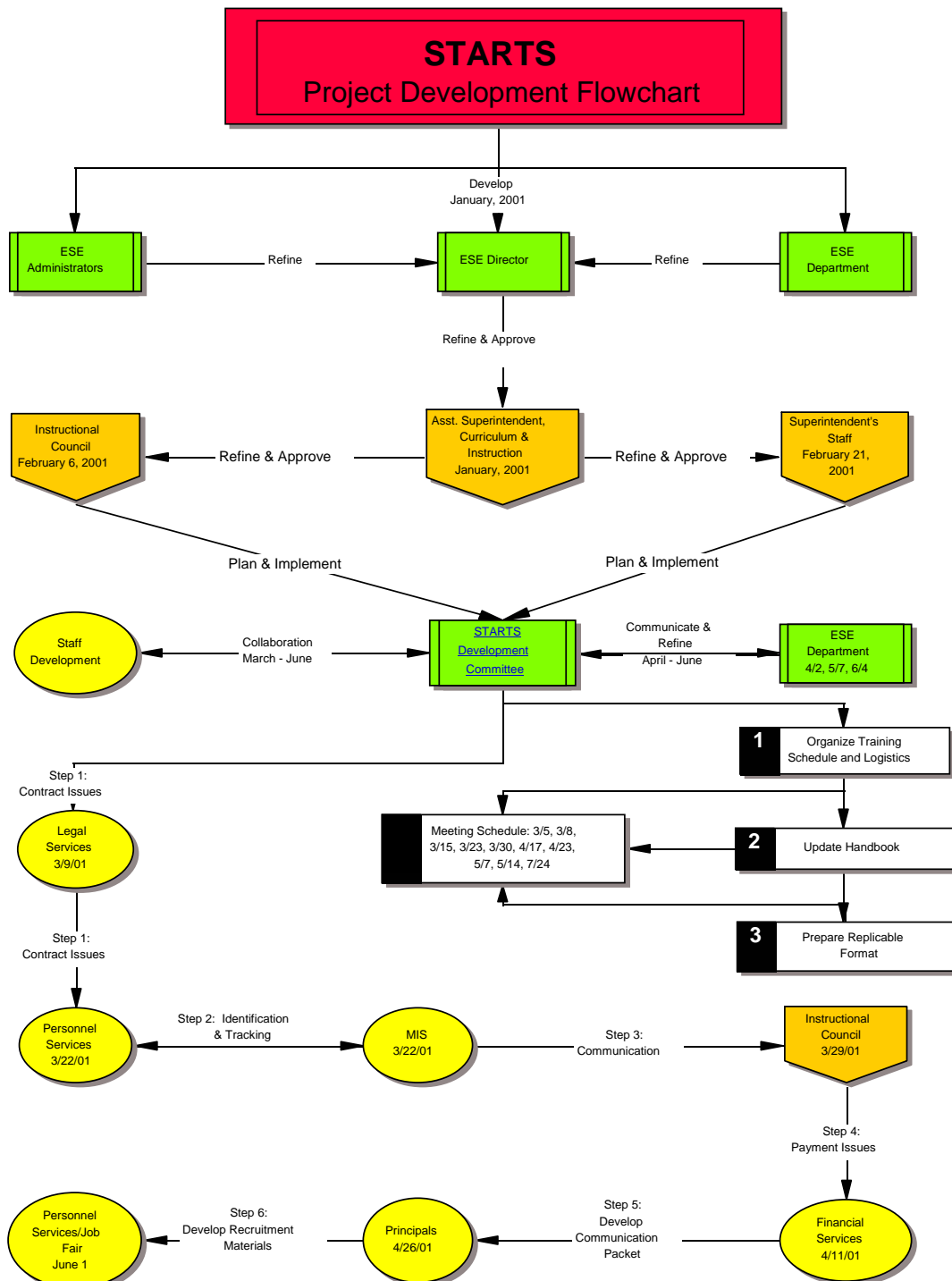


Figure 1: The Development of STARTS

APPENDIX E:  
SY 1998-1999 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION  
TEACHERS IN VOLUSIA COUNTY SCHOOLS

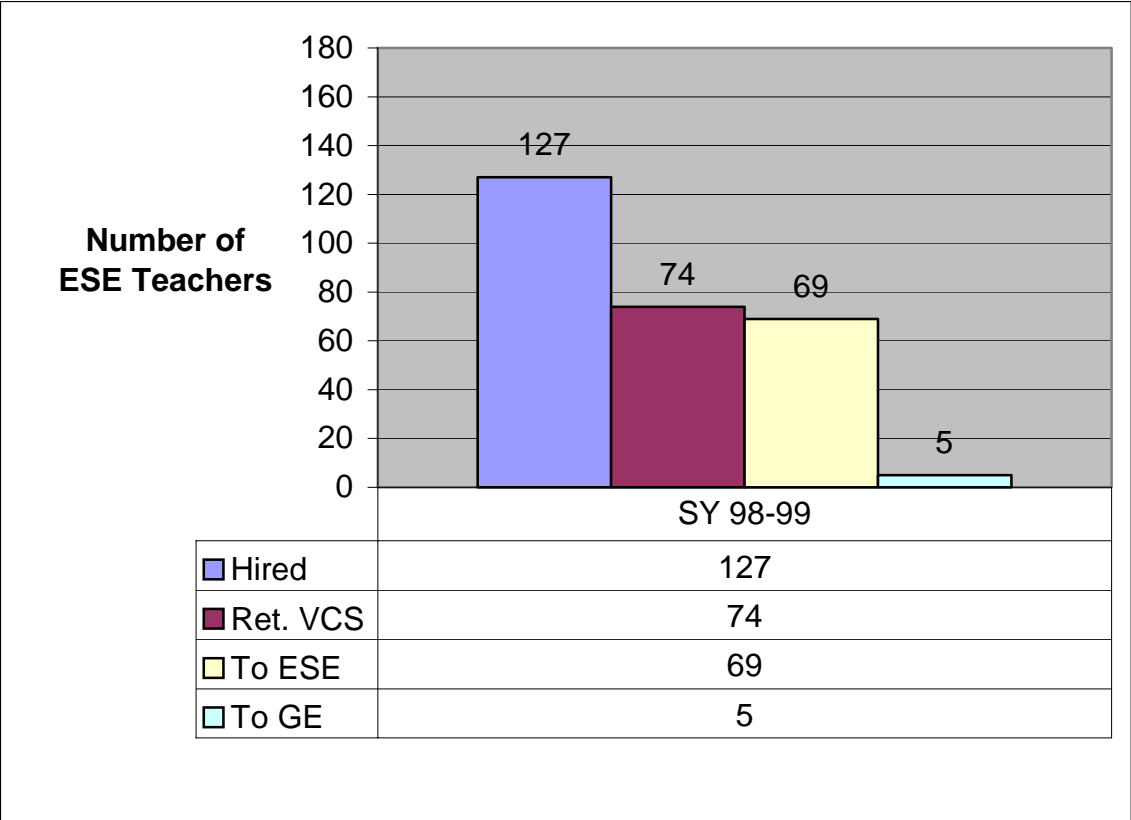


Figure 2: SY 1998-1999: Retention of new ESE teachers in Volusia County Schools

APPENDIX F:  
SY 1999-2000 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION  
TEACHERS IN VOLUSIA COUNTY SCHOOLS

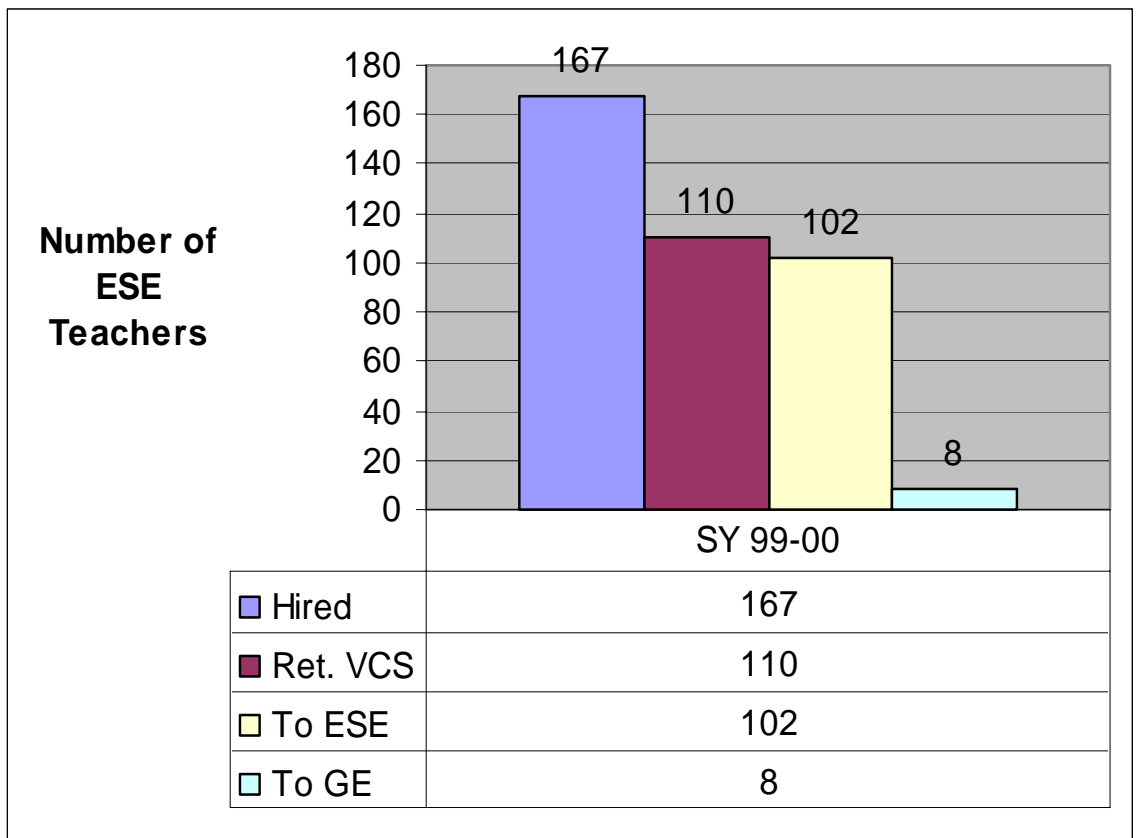


Figure 3: SY 1999-2000: Retention of new ESE teachers in Volusia County Schools

APPENDIX G:  
SY 2000-2001 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION  
TEACHERS IN VOLUSIA COUNTY SCHOOLS

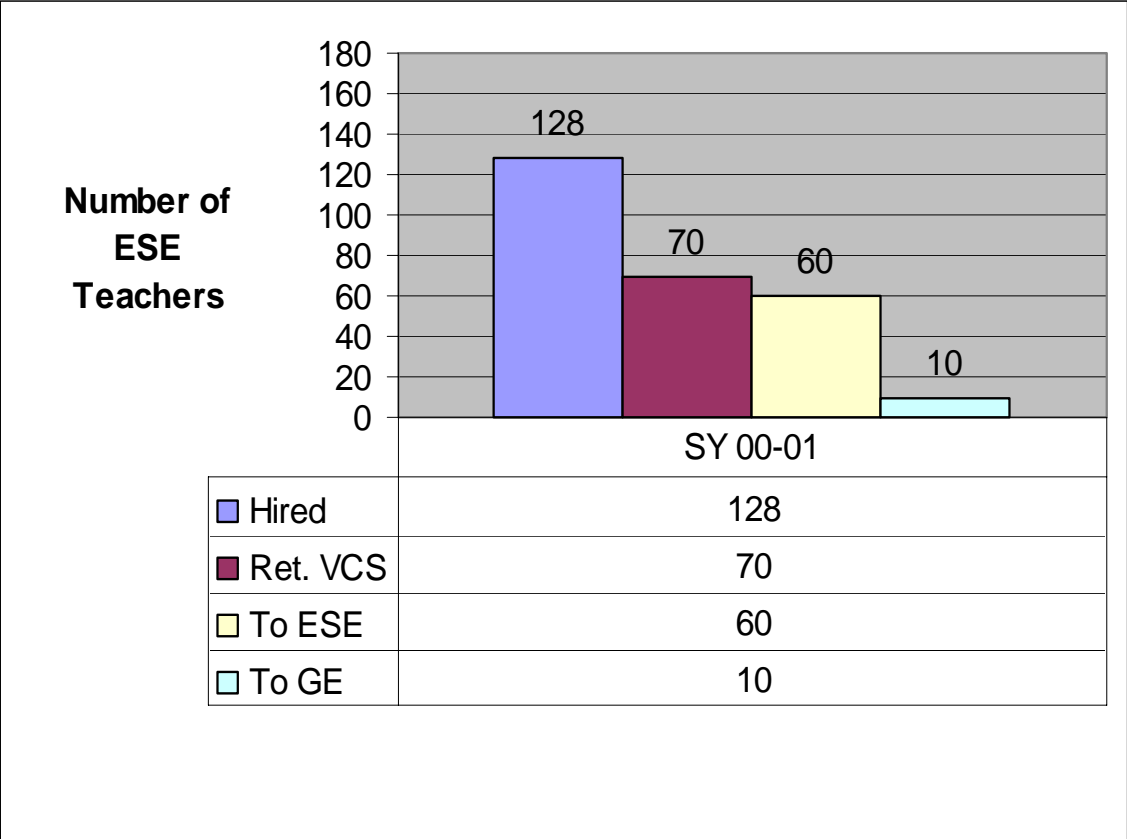


Figure 4: SY 2000-2001: Retention of new ESE teachers in Volusia County Schools

APPENDIX H:  
SY 2001-2002 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION  
TEACHERS IN VOLUSIA COUNTY SCHOOLS



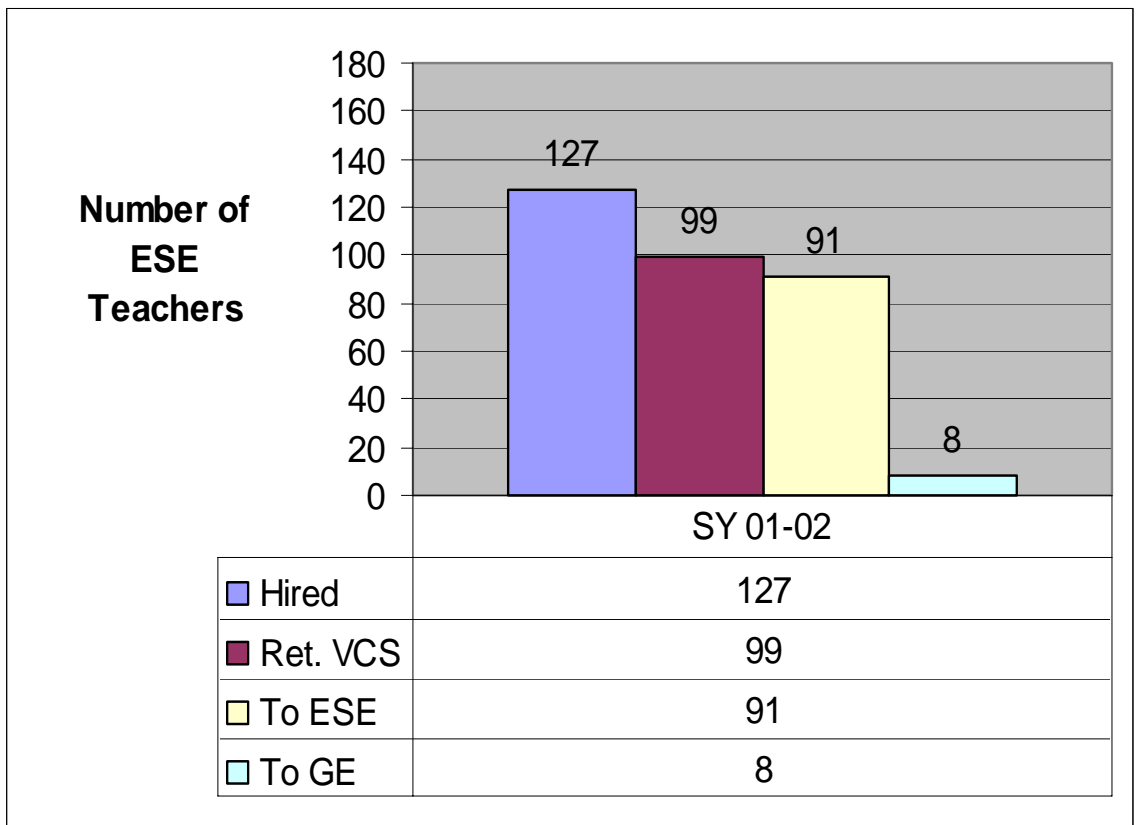


Figure 5: SY 2001-2002: Retention of new ESE teachers in Volusia County Schools

APPENDIX I:  
SY 2002-2003 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION  
TEACHERS IN VOLUSIA COUNTY SCHOOLS

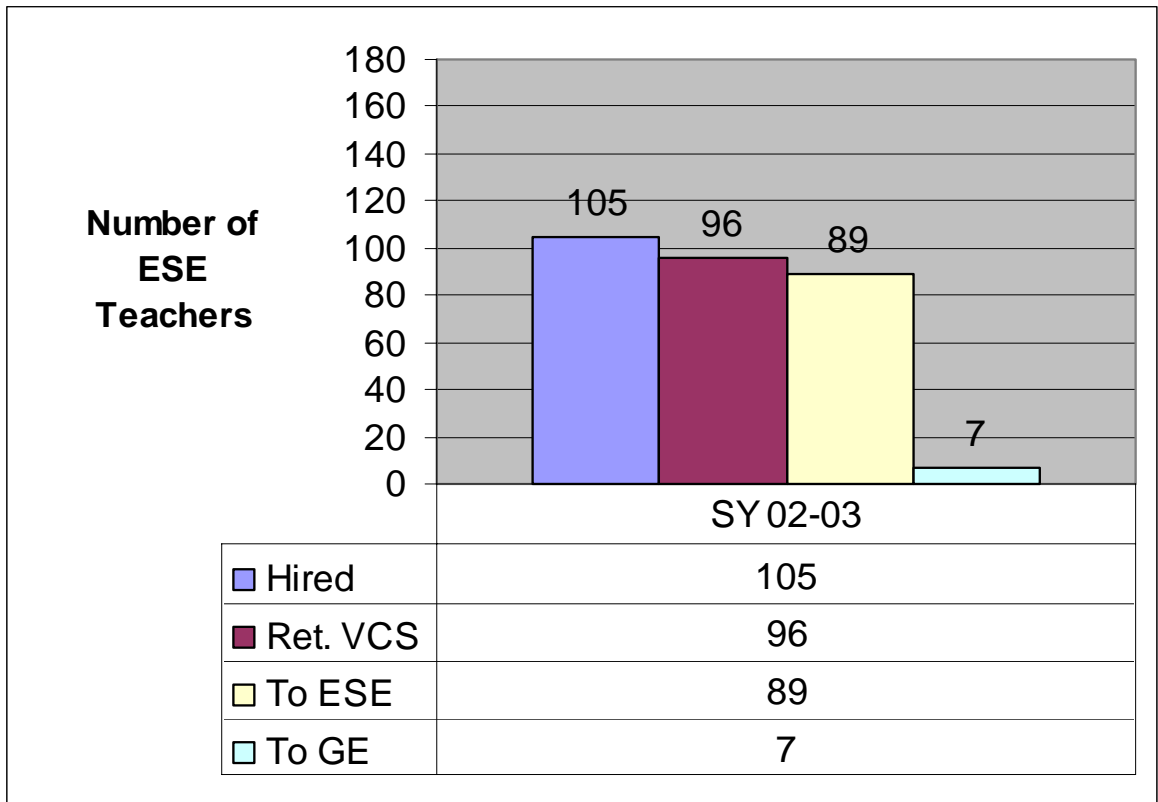


Figure 6: SY 2002-2003: Retention of new ESE teachers in Volusia County Schools

APPENDIX J:  
SY 2003-2004 RETENTION OF NEW EXCEPTIONAL STUDENT EDUCATION  
TEACHERS IN VOLUSIA COUNTY SCHOOLS

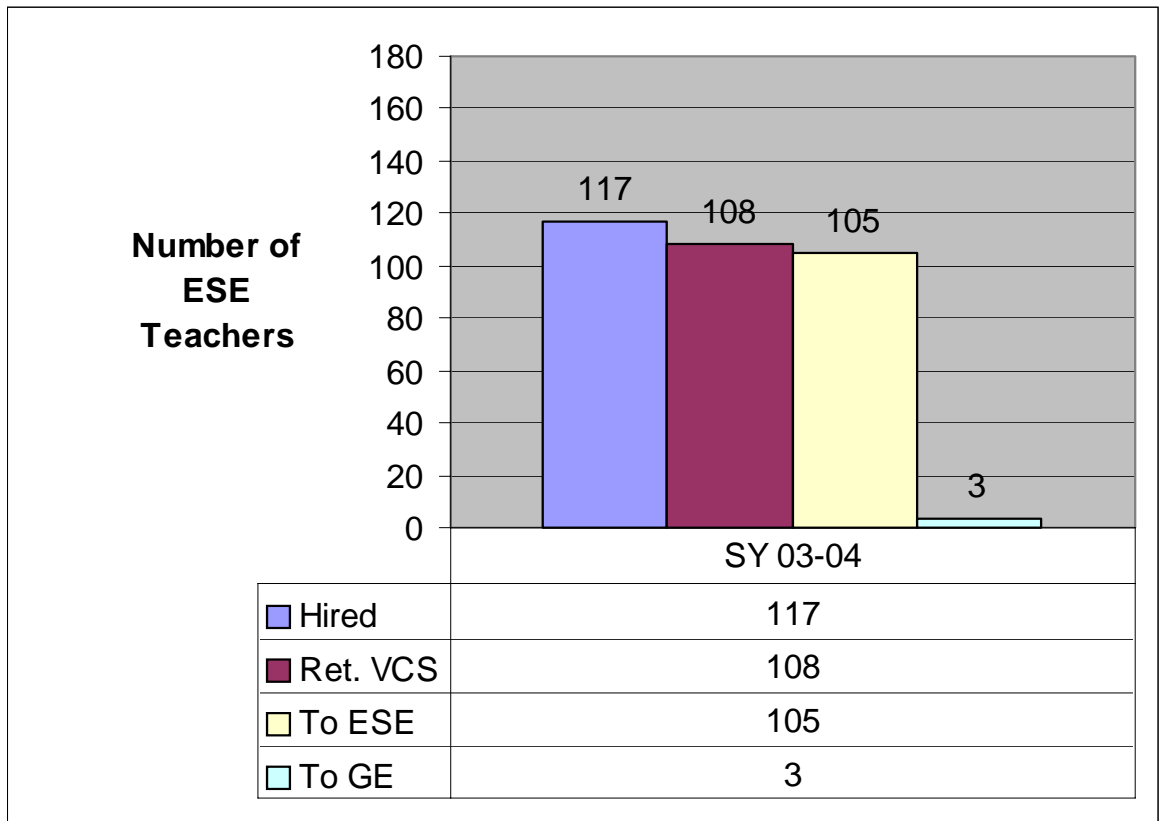


Figure 7: SY 2003-2004: Retention of new ESE teachers in Volusia County Schools

APPENDIX K:  
SY 1998-1999 TO SY 2003-2004-2004  
NEW EXCEPTIONAL STUDENT EDUCATION TEACHER RETENTION RATES IN  
VOLUSIA COUNTY SCHOOLS: OVERVIEW OF TEACHERS RETURNING TO  
EXCEPTIONAL STUDENT EDUCATION THE FOLLOWING YEAR

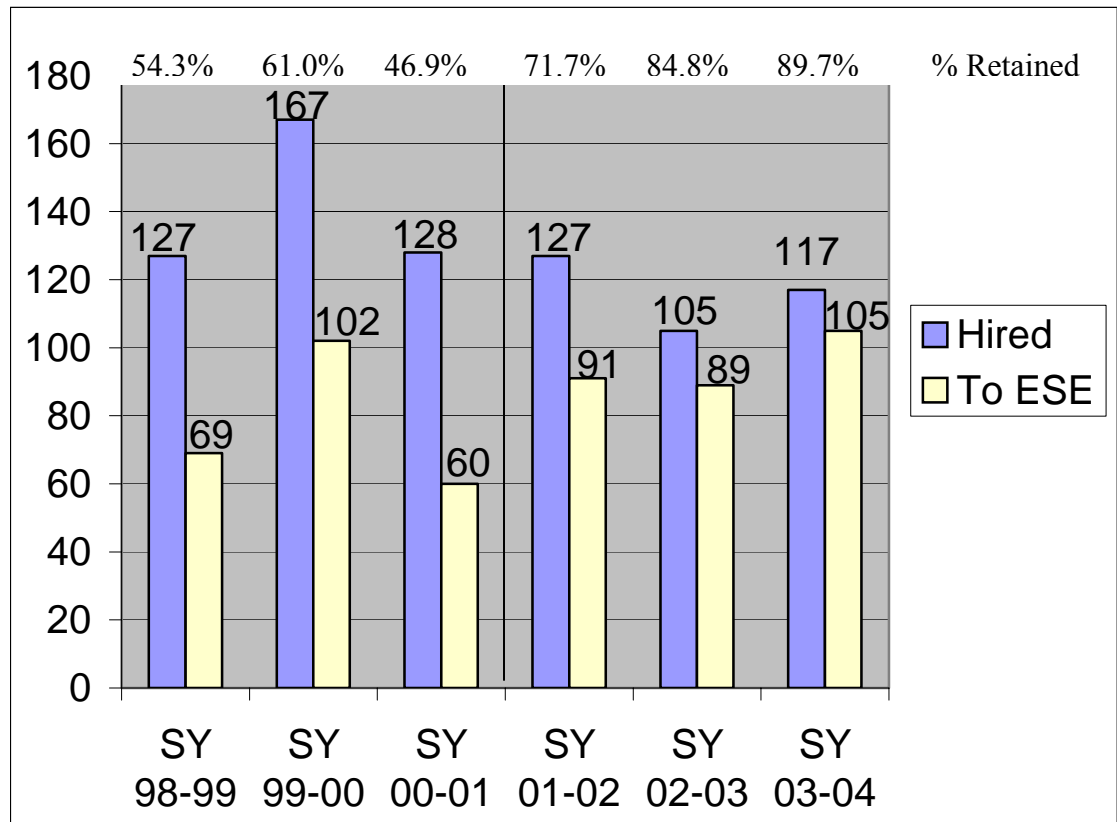


Figure 8: SY 1998-1999 to SY 2003-2004: Number of new ESE teachers hired and retained in ESE

APPENDIX L:  
SY 1998-1999 TO SY 2003-2004  
NEW EXCEPTIONAL STUDENT EDUCATION TEACHER RETENTION RATES IN  
VOLUSIA COUNTY SCHOOLS: OVERVIEW OF TEACHERS RETURNING TO  
EXCEPTIONAL STUDENT EDUCATION OR MOVING TO GENERAL  
EDUCATION THE FOLLOWING YEAR



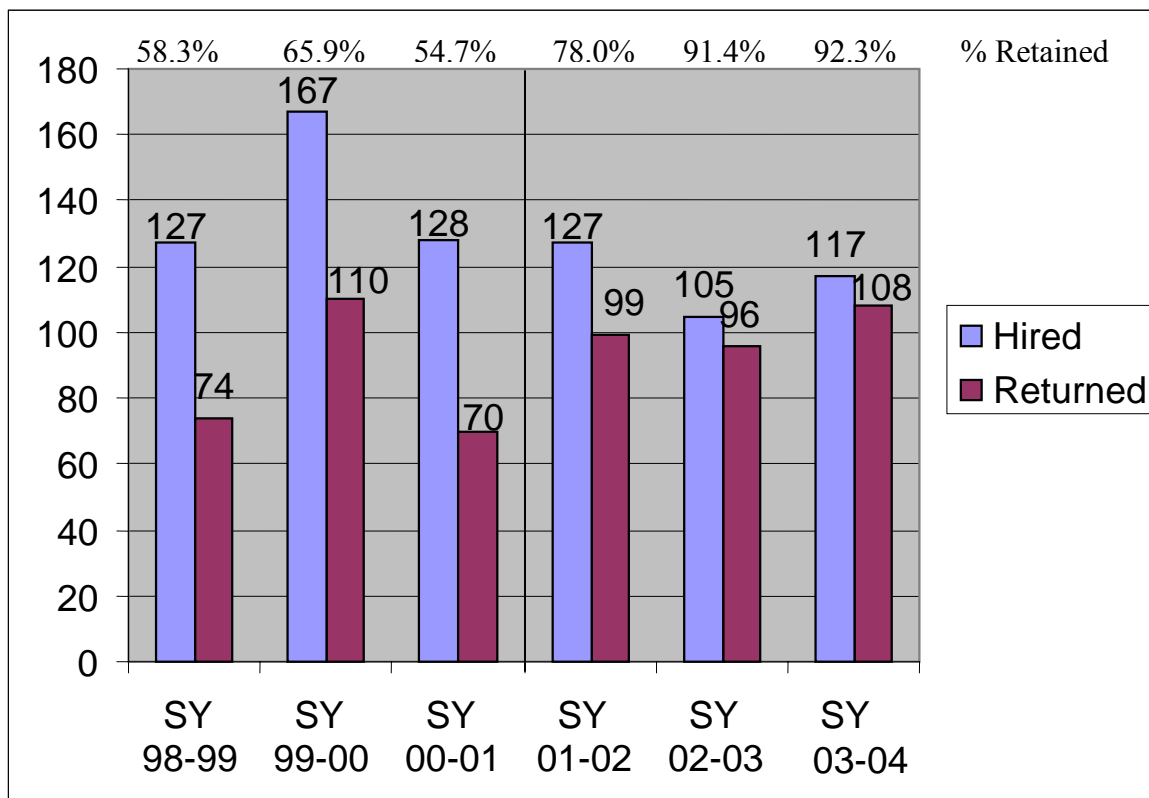


Figure 9: SY 1998-1999 to SY 2004-2004: Number of new ESE teachers hired and retained in ESE or moved to general education

## LIST OF REFERENCES

- Adams, G. J. & Dial, M. (1994). The effects of education on teacher retention. *Education*, 114(3), 358-363.
- Baker, D.P., & Smith, T. (1997). Trend 2: Teacher turnover and teacher quality: Refocusing the issue. *Teachers College Record*, 99(1), 29-35.
- Bennis, W.G., & Nanus, B. (1985). *Leaders: The strategies for taking charge*. New York: Harper & Row.
- Billingsly, B. S. (1993). Teacher retention and attrition in special and general education: A critical review of the literature. *The Journal of Special Education*, 27(2), 137-174.
- Billingsley, B.S. (2002). *Beginning special educators: Characteristics, qualifications, and experiences*. Retrieved August 25, 2004, from <http://ferdig.coe.ufl.edu/spense/IHESummaryfinal.pdf>
- Billingsley, B.S. (2003). *Special education teacher retention and attrition: A critical analysis of the literature*. Retrieved July 25, 2004, from <http://www.coe.ufl.edu/copsse/pubfiles/RS-2.pdf>
- Bobek, B. (2002). Teacher resiliency: A key to career longevity. *The Clearing House*, 75(4), 202-205.
- Boe, E. Bobbitt, S.A., & Cook, L.H. (1997). Whither didst thou go? Predictors of retention, transfer, and attrition of special and general education teachers from a national perspective. *Journal of Special Education*, 30(4), 390-411.
- Bolman, L.G., & Deal, T.E. (1997). *Reframing organizations: Artistry, choice, and leadership*. San Francisco: Jossey-Bass.
- Boyer, L. & Gillespie, P. (2000). Keeping the committed: The importance of induction and support programs for new special educators. *Teaching Exceptional Children*, 33(6), 10-15.
- Boyer, L., & Mainzer, R.W. (2003). Who's teaching students with disabilities: A profile of characteristics, licensure, status, and feelings of preparedness. *Teaching Exceptional Children*, (35)6, 8-11.

- Brown, S. (2003). Working models: why mentoring programs may be the key to teacher retention. *Techniques: Connecting Education and Careers*, 78(5), 18-21, 62.
- Brownell, M.T., Smith, S.W., McNellis, J.R., & Miller, M.D. (1997). Attrition in special education: Why teachers leave the classroom and where they go. *Exceptionality*, 70(3), 143-155.
- Brownell, M.T., Smith, S.W., & McNellis, J.R. (1997). Reflections on "Attrition in special education: why teachers leave the classroom and where they go." *Exceptionality*, 70(3), 187-191.
- Brownell, M.T., Sindelar, P.T., Bishop, A.G., Langley, L.K., & Seo, S. (2002). Special education teacher supply and teacher quality: The problems, the solutions. *Focus on Exceptional Children*, 35(2), 1-16.
- Bureau of Labor Statistics. (1999). *National industry-occupation employment matrix: Occupation report-teachers, special education*. Retrieved May 17, 2004 from <http://www.bls.gov/ooq/2000/spring/contents.html>
- Carlson, E., Brauen, M., Klein, S., Schroll, K., & Willig, S. (2002) *Study of personnel needs in special education: Key findings*. Retrieved July 25, 2004, from <http://ferdig.coe.ufl.edu/spense/KeyFindings.pdf>
- CEC launches initiative on special education teaching conditions. (1998, February/March). *CEC Today*, 2(7), 2.
- Certo, J.L. & Fox, J.E. (2002). Retaining quality teachers. *High School Journal*, 86(1), 57-76.
- CHAMPs: *A proactive and positive approach to classroom management*. (n.d.). Retrieved May 10, 2004, from <http://www.sopriswest.com/swstore/product.asp?sku=187>
- Chapman, D.W. & Hutcheson, S.M. (1982). Attrition from teaching careers: A discriminant analysis. *American Educational Research Journal*, 19(1), 93-105.
- Chapman, D.W. & Green, M.S. (1986). Teacher retention: A further examination. *Journal of Educational Research*, 79(5), 273-279
- Chase, B. (2001). Teacher care and nurturing. *NEA Today*, 19(8), p. 5.

- Christophel, S.R. (2003). *A comparative study of attrition factors of central Florida exceptional student education teachers based on certification preparation program*. Unpublished doctoral dissertation, University of Central Florida, Florida.
- Clarizio, H.F. (1980). *Toward positive classroom discipline*. New York: Wiley.
- CNN.com. (2003). *Report: Teacher retention biggest school woe*. Retrieved August 25, 2004, from <http://www.cnn.com/2003/EDUCATION/01/29/teacher.shortage.ap/>
- The Council for Exceptional Children. (1999). Special educators share their thoughts on special education teaching conditions. *CEC Today*, 5(9), 1,5.
- The Council for Exceptional Children. (2000a). *Bright futures for exceptional learners-introduction: An action agenda to achieve quality conditions for teaching and learning*. Retrieved May 6, 2004, from [http://www.cec.sped.org/spotlight/cond/bf\\_intro.html](http://www.cec.sped.org/spotlight/cond/bf_intro.html)
- The Council for Exceptional Children. (2000b). *Bright futures for exceptional learners: An action agenda to achieve quality conditions for teaching and learning*. Retrieved May 6, 2004, from [http://www.cec.sped.org/spotlight/cond/bf\\_findings.html](http://www.cec.sped.org/spotlight/cond/bf_findings.html)
- The Council for Exceptional Children. (2000c). *Bright futures for exceptional learners: An action agenda to achieve quality conditions for teaching and learning*. Retrieved May 6 2004, from [http://www.cec.sped.org/spotlight/cond/bf\\_action.html](http://www.cec.sped.org/spotlight/cond/bf_action.html)
- Curriculum Review. (1999). Use exit interviews to improve teacher retention. 39(2), 6-8. Retrieved May 10, 2004, from the Academic Search Premier database. ISSN: 0147-2453. AN: 2362124
- Denmark, V.M., & Podsen, I.J. (2000). The mettle of a mentor. *Journal of Staff Development*, 21(4). 18-22.
- Farber, B.A. (1984). Teacher burnout: Assumptions, myths, and issues. *Teachers College Record*, 86(2), 321-338.
- Florida Department of Education. (2002). *Florida Teaching Trends*. Retrieved July 25, 2004, from <http://www.firn.edu/doe/evaluation/pdf/teachingtrends.pdf>

- Florida Department of Education. (2003a). *Florida teacher retention: 1992-2002*. Retrieved July 25, 2004, from <http://www.firn.edu/doe/evaluation/pdf/retentionbrieffinal.pdf>
- Florida Department of Education. (2003b). *Statistical brief: Membership in programs for exceptional students fall 2003*. Retrieved December 20, 2004, from <http://www.firn.edu/doe/eiaspubs/pdf/esemem.pdf>
- Florida Department of Education. (2003c). *Tracking teacher education graduates to Florida classrooms: 2001-2002*. Retrieved July 25, 2004, from <http://www.firn.edu/doe/evaluation/pdf/trackingbrief.pdf>.
- Florida Department of Education. (2003d). *Trends in the supply of new teachers in Florida*. Retrieved July 25, 2004, from <http://www.firn.edu/doe/evaluation/pdf/tnoct2000.pdf>.
- Florida Department of Education. (2004a). *Critical teacher shortage areas 2005-2006*. Tallahassee: Office of Evaluation and Reporting. Retrieved December 17, 2004, from <http://www.firn.edu/doe/evaluation/pdf/crit1200.pdf>
- Florida Department of Education. (2004b). *New hires in Florida public schools: Fall 1993 through Fall 2003*. Retrieved December August 25, 2004, from <http://www.firn.edu/doe/evaluation/pdf/newhire.pdf>
- Florida Department of Education. (2004c). *Projected number of teachers needed: Florida public schools*. Retrieved December 1, 2004, from <http://www.firn.edu/doe/evaluation/pdf/projteach.pdf>
- Florida Department of Education. (2004d). *TeachinFlorida.com: Florida's official administrative and teacher recruiting website*. Retrieved December 10, 2004, from <http://www.teachinflorida.com/>
- Fore III, C., Martin, C., & Bender, W.N. (2002). Teacher burnout in special education: The causes and the recommended solutions. *High School Journal*, 86(1). 36-45. Retrieved May 17, 2004, from Academic Search Premier database.
- Futrell, M.H. (1999). Recruiting minority teachers. *Educational Leadership*, 56(8), 30-33.
- Gersten, R., Keating, T., Yovanoff, P., & Harniss, M. (2001). Working in special education: Factors that enhance special educators' intent to stay. *Exceptional Children*, 67(4), 549-567.

- Green, S.B., & Salkind, N.J. (2003). *Using SPSS for Windows and Macintosh: analyzing and understanding data*. Upper Saddle River: New Jersey.
- Grissmer, D. & Kirby, S.N. (1987). *Teacher attrition: The uphill climb to staff the nation's schools*. Santa Monica, CA: Rand, Center for the Study of the Teaching Profession.
- Grissmer, D. & Kirby, S. (1992) *Patterns of attrition among Indiana teachers, 1965-1987*. Santa Monica, CA: Rand, Center for the Study of the Teaching Profession.
- Grissmer, D. & Kirby, S.N. (1997). Teacher turnover and teacher quality. *Teacher College Record*, 98(1), 45-56.
- Herzberg, F. (1966). *Work and the nature of man*. Cleveland, Ohio: World.
- Hirsch, S. (1999). Standards guide staff development. *Journal of Staff Development*, 20(2), 45.
- Huling-Austin, L. (1990). Teacher induction programs and internships. In W.R. Houston (Ed.). *Handbook of research on teacher education*. New York: Macmillan Publishing Company.
- Ingersoll, R. (1988). The problem of out-of-field teaching. *Phi Delta Kappan*, 79(10), 773-776.
- Ingersoll, R. (2001). *Teacher turnover, teacher shortage, and the organization of schools*. University of Washington: Center for the Study of Teaching and Policy.
- Ingersoll, R.M. (2003). *Is there really a teacher shortage?: A research report co-sponsored by Center for the Study of Teaching and Policy and The Consortium for Policy Research Education*. Retrieved July 25, 2004, from the Washington University, Center for the Study of Teaching and Policy Web site: <http://depts.washington.edu/ctpmail/PDFs/Shortage-RI-09-2003.pdf>
- Kauffman, D., Johnson, S.M., Kardos, S.M., Liu, E., & Peske, H.G. (2002). "Lost at sea": New teachers' experiences with curriculum and assessment. *Teachers College Record*, 104(2), 273-300.
- Langdon, C.A. (1996). The third Phi Delta Kappa poll of teachers' attitudes toward the public schools. *Phi Delta Kappan*, 78(3), 244-250.

- Lermusiaux, Yves. (2003). *iLogos research expert views: Calculating the high cost of employee turnover*. Retrieved December 8, 2004, from [http://www.ilogos.com/en/expertviews/articles/strategic/20031007\\_YL.html](http://www.ilogos.com/en/expertviews/articles/strategic/20031007_YL.html)
- Lieberman, A. (1999). *Teachers - Transforming their world and their work*. New York: Teachers College Press.
- Lomax, R.G. (2001). *An introduction to statistical concepts for education and behavioral sciences*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Marsh, K. (Education Reporter). (2001, August 6). *NewsChannel 2 at 5:00: Inside education*. [Television broadcast]. Orlando and Daytona Beach, Florida: WESH-TV.
- Martinez, E.A., & Hallahan, D.P. (2000). Some thoughts in international perspectives in special education, with special attention to the research-to-practice gap. *Exceptionality*, 8(4), 305-311.
- Maslow, A.H. (1954). *Motivation and personality*. New York: HarperCollins.
- Merrett, F., & Wheldall, K. (1993). How do teachers learn to manage classroom behavior?: A study of teachers' opinions about their initial training with special reference to classroom behavior management. *Educational Studies*, 19(1), 91-107.
- McGregor, D. (1960). *The human side of enterprise*. New York: McGraw-Hill.
- McGuinn, J. (1957, October). Board presidents evaluate school problems. *American School Board Journal*. p. 45.
- Morice, L.C. & Murray, J.E. (2003). Compensation and teacher retention: A success story. *Educational Leadership*, 60(8).
- Morvant, M., Gersten, R., Gillman, J., Keating., & Blake, G. (1995). *Attrition/retention of urban special education teachers: Multi-faceted research and strategic action planning*. Final performance report, Volume 1. [Chapter Three and Chapter Four].(ERIC Document Reproduction Service No. ED389154)
- Murnane, R.J., Singer, J.D., Willett, J.B., Kemple, J.J., & Olson, R.I. (1991). *Who will teach? Policies that matter*. Cambridge, MA: Harvard University.

- National Center for Education Statistics. (2002a). *Academic background of college graduates who enter and leave teaching*. Retrieved May 10, 2004, from <http://www.nces.ed.gov/programs/coe/2002/section4/indicator31.asp>
- National Center for Education Statistics. (2002b). *Digest of education statistics, 2002: Chapter 2. Elementary and secondary education*. Retrieved December 20, 2004, from [http://nces.ed.gov/programs/digest/d02/ch\\_2.asp](http://nces.ed.gov/programs/digest/d02/ch_2.asp)
- National Center for Education Statistics. (2003a). *Projections of education statistics to 2013: Elementary and secondary enrollment*. Retrieved December 20, 2004, from [http://nces.ed.gov/programs/projections/ch\\_1.asp](http://nces.ed.gov/programs/projections/ch_1.asp)
- National Center for Education Statistics. (2003b). *Projections of education statistics to 2013: Elementary and secondary teachers*. Retrieved December 20, 2004, from [http://nces.ed.gov/programs/projections/ch\\_5.asp](http://nces.ed.gov/programs/projections/ch_5.asp)
- National Center for Education Statistics. (2005). *Schools and staffing survey: SASS overview*. Retrieved January 15, 2005, from <http://nces.ed.gov/surveys/SASS/OVERVIEW.ASP>
- Ness, M. (2000). A first year teacher tells it all. *The Education Digest*, 66(2), 8-12.
- NewsChannel2000. (2002a). *Inside Education: Central Florida needs teachers*. Retrieved August 25, 2004, from <http://www.wesh.com/print/870137/detail.html>
- NewsChannel2000. (2002b). *Teachers get break on home mortgages: Officials hope move will retain teachers*. Retrieved August 25, 2004, from <http://www.wesh.com/print/895603/detail.html>
- NewsChannel2000. (2004). *New teachers learn the basics: Workshop helps novice teachers acclimate*. Retrieved December 17, 2004, from <http://www.wesh.com/education/914764/detail.html>
- Norton, M.S. (1999). Teacher retention: Reducing costly teacher turnover. *Contemporary Education*, 70(3), 52-55.
- Norton, M.S. & Kelly, L.K. (1997). *Resource allocation: Managing money and people*. Larchmont, NY: Eye of Education.
- Owens, R.G. (2001). *Organizational behavior in education (7<sup>th</sup> ed.)* Boston: Allyn & Bacon.



- Palmer, P.J. (1998) *The courage to teach: Exploring the inner landscape of a teacher's life*. San Francisco: Jossey-Bass.
- Ponessa, J. (1996). High teacher attrition rate grabs attention in N.C. *Education Week*, 15(39), p. 3.
- Posavac, E.J. & Carey, R.G. (2003). *Program evaluation methods and case studies*. Upper Saddle River, New Jersey: Prentice-Hall.
- Reducing special education paperwork a high priority. (2003, March). *CEC Today*, 9(6). Retrieved April 22, 2004, from [http://www.cec.sped.org/bk/cec\\_today/march2003/](http://www.cec.sped.org/bk/cec_today/march2003/)
- Russ, S., Chiang, B., Rylance, B.J., & Bongers, J. (2001). Caseload in special education: An integration of research findings. *Exceptional Children*, 67(2), 161-172.
- Scharfenberg, D. (2004). *Santa Cruz teacher retention program sets national standard*. Retrieved December 1, 2004, from <http://www.santacruzsentinel.com/archive/2004/July/13/local/stories/06local.htm>
- Sergiovanni, T.J. (1992). *Moral leadership*. San Francisco: Jossey-Bass.
- Seyfarth, T. (2002). *Human resources management for effective schools*.
- Shen, J. (1997). Teacher retention and attrition in public schools: Evidence from SASS91. *The Journal of Educational Research*, (91)2, 81-88.
- Singh, K., & Billingsley, B.S. (1996). Intent to stay in teaching. *Remedial and Special Education*, 17(1), Retrieved May 17, 2004, from Academic Search Premier database.
- Smith, S.W., Brownell, M.T., & McNellis, J. (1995). Reflections in "Career decisions in special education: Current and former teachers' personal views." *Exceptionality*, 5(2), 109-112.
- Smith, D., & Milstein, M.M. (1984). Stress and teachers: Old wine in new bottles. *Urban Education*, 19(1), 39-51.
- Sprick, R.S., Garrison, M., & Howard, L.M. (1998). *CHAMPs: A proactive and positive approach to classroom management*. Longmont: CO: Sopris West.

- SPSS, Inc. (2003). Statistical package for social sciences, version 11 [computer program]. Chicago, IL: Author.
- Stansbury, K., & Zimmerman, J. (2002). Smart induction programs become lifelines for the beginning teacher. *Journal of Staff Development*, 23(4), 10-14.
- Veenman, S.A.M. (1987). Problems as perceived by new teachers, in: Hastings, N., & Schwieso, J. (Eds). *New directions in educational psychology vol. 2: Behavior and motivation in the classroom*. Lewes, England: Farmer Press.
- Volusia County Schools. (2003). *Volusia County schools 2002-2003 Facts*. Retrieved August 25, 2004 from <http://www.volusia.k12.fl.us/District%20Stats%202002%20-%202003.htm>
- Westat. (2002a). *Percent of service providers from different racial groups, by type of service provider*. Retrieved July 25, 2004, from [http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table1\\_5.htm](http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table1_5.htm)
- Westat. (2002b). *Percent of service providers in various age groups, by type of service provider and median age of service providers, by type of service provider*. Retrieved July 25, 2004, from [http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table1\\_5.htm](http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table1_5.htm)
- Westat. (2002c). *Percent of newly hired special education teachers in 1999-2000 in various racial and ethnic categories, by geographic region*. Retrieved July 25, 2004, from [http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table2\\_6.htm](http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table2_6.htm)
- Westat. (2002d). *Percent of service providers who are male or female, by type of service provider*. Retrieved July 25, 2004, from [http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table1\\_2.htm](http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table1_2.htm)
- Westat. (2002e). *SPeNSE summary sheet: Recruiting and retaining high-quality teachers*. Retrieved August 25, 2004, from <http://ferdig.coe.ufl.edu/spense/policymaker5.doc>
- Westat. (2002f). *Service providers intent to stay in their profession, by type of service provider*. Retrieved July 25, 2004, from [http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table1\\_5.htm](http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table1_5.htm)
- Westat. (2002g). *Special education teachers' intent to stay in their profession, by age group of students taught*. Retrieved July 25, 2004, from [http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table6\\_32.htm](http://ferdig.coe.ufl.edu/spense/scripts/tables/htdocs/Table6_32.htm)

- Whitaker, S.D. (2000). What do first-year special education teachers need: Implications for induction programs. *Teaching Exceptional Children*, 33(6), 28-36.
- Whitehurst, G. J. (2002, April 24). *Teacher recruitment, preparation, and development*. Statement presented to House Subcommittee on Labor/HHS/Education Appropriations. Retrieved, May 10, 2004, from <http://www.ed.gov/Speeches/04-2002/20020424d.html>
- Whitener, S.D., Gruber, K., Lynch, H., Tingos, K., & Fondelier S. (1997). *Characteristics of stayers, movers and leavers: Results from the teacher follow up survey: 1994-95*. Retrieved May 10, 2004, from <http://nces.ed.gov/pubs97/97450>
- Wrobel, G. (1993). Preventing school failure for teachers: Training for a lifelong career in EBD. *Preventing School Failure*, 37(2), 16-20. Retrieved May 17, 2004, from Academic Search Premier database.
- Yee, S.M. (1990). *Careers in the classroom: When teaching is more than a job*. New York: Teachers College Press.
- Yukl, G. (2002). *Leadership in organizations (5<sup>th</sup> ed.)*. Upper Saddle River, NJ: Prentice-Hall.