

THE EFFECT OF PARTICIPATION IN TEACHER INDUCTION AND
MENTOR PROGRAMS AND THE ASSIGNMENT OF MENTOR TEACHER
ON THE SATISFACTION AND RETENTION OF NEW TEACHERS

By

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DEDICATION

This is dedicated to William Edward Anderson.

Philippians 4:13

ABSTRACT

Research indicates a need, across the nation, for school districts to employ and retain high-quality teachers who effectively teach students. Currently, studies show the teacher turnover rate is on the rise, and more teachers tend to leave the profession early during their tenure than most other professions. In the next decade, experts project a great teacher shortage, which could pose a negative impact on the educational system. The purpose of this study was to examine current approaches used by states in efforts to counteract teacher shortages through programs such as mentoring assignments and induction program participation. Additionally, the rate at which new teachers participated in new teacher programs was analyzed. The study assessed the relationships between job satisfaction and participation in induction programs, as well as mentorship assignments. It was anticipated that examination of the above factors would provide states and school districts across the country with insightful information that could help counteract high teacher turnover rates and possible teacher shortages in the future. This study utilized data from the 2003-2004 Schools and Staffing Survey (SASS) of the National Center for Education Statistics. In this current study, 5,802 teachers in their first, second, or third year of teaching were identified and several variables were analyzed to explore their job satisfaction in relation to assignment of mentor teacher and induction program participation. Results revealed a relationship between job satisfaction of new

teachers and assignment of mentor teacher and induction program participation.

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CHAPTER 1

INTRODUCTION

In recent years there has been a focus upon the potential teacher shortage facing the American educational system. Several state educational agencies, as well as the National Education Association (NEA), report current and anticipated teacher shortages, which are believed to have a negative impact on America's educational system (California Department of Education, 2008). Census data reveal that teaching professionals comprise approximately 4% of the American civilian workforce (Ingersoll, 2001). As a result of the projected teacher shortage and the large number of individuals it could affect, questions arise regarding the causes and factors contributing to the potential teacher shortages.

Ingersoll, an educational researcher, is known for his involved studies using credible and reliable data gathered by the National Center for Education Statistics. Ingersoll (2003) cites various factors that may contribute to the projected teacher shortage, including increased student enrollment, a large number of anticipated retirements, and the high rate of teacher attrition. Ingersoll acknowledges that student enrollment has been on the rise during the last few decades and that a sizeable number of current teachers and administrators are projected to retire soon. A look at projected retirements in Kansas supports the significant impact of upcoming retirements. In 2008, the

State of Kansas Education Commissioner and Assistant Commissioner revealed that about 25% of Kansas' teaching professionals are set to retire in the next five to seven years (Posney & Dennis, 2008).

In the analysis of the attrition rate factor, Ingersoll (2003) reports that attrition rates of other occupations in 2000-2001 averaged 11.9% while education attrition rates were 15.7%. Likewise, several state educational agencies, as well as the NEA, report current and potential teacher shortages, which are believed to have a negative impact on America's educational system (California Department of Education, 2008). Research from the Missouri Department of Elementary and Secondary Education (DESE) found that, in 1990-1991, over 20% of teachers left the profession during the first three years on the job. In 1995, state data revealed an increase in the attrition rate, with over 25% of teachers leaving the profession during the first three years on the job (DESE, 2001). Furthermore, 33% of teachers in Missouri left the profession within the first five years (Missouri Audit, 1995).

Due to the negative impact of a projected teacher shortage caused by an increase in student enrollment, retiring professionals and those who choose to leave the profession, there is a need for research. Research is particularly needed to determine effective action plans to combat teacher turnover and retain high-quality teachers in school districts across the nation.

The attrition rate, coupled with the projection that education may face a major teacher shortage in the coming years, means that schools across the

nation must determine the best course of action to keep quality teachers on the job. Researchers have shown a link between job satisfaction and intent to leave the job (Hellman, 1997). In a quantitative study, Hellman found job satisfaction “consistently predicts turnover intentions” (p. 685). Additionally, Hellman reported U.S. federal employees revealed a higher turnover intention rate for employees on the job less than ten years versus those on the job ten years or more. Therefore, school districts across the nation must examine how to increase job satisfaction for new teachers and, ultimately, their intent to remain on the job.

One of the newer ways school districts are trying to retain teachers is by designing high-quality teacher induction programs, including the assignment of a mentor teacher, in order to abate the loss of quality teachers. Losing good teachers is not only a staffing issue; it is also a significant expense to school districts. For example, according to Cartolano (2006), researchers in Texas found that annual financial losses of between \$329 million and \$2.1 billion were partly attributable to the high turnover of new teachers, which turnover averaged 15.5 percent. Cartolano says evidence shows that spending a few thousand dollars per new teacher on a high-quality teacher induction program would be less costly than the current attrition rates faced by many states and districts. School districts almost always need additional funds and face budget constraints. The impact of attrition on

school budgets is a consideration for school districts in order to design programs to reduce the loss of good teachers.

Because of the impending issues with teacher shortages and the need to maintain solid instructional practices by qualified teachers, researchers need to look at several questions to explore the causes of and, possibly, propose solutions to the educational concerns at hand. Some of those questions are:

1. What are states and districts doing to retain teachers? While the current focus is often on recruitment, it is necessary to know what is being done about retention of currently employed teachers.
2. Why do teachers leave their profession at a higher rate than occurs in other professions, especially during the first years on the job?

One question that remains is the focus of this study:

3. Could participation in an induction and/or mentor/mentee program increase job satisfaction, thereby increasing teacher retention rates?

The research literature reveals several factors that are inherent in keeping teachers in the profession, including a need for quality new teacher support programs. It is clear that educators stay in their careers for a shorter time than many other professionals, yet researchers have a limited understanding of the causes that would lead these young professionals to leave their jobs so early in their chosen career path.

Currently, most states have structured induction programs in place, developed through legal mandates and requirements. Yet, are the current programs counteracting the attrition rates of new teachers? Even though contemporary research on the topic of teacher induction is limited, the topic is now garnering more interest. The existing information reveals that new teachers must be supported in order to enhance the skills and expertise of effective teachers (Alliance for Excellent Education, 2008). Schools must provide necessary support and collegiality, offer time for collaboration with master teachers, and provide observations and feedback. (Fitzpatrick, et al., 2006; National Education Association Foundation, 2002). All of these strategies are believed to enhance the career longevity of new teachers.

While many questions surrounding the problem of teacher retention were listed above, this study focused on and attempted to answer the following research question:

Question: Does participation in a teacher induction and mentoring program increase teacher satisfaction and retention rates?

CHAPTER 2

REVIEW OF RELATED LITERATURE

Attrition Rates

In an effort to understand current teacher attrition rates and attempt to identify factors that could counteract the potential teacher shortage, data, as well as the causes for attrition, must be examined. Depending upon the researcher consulted, there is a wide range in the number of teachers who leave the profession. When examining the ranges as a whole, up to 40% of teachers leave the profession within their first five years on the job.

Data cited by Croasmun, Hampton and Herrmann (1997) indicate beginning teachers are more than two times more likely to leave the teaching profession than teachers with more experience. Moreover, 15% of teachers in their second year and 10% of teachers in their third year on the job are reported to leave the profession. Ingersoll (2003) found that 15.7% of teachers leave the education profession, compared to other professionals who leave at a rate of 11.9%. Ingersoll also found that, during the first three years, new educators leave the field at a rate of 29%. Ingersoll and Smith (2004) stated that the teaching profession has had “high rates of attrition among newcomers” (p. 29). Additionally, Gaytan (2008) noted a trend of teachers leaving the profession at higher rates in the first, second and third year on the job.

Data obtained from the National Center for Education Statistics (NCES) as cited in Luekens, Lyter & Fox (2004) revealed that in 1999-2000, approximately 7% of teachers from both public and private sectors left the profession. The 2000-2001 survey data revealed that 13% of public and private school teachers left the profession. It should be noted that a higher number of public school teachers chose to leave the profession in the above-mentioned years as compared to data collected by NCES in the 1980s and 1990s (Luekens, Lyter & Fox, 2004).

More data from NCES by Marvel, Lyter, Peltola & Strizek (2007) based upon the Teacher Attrition and Mobility reports from the 2004-2005 Teacher Follow-up Survey (TFS), revealed that 8.4% of public school teachers, and 13.6% of private school teachers, left the profession the year after participating in the 2003-2004 Schools and Staffing Survey (SASS). The TFS report identifies “leavers” as those who left the education profession after the base year from the SASS survey. In the public sector, the percentages of school-level leavers were: elementary, 8.5%; secondary, 8.6%; and combined (elementary and secondary), 6.3%. A total of 8.1% of public-school leavers were in their first, second or third year on the job, and 19.6% of the leavers indicated they had not experienced a full-time teaching job during the base year. Respectively, from the private sector, the percentages of school-level leavers were: elementary, 13.5%; secondary, 9.4%; and combined at 15.6%. A total of 18.9% of private-school leavers were in their first, second or

third year on the job, and 22.3% of the leavers indicated they had not experienced a full-time private teaching position during the base year. When analyzing the data on a time continuum, the trend for those leaving the profession has increased from the 1980s to the present at a rate of almost 3%.

Causes of Attrition

A search of current research reveals several factors that may identify early departure in the education profession. NCES data (as cited in Leukens, Lyter, & Fox, 2004) from the 2000-2001 SASS's TFS revealed teachers tend to leave because of unhappiness with the job, lack of administrative support, and the overall working environment. Additionally, the survey data revealed that 20% of those who left the profession did so to obtain another job with a higher salary.

In the TFS of 2004-2005, leavers in both the public and private sectors cited various reasons for leaving. The respondents included in the survey consisted of the entire survey population of over 40,000 respondents in all years of teaching. The top reasons included: retirement (31.4%), returning to school in order to improve educational career opportunities (25.3%), family or personal reasons (20.4%), pregnancy or child rearing (18.7%), dissatisfaction with school or assignment (16.0%), dissatisfaction with teaching as a career (14.6%), and school staffing actions (14.6%) (NCES, 2007a).

Murnane (1981) revealed that districts with the highest teacher turnover tend to have the highest rate of low socio-economic and minority students. In addition, beginning teachers are more likely to be placed in schools with higher rates of low socioeconomic status students than are experienced teachers. Likewise, Gaytan (2008), who conducted a study on high-school business education teachers, supported this finding. Gaytan indicated that new business teachers who were placed in low-income schools with high minority numbers and general low achievement were more likely to leave the education profession.

Woods and Weasmer (2002) indicated that urban teachers often do not feel supported. Inman and Marlow (2004) wrote that attrition rates can be attributed to several factors, including lack of support for the new teachers. Ingersoll and Smith (2004) noted that the majority of teachers' work is "done in isolation of colleagues" (p. 28). This appears to lead to the frustration new teachers often feel and, ultimately, to higher new-teacher attrition rates. Other researchers reported that the education profession has limitations in the induction or beginning teachers' programs. New teachers begin work in a "complex" organization that is very demanding (Croasmun, Hampton & Herrmann, 1997).

Another factor that contributes to higher turnover is job satisfaction, and this trend is not just limited to the United States. According to Sargent and Hannum's (2005), study of job satisfaction among teachers in China,

there is a connection between teachers' job satisfaction, job performance, commitment to the profession, and job motivation. The authors noted that teachers who tend to be dissatisfied are linked with attendance issues and attrition rates. Similarly, Ingersoll (2003) stated that nearly 50% of teacher turnover is linked to feeling unsatisfied with the job and a desire for a better job or different career. Additional reasons teachers attributed to dissatisfaction included: "low salaries, lack of support from administration, discipline problems, and lack of influence over decision-making" (p. 150).

A study by NCES (2007), using data from the 1999-2000 SASS, revealed new teachers felt least prepared in the area of classroom management. Results from NCES's Teacher Attrition and Mobility Survey (as cited in Marvel, Lyter, Peltola, Strizek & Morton, 2006) indicated that teachers who left the profession altogether felt that they have less of a "work load" in their current profession than they did during the years they spent teaching.

A study conducted to examine attrition rates of teachers and administrators of the Pacific Islands schools identified several factors that impacted teachers wishing to leave the profession (Pacific Resources for Education and Learning, 1998). In this study, teachers were asked if they planned to leave the profession in the next two years. A total of 20.4% indicated their intent to leave. The top three indicators included "poor working conditions, no support from school administration, and no support from central office" (p. 8). Other indicators the leavers cited were "too much stress,

students' bad attitudes, too many disagreements about how to teach, not enough materials and supplies, and too many responsibilities" (p. 8).

Haun and Martin's (2004) study, conducted in the Midwest, revealed that the urbanicity or the location of the school played a role in teacher attrition rates. Even though several studies confirmed that location contributes to attrition, the findings were different. Data that Haun and Martin collected over four years indicated that rural schools possessed the highest attrition rate of 17%. Suburban attrition rates were 15%, compared to lowest attrition rate of 4% of urban teachers. On the contrary, Ingersoll (2003) reported that teachers tend to leave urban schools at a higher rate than those in rural and suburban settings, albeit within a smaller range. Ingersoll reported that 15.9% of teachers left the profession in an urban school, while 14.9% left suburban and 14.5% left rural schools. Likewise, Gaytan (2008) noted the trend in attrition rates is higher in urban school settings than in others.

Other Points of View

Some researchers are beginning to argue that, although education's turnover rate is consistently high and seems to be on the rise, there is not necessarily a trend that makes its attrition rates higher than that of other professions. For example, a study published by Harris and Adams (2007), compared four professions: teachers, nurses, social workers and accountants. Their data revealed that 7.7% of teachers left the profession, as

did 6% of nurses, 14.9% of social workers, and 8% of accountants. The data in the study revealed the highest turnover age range was 21-26 years.

Additionally, teacher's turnover in the 21-26 year age range is higher than that of the other professions, except social work. It is important to note that turnover is relative to the profession. For example, when analyzing the data from the Harris and Adams report, problematic worker shortages as well as attrition impact in professions must be considered.

Moreover, researchers examined teacher attrition rates in contrast to teacher transfers and school migration. According to Boe, Cook, and Sunderland (2008), sometimes attrition rates may not be reported as sole attrition. For example, according to data from the TFS in 2000-2001, the 15.1% attrition rate was due not only to teachers leaving the profession but also, in part, to teachers leaving to teach at another school. Boe et al. isolated the teachers solely leaving the profession and determined an actual attrition rate of 11.5% for public school teachers. They noted that the trends in attrition rates for teachers at all experience levels have increased from 5% in the 1990s to 8%. Additionally, Boe et al.'s study ascertained that the highest rate of attrition occurred during the first, second or third year on the job.

Other research indicates that not all attrition is bad. For example, Ingersoll (2003) connects a normal rate of staff attrition to a "normal and efficacious" organization (p. 148). All organizations will have attrition, and not

all attrition is necessarily bad. Ingersoll and Smith (2003) reported low turnover rates may indicate an organization's "stagnancy." Moreover, some researchers perceive that the education profession has higher than normal rates of attrition. For example, a study conducted by Gaytan (2008) asked high school business chairpersons to complete surveys of teachers. The chairpersons' perceptions were that education has higher attrition rates than other professions.

Job Satisfaction

As noted earlier, job satisfaction plays a pivotal role in the likelihood teachers will remain in the profession. The link between job satisfaction and an employee's intent to leave the job is one that researchers have spent many years exploring. The Mobley model (as cited in Lee, 1988), unveiled in the late 1970s, discussed job dissatisfaction. Under this theory, job dissatisfaction, which may eventually lead to employee turnover, evolves during a seven step process. Mobley's theory is progressive and includes seven steps employees may go through if they felt dissatisfaction on the job. The steps include: (a) contemplate job termination, (b) assess a job search and potential income considerations, (c) active job search may occur, (d) a new job is found, (e) assess the search and options, (f) evaluate the assessment and weigh against the current job, and (g) possible termination of the job. Lee (1998) replicated Mobley's seven steps to determine correlative significance and his findings indicated "job satisfaction significantly

contributed to explained variance in the intention to quit..." (p. 269). By identifying ways to increase new-teacher job satisfaction, districts may be able to offset current turnover rate trends.

De Moura, Abrams, Retter, Gunnarsdottir and Ando (2009) indicated a correlation between job satisfaction and the prediction of turnover intentions. In the same work, data from the 2009 study revealed job satisfaction significantly contributed to "the variance" in turnover intentions.

Hellman (1997) revealed a connection between job satisfaction and intent to leave the profession. George and Jones (1996) indicated that job satisfaction, combined with value attainment and a positive mood, also contribute to turnover intentions. Williams and Hazer's (1986) study revealed job satisfaction connected with organizational commitment played a key role in the intent of employees to leave the profession.

In order to explore the variables, job satisfaction and intent to leave the profession, research from another professional field was analyzed by this researcher. Nursing, a parallel profession to education, is facing similar staffing shortcomings. Perrine (2009) found that the United States will have a substantial shortfall of nurses. As in education, Perrine predicted that there will be negative consequences on the public at large due to the lack of qualified and skilled nurses in the profession. Morgan and Lynn (2009) stated that the profession is on the "brink of a current and enduring nursing shortage in the U.S." (p. 401).

Perrine (2009) cited a study that identified a causal factor between nurses who intend to leave the profession and job satisfaction. Perrine also cited research by Kalliath and Morris (2002) that indicated nursing profession dissatisfaction affects nursing retention rates. Moreover, Perrine stated, “job satisfaction is a major predictor of intent to leave” (p. 20).

Morgan and Lynn (2009) revealed several strategies to retain nurses and increase their job satisfaction. Similar to areas suggested by education researchers, they identified the following areas: (a) improve satisfaction within the nursing organization, (b) focus upon professional development for nursing staffs and (c) identify, as well as value, “intrinsic satisfiers” for nurses.

Current Trends, Approaches, and Practices

There are several causal factors, according to the literature reviewed, that can contribute to teacher retention rates. They include lack of job support, overall job satisfaction, and financial support of new teachers.

The existence of low-socioeconomic schools is not on the decline, especially given today’s recession. Furthermore, America’s demographics are changing and pose greater challenges in the classroom. Students are arriving in classrooms across America with various backgrounds and barriers such as language. Therefore, both new and experienced teachers will continue to be placed in schools dealing with such issues.

In education, there is a multi-faceted approach to examining the reasons teachers leave the profession. One area is financial support of new

teachers and the causal effect this has on attrition rates. Because of the economic times, financial pressures faced by districts all over the country are added stressors which may divert funds needed for new teacher support.

Mandel (2006) focused upon the funding issue at large. He found that the State of California is concentrating funding to increase high-stakes test scores because of *No Child Left Behind*. This leaves shortfalls in funding sources for the support of new teachers. Gritz and Theobald's (1996) study indicates that districts that which divert funds from teachers and classroom resources are more likely to have a higher turnover rate than districts which do not.

Armed with this information, what can districts do to overcome the deficits of hiring new staff with the probability of high turnover rates? States and districts across the country are utilizing different strategies to combat teacher attrition rates, including a focus upon salary and professional development support.

Information provided by the Alliance for Excellent Education (2008) revealed there is a high cost to losing new educators early in their tenure. Therefore, there is a need for research which could identify factors which lead to new teacher turnover. There is a focus on the salary scale, particularly with new teachers, to entice more new teachers to the profession, as well as to keep the newly hired teachers in the profession (Ballou & Podgursky, 1995). However, increasing salaries can put a strain on district budgets and

does not guarantee quality teachers educating children. In addition to increasing salaries, some districts are exploring the option of raising salaries in relation to teacher quality and performance.

A recent report by Sawchuk (2009) explained one financial trend that districts such as New York City and the District of Columbia are beginning to consider. The forward-thinking design to increase the teacher talent of new hires and keep the new hires on the job longer is to “front-load” new teacher’s salary scale in order to lure those who may not consider teaching due to the salary. This new financial strategy is thought to have an impact on the teacher selection process as well, by drawing a larger and better applicant pool. It is hoped that the financial strategy also keeps the teachers in the profession longer.

Another example of re-thinking salary structure can be found in Denver, Colorado, which piloted a performance pay program in 2005 (Gratz, 2005). Although the concept is beginning to take notice among educational systems in the nation, the current data from the Denver study do not demonstrate a link between the increased pay scale and teacher retention rates. In fact, the data from Denver’s pilot program revealed that 25% of teachers in their first, second, or third year left teaching as compared to 10% who left teaching in their fourth through tenth year on the job (Sawchuk, 2009).

The lack of support from a variety of sources, including administration, can lead to teacher frustration and ultimately increase the likelihood of leaving the profession. A study conducted by Inman and Marlow (2004) revealed that teachers who stay in the profession “exist in a supportive professional environment” (p. 611), in which some new teachers may not have the opportunity to work. Others note that new teachers must be in a supportive environment to grow and learn from veteran colleagues (Woods & Weasmer, 2002). The title of an article written by Anhorn (2008), education is the profession that “eats its young” (p. 15). Anhorn suggests there is a “sink or swim” mentality in education, and new teachers are often not provided the support necessary to succeed in the classroom.

To combat the occupational shortcomings in education, districts have employed professional development strategies to increase teacher retention. One popular mode of providing support to beginning teachers is through teacher induction programs, which are the focus of the remainder of this literature review.

Dopp (2006) used a questionnaire that allowed six themes to emerge concerning what new teachers who participated in an induction program wanted in terms of support. The following themes are from Dopp’s study: (a) support for “emotional and social needs;” (b) a need for a mentor and peer collaboration; (c) support with student discipline and classroom management;

(d) school district culture; (e) management of time and (e) actively involved administration.

Keller's (2007) study looked at the New York City School District's blueprint for its new and improved mentoring program. State policy in New York requires new teachers to participate in a mentoring program. According to Keller, while the former program boasted success, exit data revealed improvement was needed. The former program assigned a large number of new teachers per mentor and offered significant support only during the first year on the job. The new plan called for smaller mentor/mentee ratios, as well as support extended into the first few years on the job. Keller reported that 80% of new teachers indicated the mentor program was "very helpful in their professional development" (p. 6). In addition, Keller reported that the attrition rate for new teachers leaving the district in 2004-2005, the first year of the new mentor program installation, was 9.4%. In 2005-2006, the rate at which new teachers left the district fell to 6.5%, which is a 2.9% decrease from the previous year. The school district contends the rate and trends of attrition rates continue to drop.

According to the research in this review, there is a need for teacher induction programs, and participation in such programs will lead to greater job satisfaction and, ultimately, to an increase in teacher retention rates. If the movement trend continues in this direction, schools and districts must focus efforts on ways to refine and enhance teacher induction programs. Earlier

research by Schlechty and Whitford (1989) indicated a need for a site-based professional structure to support beginning teachers since "...programs cannot be successful unless the capacity of school systems for human resource development is greatly enhanced" (p. 448). This leads back to the site-based professional development process that can enhance teacher induction programs. The areas of focus are money and time. With the initial investment of these two valuable resources, the new teachers will be more likely to remain in the profession and become quality educators. In addition to time and money, new teachers should be provided with the resources necessary to enhance their skills and experiences. The paradigm shift, according to Schlechty and Whitford, should be upon restructuring the format of induction programs as a whole. This is the current trend in induction programs today.

Fitzpatrick et al. (2006) focused on this issue and offered ways to create effective mentor programs. They also examined how to equip schools with strategies that will enhance the success of new staff members and strengthen the mentee/mentor process. The study revealed that new teachers have stronger job satisfaction and higher retention rates if properly matched with a mentor and provided a solid induction program. Allowing proper time for a mentor/mentee to collaborate is essential. Their research revealed that new teachers do not seek help of experienced teachers, mainly because new teachers are fearful of "intruding." Furthermore, the study found

that open communication is vital to forming a solid mentee/mentor relationship. Working together to develop daily schedules and lesson plans is important.

In addition to new teachers, research indicates a need for mentors to receive adequate professional development. Arnold-Rogers, Arnett and Harris (2008) indicated, “Successful mentors need extra training in order to assist to their greatest capacity” (p. 2). The data collected from the internal surveys of the new-teacher induction program in Lenoir City, Tennessee, which was implemented in the 2006-2007 school year, revealed that mentors needed more “clarification of their responsibilities” (p. 21).

Others, such as Veenman (1984), suggest quality programs should be comprehensive in nature and focus upon the whole teacher. Veeman states that the framework of induction programs should be based upon three main components, including:

1. Developmental stages of concern—stages range from surviving each day to need for skill improvement.
2. Cognitive development framework—shifts the focus to teacher as learner.
3. Teacher socialization framework—involves the newness of the profession, development of own beliefs as well as beliefs of others (pp. 160-162).

Furthermore, researchers such as Watkins (2005) identified school principals as key to proper support and job satisfaction of new teachers. Watkins indicated that principals are an increasing factor in the job satisfaction and creation of support programs that will ensure career success and longevity. Because the current trend indicates that new teachers do not stay long in their educational careers, Watkins suggested ways to combat the increase in attrition rates among new teachers, including offering a solid learning community with the support of administration. In addition, Watkins indicated a need to create strong teacher induction programs that allow for collaboration time between master teachers and new teachers. Creating opportunities for action research to enhance instructional skills and practices, student management, and increasing student achievement is another avenue to ensure support of new teaching personnel.

In addition to support from site-based personnel, research also indicated that higher education should play a more collaborative role in providing necessary support for new teachers. Howey and Zimpher (1989) saw the role of higher education as offering a support program both independent of, and in conjunction with, school districts. They asserted that most new teachers are simply not equipped with either the necessary skills or the emotional stability to face the demands of the teaching profession. The authors also indicated that states' mandates to create induction programs, at times, became more important than the quality and outcome of the programs.

Howey and Zimpher believe that higher education must work in collaboration with school districts at large to develop programs that are adequately funded, emphasize quality experiences in collaboration with mentors and university personnel, and create opportunities for policy changes.

The National Education Association Foundation (NEAF) (2002) stated that in order to provide the most effective model of a teacher induction program, the school transformation model, school districts must emphasize the role of data collection and should include data in all aspects of the program, including induction program satisfaction, teacher retention, job satisfaction, teacher learning, and student impact. In addition to data collection, the NEAF's study revealed that school districts alone cannot provide the adequate support needed in order to retain high-quality new teachers. Schools must partner with state agencies, universities, and even unions to help best support the retention of new teachers. NEAF also pointed out that, in addition to the organizational structure, time and money must also be contributing factors in great programs. States and districts must provide new teachers with both the adequate time for professional growth and properly funded programs necessary to ensure success.

Other models of new employee support can be researched in other professions. An article published by Ghouse and Church-Duran (2008) evaluated the mentoring experiences of library faculty at the University of Kansas. According to the authors, the model used at the University of

Kansas is “well established and often used to increase retention, enhance work performance and foster leadership skills within the workplace” (p. 373). Moreover, the article identified key elements in a program that include the following: mentor support, networking within the profession, professional contacts, and defining duties and responsibilities.

More research is beginning to take shape in the form of new teacher programs, and research by Holdaway, Johnson, Ratsoy and Friesen (1994) suggested program efforts should focus on multiple-year programs as well as a two-year apprenticeship to help new teachers enhance and refine their skills through the leadership of a mentor. In addition to the four-year commitment, higher education should collaborate with school districts to offer quality pre-service teacher programs that allow access to more resources and experiences. Holdaway et al. found nine areas of program development which must be in place to ensure a quality program for new teachers. The nine areas include:

1. New teachers would be involved in an internship program upon completion of graduation.
2. New teachers would be given half the load of a typically experienced teacher.
3. The new teachers would be given multiple opportunities for experiences in and out of the classroom setting.

4. Supervision would be closely monitored by principals and highly-qualified master teachers who act as mentors.
5. Evaluations by mentor teachers would take place frequently, typically day-to-day.
6. In addition to evaluations, conferencing between the new teacher, mentor, and/or principal would be frequent.
7. Mentors would be given a smaller workload in order to spend more time with the new teacher.
8. First-year teachers, acting as interns, would be given a portion of the teacher salary, with full salary being granted upon completion of the program.
9. Policies and regulations would hold new teacher programs accountable to ensure quality support of new teachers (p. 217).

Summary

In summary, the research cited in this review shares a triangulation of information as it relates to teacher attrition. In particular, the literature review explored causes and rates of current teacher attrition, the link between job satisfaction and intent to leave, and current practices related to beginning and new teacher support. There are a number of support strategies to increase teacher retention rates, including providing opportunities for job satisfaction through various professional development support mechanisms such as teacher induction programs and assignment of mentor teachers.

Most of the research currently available emphasizes the need for strong teacher induction programs that include mentor/mentee assignments that can deter new teachers from struggling and even leaving the profession altogether. The research identified in this literature review collectively indicates that parameters should exist for quality programs, including offering site-based mentor and administrative support, restructuring the school schedule to allow for collaboration time, lesson observation time, and constructive feedback conferences. Quality programs should focus upon the whole teacher to counteract emotional and social struggles that can occur with someone new to the workforce. Quality programs focus upon the physical, social and emotional environment of education.

Because of the projected teacher shortage, the trend of early career turnover of teachers, as well as the financial costs associated with training new teachers, districts across the nation must develop and refine programs to maintain a quality and satisfied teaching staff. There is a need for researchers to explore new teacher induction program participants and their job satisfaction, which is assumed to lead to higher retention rates for staff. This study must be conducted in order to equip school districts and state education departments with the proper research necessary to determine whether funds will be used to create, maintain, and improve teacher induction programs and the assignments of mentor teachers.

CHAPTER 3

METHODOLOGY

General Overview of Study

The fundamental purpose of this study was to determine if participation in teacher induction programs and assignment of mentor teachers increase teacher job satisfaction and retention rates of early career teachers. In designing the study, it was determined that the best manner in which to examine the phenomenon of interest was to apply quantitative statistical methods in analyzing the data collected. There are many reasons this research is important, from improving the quality of teachers in the classroom to predicting specific outcomes like job satisfaction and retention. In this study the importance of counteracting potential teacher shortages and decreasing money lost to districts by teachers who leave early in their tenure on the job is the long term objective of the researcher. Specifically, a predictive, quantitative study was deemed important in order to identify potential predictor variables in the school work environment that could increase retention and satisfaction rates of quality educators. Without the specific use of data to verify such potential predictors, our understanding of improving teachers' work environment, with the larger goal of retaining quality classroom teachers, will remain elusive.

This study employed a quantitative design using a large data set from a national database, specifically the National Center for Educational Statistics

(NCES). The purpose of the design was to identify relationships and themes, suggested in the literature to be examined regarding induction program participation, assignment of a mentor teacher and job satisfaction. The research literature clearly indicates job satisfaction is linked to retention (Hellman, 1997), and satisfaction is important in predicting whether teachers will remain on the job. Figure 3.1, below, highlights the design of the study and illustrates the basic conceptualization of this study of induction programs and mentor assignments and their influence on teacher job satisfaction and retention.



Figure 3.1

Quantitative Design

Data Source and Instrumentation

This study used data obtained through the National Center for Education Statistics. Restricted-use data from the SASS, particularly the Teacher Questionnaire in 2003-2004, were analyzed to examine the teacher variables of interest.

The center responsible for collecting the data, The National Center for Education Statistics (NCES), is under the direction of the United States Department of Education in the Institute of Education Sciences. Data from the NCES are used by a variety of researchers including all levels of Governmental agencies, academic organizations, news media, businesses and the general public. NCES collects, analyzes and houses the educational data from the United States as well as other nations and is considered a major source for educational research data. Other major surveys and programs under the direction of NCES, in addition to the SASS utilized in this research, include National Assessment of Educational Progress (NAEP), National Assessment of Adult Literacy (NAAL) and the School Survey on Crime and Safety (SSOCS).

The SASS has been used for the past 25 years to collect data specific to elementary and secondary school systems in both public and private sectors. Through the years, the survey has been redesigned to incorporate such variables including teacher shortage and need. Additionally, the SASS

questionnaires retrieve data to analyze the working conditions and perceptions of such conditions in teaching environments. There are four components to the SASS questionnaires which include: the School Questionnaire, the Teacher Questionnaire, the Principal Questionnaire, and the School District Questionnaire.

Sample Information and Methodology

All data utilized in this research project were obtained through the NCES. The researcher used data from the SASS in 2003-2004. The teacher questionnaires in the 2003-2004 SASS included over 40,000 teachers from public schools within the sample. In this study, the researcher used a one tier case selection and isolated teachers in the first, second or third year on the job. Using the above conditions, the total number of teachers identified and included in this study was N=5,802.

Once new teachers were identified (N=5,802), this researcher utilized a data analysis and statistical program, Stata, in order to conduct data analysis by general tabulation, cross tabulation and logistic regression analyses. The primary purposes of utilizing the Stata program was due to the large sample size in addition to the need for data outputs based upon balance repeated replication weights. There were two phases to the data analysis. The first phase included gathering general information about the teachers and their school characteristics. The usual descriptive statistical analyses were performed in this first phase. The second phase included the logistic

regression analyses that were used to examine the relationships between the variables of induction program participation and the assignment of a mentor teacher with job satisfaction and retention.

The variables analyzed in phase one included demographic and school characteristics of the sample teachers. The purpose of the first phase was to understand the sample population of respondents. Specifically, teacher and school information was collected in order to gain general descriptive data about the survey respondents. The researcher began examining the data and considered conducting basic tabulations by several factors, including state participation. However, because the purpose of this study was to determine predictors of job satisfaction, the researcher narrowed the data analysis to two key areas: induction program participation and assignment of a mentor teacher. The first phase of the analysis examined teacher characteristics including: gender, age, race, number of years teaching, and degree earned. In addition, school characteristics including participation in an induction program by region, assignment of mentor by region, and mentor assignment were examined. Table 3.1 illustrates the general tabulations conducted about the sample population. It also shows the manner in which the data were utilized to determine the variables related to participation in an induction program or the assignment of a mentor teacher.

Table 3.1

General Tabulations of Independent and Dependent Variables

#	Input variables from survey of sample population
1	First year mentor (T0226)
2	First year induction program (T0216)
General teacher and school characteristic variables of sample population	
5	Gender
6	Age
7	Race
8	Year Teaching
9	Degree Awarded
10	Induction program participation by region
11	Assignment of Mentor by region
12	Mentor Assignment

Teacher Characteristics

1. Mentor Assignment: originally an ordinal variable created to be a dichotomous variable where 0 = No and 1 = Yes.
2. Induction Program Participation: a dichotomous variable where 0 = No and 1 = Yes.
3. Gender: a dichotomous variable where 1 = Male and 2 = Female.
4. Age: a continuous variable measuring the age of survey participants.
5. Race: a multi-categorical variable identifying the ethnicity of survey participants.
6. Degree Awarded: a dichotomous variable where 1 = yes and 2 = no.

7. Year Teaching: a dichotomous variable where 1 = 1 year, 2 = 2nd year, and 3 = 3rd year.

Program Participation and Assignment of Mentor

The characteristics of program participation and assignment of mentor were analyzed. The variables examined included regional participation, general mentor assignment and the assignment of mentor by region.

1. Induction program participation by region: a categorical variable where 1 = Southern U.S., 2 = Northeastern U.S., 3 = Midwestern U.S., and 4 = Western U.S.
2. Assignment of Mentor by region: a categorical variable where 1 = Southern U.S., 2 = Northeastern U.S., 3 = Midwestern U.S., and 4 = Western U.S.
3. Mentor Assignment: a dichotomous variable where 1 = had mentor and 0 = did not have a mentor.

The purposes of the initial data analysis were to understand the rate at which respondents, across the United States, participated in induction programs and were assigned mentors. Another objective of the initial data analysis examined was to gain descriptive knowledge of the teachers who were included in the sample as well as the schools in which they taught. Because the data is generated by state, the researcher concluded that data by state level was useful in this study as well as future studies. Namely, to determine effectiveness of induction programs and mentor assignments by

state program design. The variables were reported by the state in which the respondents taught and included: (a) first year induction participation (T0216), (b) mentor assignment (T0226), (c) first year mentor same subject as respondent (T0227) and (d) extent to which mentor helped respondent (T0228). The variables included in the analysis were found in the SASS questionnaire and the corresponding SASS survey question numbers are coded in parentheses. The entire set of questions used from the SASS survey can be found in Appendix A.

The researcher conducted additional tabulations in an attempt to understand the general satisfaction level of the teachers in the sample population. Table 3.2 identifies the variables used in the analysis of teachers' general satisfaction. The respondents were asked satisfaction questions in the SASS questionnaire concerning: (a) salary, (b) class size, (c) stress/unhappiness level, (d) teacher's satisfaction at school, (e) would re-enter the profession if the respondent could do it all over again. The corresponding questions for each area are identified in parentheses and can be found in Appendix A.

Table 3.2

Teacher's general satisfaction

Teacher's general satisfaction
Satisfaction with salary (T0332)
Satisfaction class size (T0345)
Satisfaction teaching at school (T0350)
Satisfaction stress/unhappiness (T0375)
Teachers satisfied as group (T0376)
If go back would choose teaching (T0382)

The second phase of the data analyses focused on determining the predictor variables selected. According to Thompson (2006), independent predictor variables are chosen only when dependent variables are clearly identified. Because this researcher was interested in the influence that induction program participation and the assignment of a mentor teacher had on job satisfaction and retention, the independent variables identified included induction program participation and mentor assignment and the dependent variables included satisfaction and whether the teachers would re-enter the profession which is a proxy measure of likely retention.

Upon further exploration, the two key independent variables, mentor assignment and participation in an induction program, were deemed attribute variables because they are measurable (Kerlinger & Pedhazur, 1973). That is, the variables belong to a "class" of factors that cannot be manipulated i.e., were categorized. The respondents either did or did not participate in an induction program and were assigned a mentor teacher.

In phase two, these data were used to conduct multinomial logistic regression analyses in an effort to relate the variables of participation in induction programs and mentorship assignment and their influence on job satisfaction, which might ultimately lead to higher retention rates. There are two reasons to conduct a logistic regression analysis: prediction and explanation (Thompson, 2006). In this study, the purpose of the regression analyses was to predict if participation in induction programs and mentor assignments increased job satisfaction. The reason this researcher utilized prediction as the focus is because studies identified in the literature indicate that this has been linked to retention and, thus, increases the rate of teacher retention. Moreover, according to Erlanger and Pedhazur (1973), the purpose of a multiple regression analysis is to help researchers understand the “natural phenomena by indicating the nature and magnitude of the relations between the phenomena and other phenomena” (p. 9). In this data study, the confidence standard by which the data was analyzed was 95%. The significance of the statistical analysis will be determined at the .05 significance factor.

The logistic regression analyses were conducted using the same SASS data from 2003-2004 as in the phase one tabulations. The independent variables included participation in an induction program and the assignment of a mentor teacher. The independent variables were considered a dichotomous measure where the number 1 was coded for all respondents

who had participated in an induction program or were assigned a mentor and the number 0 was coded for all of the respondents who had neither experience. The dependent variables included (a) satisfaction teaching at school and (b) would they go into the profession if they could do it all over again.

Table 3.3 identifies the dependent and independent variables in the logistic regression analyses. In Table 3.3, the questions asked of the respondents on the SASS questionnaire, are coded in parenthesis. The first SASS question used (T0382) states, "If you could go back to your college days and start over again, would you become a teacher or not" (p. 38). The second question the SASS question (T0350) used, "I am generally satisfied being a teacher at this school" (p.36). The third SASS question used (T0376) stated, "The teachers at this school like being here; I would describe us as a satisfied group" (p. 37). The other variables measured against the above questions in the data analysis included: (a) induction participation, (b) mentor assignment, (c) salary, (d) age, (e) gender, (f) school level and (g) region. The question in parentheses corresponds to the question on the 2003-2004 SASS survey for public school teachers in their first, second or third year in the profession. Although all of the variables were examined, for the purpose of this study logistic regression analyses were identified, including the relationship between participation in an induction program or mentor

assignment and satisfaction at school, as well as whether or not they would go back into the profession and satisfaction.

Table 3.3

Logistic Regression Analysis of Variables

<i>Teachers would re-enter the profession is they could do it over (T0382)</i>	
Dependent Variable	Independent Variables
Would teach again (T0382)	Induction participation Mentor assignment Salary 10K Age 10 Years Male (Female) Secondary, Combined (Elementary) Northeast, Midwest, West (South) Free/Reduced (not free/reduced)
<i>Teachers at the school are generally satisfied (T0350).</i>	
Dependent Variable	Independent Variables
Satisfied (T0350)	Induction participation Mentor assignment Salary 10K Age 10 Years Male (Female) Secondary, Combined (Elementary) Northeast, Midwest, West (South) Free/Reduced (not free/reduced)
<i>Teachers at the school seem satisfied (T0376).</i>	
Dependent Variable	Independent Variables
Teachers Satisfaction (T0376)	Induction participation Mentor assignment Salary 10K Age 10 Years Male (Female) Secondary, Combined (Elementary) Northeast, Midwest, West (South) Free/Reduced (not free/reduced)

Summary of Data Analysis and Description of Variables

As the above tables illustrate, there were two phases of the data analysis. The first phase included general professional and biographical information of the respondents while the second phase focused on logistic regression analyses.

In order to provide as much descriptive information as possible, the specific questions in the SASS questionnaire that were used for data analysis can be found in Appendix A.

CHAPTER 4

RESULTS

This study was conducted to look at the relation of mentor assignment and induction program participation to the job satisfaction of teachers new to the education profession. The results, which will reflect whether or not a relationship exists between new teacher job satisfaction and assignment of a mentor teacher and participation in an induction program, will help school district leaders and state educational departments determine whether funding should be utilized to create, maintain, and improve teacher induction programs and the assignment of mentor teachers.

There were two phases of data analysis. In the first phase, general data, including teacher and school demographics, were analyzed. In the second phase, logistic regression analyses were conducted and analyzed.

General Data

Demographics

There were 43,244 respondents in the SASS 2003-2004 data set that was used. Of these total respondents, 5,802 teachers in their first, second and third year of teaching in public schools were identified. The data examined foundational teacher characteristics of the survey participants.

Teacher Characteristics

1. Mentor Assignment: originally an ordinal variable created to be a dichotomous variable where 0 = No and 1 = Yes.
2. Induction Program Participation: a dichotomous variable where 0 = No and 1 = Yes.
3. Gender: a dichotomous variable where 1 = Male and 2 = Female.
4. Age: a continuous variable measuring the age of survey participants.
5. Race: a multi-categorical variable identifying the ethnicity of survey participants.
6. Degree Awarded: a dichotomous variable where 1 = yes and 2 = no.
7. Year Teaching: a dichotomous variable where 1 = 1 year, 2 = 2nd year, and 3 = 3rd year.

The majority of the respondents in the data set were female. Table 4.1, below, shows that over 68% of the teachers were female. The age range of teachers in the sample was between 21 and 76 years of age. The majority of the teachers were between 23 and 26 years old. Table 4.1 also identifies the respondents' age range, the mean of the age range, and the most frequently occurring age of the participants. A complete list of the frequency of the age range as well as the percentage of the age in the sample group can be found in Appendix B.

Table 4.1

Weighted Responses: Gender and Age

Gender	Freq.	Freq.	Cum.
Male	1,819	31.35	31.35
Female	3,983	68.65	100.00
Total	5,802	100	

Age Values	Mean	Range	Frequently Occurring
	48	55	24

The majority of the respondents, 79% of the teachers, were identified as non-Hispanic white. Table 4.2 identifies the most frequently occurring ethnicities in the sample. A complete breakdown of ethnicities for the respondents can be found in Appendix C.

Table 4.2

Weighted Responses: Race

Teacher's Race/Ethnicity	Freq.	Percent
Non-Hispanic, White	4,616	79.56
Non-Hispanic, Black	453	7.81
Hispanic, White	250	4.31
Non-Hispanic, Asian	198	3.41
Non-Hispanic, American Indian	138	2.38

The degrees earned by the teachers were identified in the data set. Most of the teachers (97%) had earned a bachelor's degree at the time of the survey. Of the respondents, 20% of the teachers reported earning a master's degree. Table 4.3 identifies the degree earned.

Table 4.3

Degree Earned

Bachelor's Degree	Freq.	Percent	Cum.
Yes	5,676	97.83	97.83

No	126	2.17	100.00
Total	5,802	100.00	
<hr/>			
Master's Degree	Freq.	Percent	Cum.
Valid Skip	126	2.17	2.17
Yes	1,205	20.77	22.94
No	4,471	77.06	100.00
Total	5,802	100.00	

Table 4.4 identifies the percentage of years taught in public schools. A majority of the respondents in this sample were in their first year of teaching. However, the number of teachers in their first through third year of teaching was similar, in the range of 28-37%.

Table 4.4

Weighted Responses: Years in Public Schools

Yrs FT in public schools	Freq.	Percent	Cum.
0	233	4.02	4.02
1	2,200	37.92	41.93
2	1,715	29.56	71.49
3	1,654	28.51	100.00
Total	5,802	100.00	

Program Participation and Assignment of Mentor

The characteristics of program participation and assignment of mentor were analyzed. The variables examined included participants in an induction program, general mentor assignment and the assignment of mentor by region.

Table 4.5 illustrates the number of teachers who participated in an induction program. There were 3,730 teachers (64.2%) who participated in an induction program.

Table 4.5

Number of Teachers Who Participated in an Induction Program.

Induction	Freq.	Percent	Cum.
0	2,072	35.71	35.71
1	3,730	64.29	100.00
Total	5,802	100.00	

Table 4.6 separates teachers into two categories: those who had a mentor and those who did not have a mentor. Of the 5,802 teacher respondents, 68% were assigned a mentor.

Table 4.6

Teachers Assigned A Mentor Assignment, Program Coded 0 = No, 1 = Yes

Mentor	Freq.	Percent	Cum.
0	1,853	31.94	31.94
1	3,949	68.06	100.00
Total	5,802		100.00

Table 4.7 identifies teachers who participated in induction programs by region. The data identify induction program participation by survey participants at 64% in all regions. Regional breakdown of participation includes the highest rate of participation in the Northeast at 67%. The lowest rate of participation was identified in the West at 57%. Teachers participated in induction programs at a rate of 65% in the Midwest and 66% in the South.

Table 4.7

Participation in Induction Program by Region

First year induction	Census Region, based on FIPS state code				Total
	Northeast	Midwest	South	West	
Valid Skip	26	37	57	49	169
Yes	576	854	1,403	897	3,730
No	254	407	636	606	1,903
Total	856	1,298	2,096	1,552	5,802
% part.	.67	.65	.66	.57	.64

Table 4.8 shows teachers who participated in mentor assignment by region. The Midwest and South had the highest rate of teachers who were assigned a mentor, at 71%. The next highest rate was in the Northeast, at 67%. The lowest rate of mentor assignment was in the West, at 61%.

Table 4.8

Assignment of Mentor Teacher by Region

1st yr-mentor	Census Region, based on FIPS state code				
	Northeast	Midwest	South	West	Total
Valid Skip	26	37	57	49	169
Yes	577	924	1,491	957	3,949
No	253	337	548	546	1,684
Total	856	1,298	2,096	1,552	5,802
Total percent	0.67	0.71	0.71	0.61	0.68

Analysis of Data

Demographic Characteristics of Teachers

Of the 5,802 teachers studied in the data sample, 68.6% were female and 31% were male. The majority of the teachers, 2,540 (43.7%) ranged in age from 21-26 years old. Of the rest, 1,356 (23.3%) were 27 to 32 years old; 685 (11.8%) were between 33 and 38 years old; and 1221 (21%) were over 39 years old. The most frequently occurring age groups (those with the largest number of participants) included age 24, with 670 teachers; age 25, with 634 teachers; and age 26, with 567 teachers. The ages that occurred most infrequently were age 69, with 1 teacher; age 72, with 1 teacher; and age 76, with 1 teacher.

The SASS survey coded ethnicities into 29 categories. The most frequently occurring ethnic code was non-Hispanic, white. There were 4,616 (79.56%) in this group. The next most frequently occurring ethnic code was non-Hispanic, black. There were 453 (7.81%) in this group. Hispanic, white

teachers numbered 250 (4.31%). There were 198 (3.41%) non-Hispanic, Asian teachers. Non-Hispanic, Indian teachers who participated in the survey numbered 138 (2.38%). There were a small number of respondents in all other ethnic groups identified, with a total percentage of 2.53% or 147 respondents.

Of the 5,802 participants, 5,676 (97.8%) had earned a bachelor's degree. When asked if the participant had earned a master's degree, 126 respondents skipped the question; 1,205 (22.3%) answered yes; and 4,471 (77%) answered no.

The number of years the participants taught in a public school was isolated in the SASS data to three years or less. The most frequently occurring year was the first year of teaching, with 2,200 teachers (37.9%). The second most frequently occurring year was the second year of teaching, with 1,715 teachers (29.5%). The third most frequently occurring year was the third year of teaching, with 1,654 teachers (28.5%). There were 233 respondents who indicated they had taught 0 years in a public school.

Mentor Assignment/Induction Participation

Of the 5,802 respondents who participated in the SASS survey, the majority were either assigned a mentor teacher or participated in an induction program. There were 3,730 teachers (64.2%), who participated in an induction program. Of those teachers, 2,072 indicated no mentor

assignment, which is a comparison rate of 35.7%. Similarly, there were 3,949 assigned a mentor teacher. That is a 68% rate of mentor assignment. Those who did not have a mentor teacher assigned to them totaled 1,853 teachers (31.9%).

The regional rates of induction program participation and assignment of a mentor teacher were analyzed. The data identified induction program participation by survey participants at 64% in all regions. Regional breakdown of participation showed the highest rate of participation was in the Northeast, with 576 teachers and a rate of 67%. The lowest rate of participation was in the West, with 897 teachers, and a rate of 57%. In the Midwest, 854 teachers participated in induction programs, with a rate of 65%. In the South, 1,403 teachers participated in induction programs, with a rate of 66%.

The sample group was also isolated regionally by mentor assignment. The Midwest (924 teachers) and the South (1,491 teachers) shared the highest rate of teachers who were assigned a mentor, at 71% each. The Northeast (577 teachers) had the second highest rate, at 67%. The lowest rate of mentor assignment was in the West (957 teachers), at 61%.

Of the two – induction program participation and mentor assignment – more teachers in the sample data set were assigned a mentor than participated in an induction program. About 4% more teachers were assigned a mentor than who participated in an induction program.

Logistic Regression Analyses

The second phase of data analysis in this study isolated the variables of participation in induction programs and mentorship assignment and their influence on job satisfaction and retention. The analysis performed included the two identified independent variables, which included participation in an induction program and the assignment of a mentor teacher. The dependent variables selected included teacher satisfaction teaching at school and would the teacher go into the profession again if given the opportunity to do it all over again. A major purpose of this study was to examine the relationship between participation in an induction program or mentor assignment and satisfaction at school, as well as whether the teacher would choose education again if given the option to do so.

All data analyses examined in this study were run by a statistical program called Stata. Stata produced output data by odds ratio, standard deviation and significance level. The purpose of this study was to examine the relationship between the independent variables of induction program and mentor assignment, among others, and the dependent variables of satisfaction and would teach again. The logistic regression analyses were performed in order to predict the relationship between the independent and dependent variables. The relationship was predicted based upon the odds ratio calculation which aids in the determination of the likelihood of an occurrence based upon variables. An alpha level of .05 was used as the

basis of determining statistical significance of the results, denoted $P > t$ in the tables.

Tables 4.9 and 4.10 show the relationship between teacher satisfaction with mentor assignment and induction program participation. The teacher and school variables were also included in both analyses. All results that show statistical significance are reported at the .05 or .01 level of significance. Data which demonstrated a statistical significance ($p < .05$) are coded with an asterisk (*). Similarly, data which demonstrated a statistical significance of an alpha level less than .01 ($p < .01$), were coded by double asterisks (**).

The data reveal a statistically significant relationship between teacher satisfaction and participation in an induction program and mentor assignment. Additionally, statistical significance was found in relation to salary, age, gender, school level and the percent of free and reduced students in the school.

Table 4.9

Logistic Regression Analysis of Satisfaction and Mentor Assignment

Logistic Regression Analysis of Satisfaction and the relationship with Mentor Assignment	Odds Ratio	Std. Err.	P>t
Mentor Assignment	1.552	0.166	*
Teacher Variables			
Salary (\$10,000)	1.028	0.066	**
Age (10 yr increments)	1.116	0.058	**
Male (Female)	0.817	0.086	**
School Characteristics			
Secondary (Elementary)	0.653	0.060	*
Combined K-12 (Elementary)	0.788	0.129	

Region			
Northeast (South)	1.168	0.180	
Midwest (South)	1.056	0.129	
West (South)	1.049	0.132	
Student Characteristics			
Percent Free/Reduce	0.991	0.002	*

*p<.05 **p<.01

Table 4.10

Logistic Regression Analysis of Satisfaction and Induction Program Participation

Logistic Regression Analysis of Satisfaction and the relationship with Induction Program Participation			
	Odds Ratio	Std. Err.	P>t
Induction Program Participation	1.387	0.145	*
Teacher Variables			
Salary (\$10,000)	1.012	0.064	
Age (10 yr increments)	1.109	0.058	*
Male (Female)	0.796	0.083	*
School Characteristics			
Secondary (Elementary)	0.655	0.060	*
Combined K-12 (Elementary)	0.776	0.126	
Region			
Northeast (South)	1.139	0.175	
Midwest (South)	1.053	0.129	
West (South)	1.032	0.130	
Student Characteristics			
Percent Free/Reduce	0.992	0.002	*

*p<.05 **p<.01

The data, as shown in Tables 4.11 and 4.12, reveal a statistically significant relationship between assignment to a mentor and a desire to go back into the teaching profession again if given the opportunity to do it over.

Moreover, the relationship between would re-enter the profession and variables—mentor assignment, gender, school level and region—proved to be significant.

Table 4.11

Logistic Regression Analysis: -Would Teach Again and Mentor Assignment

Logistic Regression Analysis of Would Teach Again and the relationship with Mentor Assignment	Odds Ratio	Std. Err.	P>t
Mentor Assignment	1.358	0.167	*
Teacher Variables			
Salary (\$10,000)	1.013	0.070	
Age (10 yr increments)	0.961	0.051	
Male (Female)	0.696	0.083	*
School Characteristics			
Secondary (Elementary)	0.651	0.069	*
Combined K-12 (Elementary)	0.549	0.103	*
Region			
Northeast (South)	1.679	0.293	*
Midwest (South)	1.908	0.269	*
West (South)	1.473	0.219	*
Student Characteristics			
Percent Free/Reduce	0.997	0.002	

*p<.05 **p<.01

Table 4.12

Logistic Regression Analysis: -Would Teach Again and Induction Program Participation

Logistic Regression Analysis of Would Teach Again and the relationship with Induction Program Participation	Odds Ratio	Std. Err.	P>t
Induction Program Participation	1.172	0.143	
Teacher Variables			
Salary (\$10,000)	1.002	0.069	

Age (10 yr increments)	0.953	0.050	
Male (Female)	0.685	0.081	*
School Characteristics			
Secondary (Elementary)	0.653	0.069	*
Combined K-12 (Elementary)	0.542	0.100	*
Region			
Northeast (South)	1.643	0.288	*
Midwest (South)	1.906	0.269	*
West (South)	1.453	0.214	*
Student Characteristics			
Percent Free/Reduce	0.997	0.002	

*p<.05 **p<.01

Discussion of Findings

The data from the logistic regression analysis in Table 4.9 showed a statistically significant relationship between the dependent variable of satisfaction and mentor assignment. The odds ratio of the relationship between satisfaction and mentor assignment was 55.2%, meaning that 55.2% of the teachers were more likely to indicate satisfaction with their jobs than those who were not assigned a mentor. Similarly, the data in Table 4.10 revealed a statistically significant relationship between the dependent variable of satisfaction with induction program participation. The data analyses indicated that the teachers who participated in an induction program noted they were 38.7% more likely to be satisfied than those who did not participate in an induction program.

In order to further understand the connections between the dependent variables and teacher and school demographics, the data were examined to determine a relationship between specific variables. The aim was to provide a solid schema about the teacher and school demographics and provide foundations for future research and implications beyond this study's measure.

The logistic regression analyses in Tables 4.9 and 4.10 also showed other statistically significant relationships with satisfaction and independent variables. Teachers in the sample study who taught at the secondary level showed a statistical significance with satisfaction and the participation in an induction program as well as the assignment of a mentor. For age, satisfaction, and mentor assignment, the odds ratio was 11.1%, meaning that as teachers' ages increased by 10 years, the teachers were 11.1% more likely to indicate satisfaction if assigned a mentor than those who were not. Similarly, the odds ratio for induction program participation and the same variables was 10.9%. Another statistically significant relationship, although a negative one, is gender for both mentor assignment as well as induction program participation. For those assigned a mentor, males were 81.7% as likely to indicate they were as satisfied as females. The males who participated in an induction program indicated they were 79.6% as likely to indicate being as satisfied as females. For school level, when predicting the satisfaction relationships with those who had a mentor, the odds ratio of 65.3%, which indicates that 65.3% of secondary teachers were as likely to

indicate satisfaction as elementary school teachers who were assigned a mentor. Likewise, 65.5% of secondary teachers were as likely to indicate satisfaction as elementary teachers who participated in an induction program. Finally, the percent of free and reduced lunches, a continuous variable, showed a statistical significance with job satisfaction. The negative odds ratio of 99.1% for mentor assignment and 99.2% for induction program participation demonstrate when free and reduce lunches increased by unit or percent, the amount of satisfaction decreased by one unit.

The logistic regression analyses in Tables 4.11 and 4.12 showed the relationship between the dependent variable of would teach again and the independent variables identified. Other teacher and school variables were included in the analysis. All results that demonstrated a statistically significant relationship at the .05 or .01 level were reported.

In Table 4.11, the data showed a statistical significance between would teach again, the dependent variable, and the independent variable of assignment of a mentor teacher. The odds ratio for this relationship was 35.8%, meaning that a teacher who had a mentor was 35.8% more likely to report he/she would re-enter the profession than a teacher who did not have a mentor. However, unlike the logistic analysis performed with the dependent variable of satisfaction in Table 4.10, there was no statistical significance found in would teach again and induction program participation. Moreover, the odds ratio of 17% does not reveal a strong relationship.

As discussed above, there were other independent variables the researcher found important to include in the study in order to understand the overall teacher and school demographics in relation to the dependent variables. This information is important when understanding the entire data study as well as for implications for future research and study.

In Tables 4.11 and 4.12, there were other variables identified that possessed a statistical significance with the dependent variable of would teach again. Gender demonstrated a statistical significance with a negative odds ratio of 69.6% for mentor assignment which indicates that 69.6% of males reported as being as likely to re-enter the profession as females. Similarly, 68.5% of males who participated in an induction program reported as being as likely to re-enter the profession as females. A negative odds ratio was also found in the school level categories. Those teaching in secondary schools and were assigned a mentor indicated they were 69.6% as likely to re-enter the profession as elementary teachers. Likewise, 65.3% who participated in an induction program were as likely to re-enter the profession as elementary teachers. Those who taught in a combined school (K-12) showed negative odds ratio of 54.9% for mentor assignment and 54.2% for induction program participation indicating being as likely to go back into the profession as elementary teaches. Finally, region demonstrated statistical significance. The odds of the teachers indicating a willingness to re-enter the profession who were assigned a mentor for the Northeast region was 67.9%,

the Midwest region was 90.8%, and the West was 47.3%. The percentage of teachers in the three regions reported being as likely as teachers from the South to re-enter the profession who were assigned mentors. Also, the odds of the teachers indicating a willingness to re-enter the profession who participated in an induction was 64.3% in the Northeast, 90.6% in the Midwest and 45.3% in the West.

Summary

In summary, the data revealed that participation in an induction program and assignment of a mentor teacher proved to increase the satisfaction of the teachers who were included in the study's sample. There were other variables that showed statistical significance, including the teachers' age, gender, school level, and percent of free and reduced lunches, with satisfaction rates of the teachers.

Additionally, the data revealed that the assignment of a mentor teacher did impact whether the teachers in the sample would re-enter the profession again. However, participation in an induction program was not a significant factor. Other variables that proved significant in relation to would teach again included gender, school level, and region.

CHAPTER 5

DISCUSSION

Introduction

This study was conducted to determine the influence of beginning- and new-teacher assignment to a mentor and participation in an induction program on job satisfaction and potential retention. At the start of this study, it was anticipated that examination of the above factors would be useful for states and school districts across the country to address teacher retention issues and determine funding allocations. By learning whether mentor assignment and induction programs are effective on these two dimensions (satisfaction and retention), school districts would be better informed about whether to allocate funds to provide mentors and induction programs, extending opportunities to new and beginning teachers and/or funneling more funds into current programs in order to increase faculty retention. During the course of this study, the financial recession across the country and world crippled state and local budgets in all social sectors, including education. Therefore, because of the economic timing of this study, a focus upon personnel retention and resource allocation is more important than ever.

This study examined one question: Does participation in a teacher induction and mentoring program increase teacher satisfaction and retention rates?

The aim of the study was to provide states and school districts with information that could help them understand selected factors that might help schools keep quality educators employed. By continuing the exploration of teacher turnover intentions and rates, possible future teacher shortages, and by focusing funding decisions to yield the highest rate of return for investment, districts and state educational departments would have a better understanding of how to keep quality educators in the classroom.

During this study, teachers in their first, second, and third year on the job were identified using the 2003-2004 Schools and Staffing Survey from the National Center for Education Statistics. In particular, the study data set included 5,802 teachers. Teacher demographics and school characteristics were identified in Chapter 3. Logistic regression analyses identified the relationships between job satisfaction, the intention to re-enter the teaching profession, mentor assignment, and induction participation. This chapter discusses major findings from the data analysis, implications, conclusions, and recommendations for future study practices.

As indicated in Chapter 4 of this study, the second phase of data analysis isolated the variables of participation in induction programs and mentorship assignment and their influence on job satisfaction and retention. An examination of the data utilized the independent variables, which included participation in an induction program and the assignment of a mentor teacher, and the dependent variables, which included teacher satisfaction teaching at

school and would the teacher re-enter the teaching profession again if he or she could do it over. Because the purpose of this study was to examine the relationship between participation in an induction program or mentor assignment and satisfaction at school, as well as the teacher's career choice if given the opportunity to re-enter the profession, the data analysis in this phase was critical in determining if a linkage existed.

Discussion of Findings

The data determined a relationship between teacher satisfaction and participation in induction programs and mentor assignment. Statistical significance was determined if p value was less than .05 ($p < .05$) or if p value was less than .01 ($p < .01$).

The data used in the study revealed a statistically significant relationship between teacher satisfaction and participation in an induction program and mentor assignment. In order to further understand the connections between the dependent variables and teacher and school demographics, the data were examined to determine a relationship between specific variables. The aim was to provide a solid schema about the teacher and school demographics. Therefore, statistical significance was found in relation to satisfaction and mentor assignment with the following teacher and school demographic variables: teaching salary, age, gender and secondary level of teaching. Similarly, the relationship between satisfaction and

induction program participation was significant in other variables including age, gender and secondary teaching assignment.

The research question focused upon examining job satisfaction of teachers in order to determine intent to stay in the profession. Because of the need to examine this element, a question from the SASS survey was included. The sample of teachers was asked if they would re-enter the profession again. The data show that, when teachers were asked this question, those who were assigned a mentor teacher were more likely to say yes ($p < .05$). However, there was no statistical relation between those who participated in an induction program and whether they would re-enter the profession.

Again, in order to understand the teacher background as well as school demographics in relation to the dependent variable, other data variables were explored. The data revealed that there was statistical significance between those who were assigned a mentor and variables including gender, secondary and combined school levels of teaching and regional location. Likewise, the induction program participants demonstrated a statistical significance in gender, secondary and combined teaching assignment and region.

There were a number of variables that showed a relationship between satisfaction and would teach again that were worth noting. However, the focus of this study was to examine the relationship of the dependent and the

independent variables, job satisfaction and retention with induction program participation and mentor assignment. Although it was important to understand the independent variables analyzed, these independent variables are not dependent upon this study's conclusion. The other independent variables noted above were minor predictors but nothing to supercede the study's focus. While the independent variables were examined to determine a relationship, the results can be utilized for future research.

In conclusion, when examining the relationship between job satisfaction and the participation in an induction program and assignment of a mentor teacher, the study's sample population revealed a statistically significant relationship between the two. Because research supports the link between job satisfaction and retention, it can be concluded that district and states who invest in teacher induction programs and the assignment of mentor teachers will more likely have satisfied new teachers than not.

Similarly, the data showed a relationship between mentor assignment and those who noted in the sample study that they would re-enter the profession. However, there was not a statistical significance found in the relationship between induction program participation and willingness to re-enter the profession.

In conclusion, districts and states nationwide, based upon the data revelations, should invest time and expenditures in working with new teachers through induction programs and mentor assignment. Moreover, in order to

retain high-quality new teachers, those who work with new teachers should design programs that contain the necessary support.

Study Implications

This study revealed several implications for the professional development of new teachers. The three primary implications include funding, new teacher support, and program evaluations.

Because of the relation between satisfaction and the assignment of a mentor teacher or participation in an induction program, it is crucial for school districts to evaluate budget allocations. New teacher support means should be given adequate funding, despite today's financial recession, in order to retain high-quality teachers early in their careers. Information provided in the literature review of this study revealed the high cost of teacher turnover. While the initial investment in new-teacher support programs may be costly, the cost, over time, should be less than dealing with turnover rates.

Second, state and local organizations must examine the type of support that is best for beginning and new teachers. The current research literature revealed trends in the information that new teachers need in terms of support. For example, Dopp's (2006) questionnaire revealed six elements that new teachers who participated in an induction program wanted in terms of support: (a) support for "emotional and social needs;" (b) a need for a mentor and peer collaboration; (c) support with student discipline and classroom management; (d) school district culture; (e) management of time;

and (f) actively involved administration. Inman and Marlow (2004) revealed that teachers who stay in the profession “exist in a supportive professional environment” (p. 611) that some new teachers may not have the opportunity to experience. Woods and Weasmer (2002) noted that new teachers must be in a supportive environment to grow and learn from veteran colleagues

Additionally, other research revealed mentors must also be involved in professional development and receive support in order to mentor new teachers effectively. Schlechty and Whitford (1989) indicated a need for a site-based professional structure to support beginning teachers since “...programs cannot be successful unless the capacity of school systems for human resource development is greatly enhanced” (p. 448). Fitzpatrick et al. (2006) focused on this issue and offered ways to create effective mentor programs. The study revealed that new teachers have stronger job satisfaction and higher retention rates if properly matched with a mentor and provided a solid induction program.

Finally, evaluations of program effectiveness should be included in induction programs and mentor assignments of new teachers. New teachers should be given the opportunity to evaluate the induction program’s effectiveness in order to allow school districts to make necessary changes when needed. Additionally, the evaluation should occur twice a year in order to meet the needs of new teachers in a timelier manner.

Likewise, the beginning teacher should be evaluated routinely by administrators as well as mentor teachers. As indicated in the literature review, not all attrition is bad for schools. Therefore, new teachers should be evaluated from a joint perspective, with the administration working in a coordinated effort with the mentor teacher, to provide meaningful evaluations to the beginning teacher and determine on-site specific approaches on matters to best support the new teacher.

Limitations

Research, across the disciplines, often comes with limitations. This study is no different. Conducting research on a large scale often poses challenges. While many studies have been conducted using the large data source found in the SASS surveys, there are also limitations to the use of the data and the organization of the studies. At times, the questionnaires provided can be limiting. Follow-up questions that may be able to identify other factors may not be included. In this particular case, the researcher relied on existing questions asked of the respondents. Specific questions about job satisfaction and intent to stay on the job the following year, as well as willingness to re-enter the profession, would have been posed more specifically if the researcher had had the opportunity.

Luekens et al. (2004) revealed that when teachers were asked if they would leave the profession during the “base year” of the SASS survey, the follow-up survey indicated that 27% of public school “leavers” who left the

profession had indicated on the 1999-2000 SASS survey that they did not intend to leave the profession during their base year. Other areas of limitations were also revealed. The follow-up survey also noted that females left the profession at a higher rate than males due to “pregnancy/child rearing and health.” However, the males who left the profession were more likely to leave to find a higher paying job. The data revealed a high number of females in the teaching profession. Therefore, is the trend higher for leavers because of child-rearing than that of other professions that have a more equalized male/female ratio?

Additionally, in terms of degree earned, the organization of the survey questions did not account for four year versus five year college programs. When respondents answered if they had earned a Master’s Degree, there was no distinguished question that separated those who earned a Master’s Degree through a five year program of study or a separate program of study.

Another limitation is the assumed link between job satisfaction and intent to stay on the job. While research exists that links the two, the questions taken from the SASS surveys assume that the relationship between job satisfaction and intent to stay on the job is causal. Therefore, if more specific questions could be posed to the respondents regarding job satisfaction and intent to stay on the job, and if the respondents could be followed on a long-term basis, then a more accurate conclusion could be made on the basis of the causal relationship.

Recommendations for Future Research

This study focused primarily on new teachers and the role induction programs and mentor assignments play in job satisfaction and the intent to remain on the job. While compiling the information for this research study, it was noted that more research is needed in several areas.

Most literature that focused on new teachers provided information about new teachers in their first or second year on the job. More research is needed in the area of new teacher support for years 3-5 and to understand the longevity of teachers during the duration of their career lengths.

More research is needed to identify and isolate the trends that are most appropriate and effective for program development. Although most programs will meet specific needs of new teachers, additional research will provide data to help maximize a program's effectiveness in retaining high-quality new teachers.

There is a need for additional research that focuses on the link between teacher preparation programs and retention rates of new teachers. The focus should be on program development at the collegiate level in order to provide new teachers with solid methods and practice foundations.

Another area that should garner more research is the area of special education. During the collection of literature for this study, several articles were found that addressed the retention of the special education teacher.

Further research focusing on the special education environment should be conducted to aid in retaining high-quality special education teachers.

Study Limitations and Conclusions

The purpose of this study was to examine the relationship between induction program participation and mentor assignment with job satisfaction. Because research in the literature review indicated a connection between job satisfaction and retention, the connection can be made that the more satisfied a teacher is on the job, the more likely the teacher will remain on the job. Therefore, the implications for study are significant in terms of district and state decisions with induction and mentor program development and funding.

There were both significant findings and limitations to the study. During the data analysis, significant findings were discovered that could impact the manner in which states and school district make decisions regarding the new teachers. Limitations in the study include limited data analysis on trends for salary, gender, school level, degree earned and percentage of free and reduced lunches.

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APPENDICES

Appendix A

SASS Questionnaire

The following items are questions taken from the 2003-2004 SASS survey taken by first, second, and third year teachers in public schools (NCES, 2008). The questions asked of the respondents were measured by interval and categorical responses. The response options are noted under each question.

34. In your FIRST year of teaching, did you participate in a teacher induction program? (T0216)

(Respondents to this question were asked to answer yes or no.)

37. a. In your FIRST year of teaching, did you work closely with a master or mentor teacher? (T0226)
- b. Was this teacher's subject area the same as yours? (T0227)
- (Respondents to this question were asked to answer yes or no. If the respondent answered no to 37a, then they were asked to proceed to number 39 of the teacher questionnaire.)

38. In your FIRST year of teaching, to what extent did your master or mentor teacher help you? (T0228)

Respondents were given four choices:

Not at all

To some extent

To a moderate extent

To a great extent

63. To what extent do you agree or disagree with each of the following statements?

- c. I am satisfied with my teaching salary. (T0332)
- p. I am satisfied with my class size. (T0345)
- u. I am generally satisfied with being a teacher at this school.
(T0350)

There were twenty-one questions asked under the agree or disagree question in number 63 of the teacher questionnaire. The questions applicable to the study included the questions highlighted above, letters c, p, and u. The respondents were asked to agree or disagree with each of the questions based upon a categorical extent which follows:

Strongly agree

Somewhat agree

Somewhat disagree

Strongly disagree

66. To what extent do you agree or disagree with each of the following statements?

- a. The stress and disappointments involved in teaching at this school aren't really worth it. (T0375)

- b. The teachers at this school like being here; I would describe us as a satisfied group. (T0376)

There were seven questions asked under the agree or disagree question. The questions applicable to the study included both a and b.

The respondents were given the following four choices:

Strongly agree

Agree

Disagree

Strongly Disagree

- 67 a. If you could go back to your college days and start over again, would you become a teacher or not? (T0382)

There were two parts to question 67 in the teacher questionnaire.

Question a was applicable to the research study and the respondents were able to choose from the following answer choices:

Certainly would become a teacher

Probably would become a teacher

Chances are about even for and against

Probably would not become a teacher

Certainly would not become a teacher

The data collected by the SASS survey of 2003-2004 relating to the above questions were utilized to tabulate all basic or cross-statistical tabulations as well as logistical regression tabulations.

Appendix B
Weighted Responses by-Age

Teacher's Age	Freq.	Percent	Cum.
21	9	0.16	0.16
22	169	2.91	3.07
23	491	8.46	11.53
24	670	11.55	23.08
25	634	10.93	34.01
26	567	9.77	43.78
27	379	6.53	50.31
28	276	4.76	55.07
29	213	3.67	58.74
30	204	3.52	62.25
31	154	2.65	64.91
32	130	2.24	67.15
33	166	2.86	70.01
34	125	2.15	72.16
35	106	1.83	73.99
36	87	1.5	75.49
37	99	1.71	77.2
38	102	1.76	78.96
39	81	1.4	80.35
40	94	1.62	81.97
41	98	1.69	83.66
42	94	1.62	85.28
43	76	1.31	86.59
44	87	1.5	88.09
45	62	1.07	89.16
46	78	1.34	90.5
47	64	1.1	91.61
48	58	1	92.61
49	60	1.03	93.64
50	61	1.05	94.69
51	41	0.71	95.4
52	50	0.86	96.26
53	38	0.65	96.91
54	40	0.69	97.6
55	34	0.59	98.19
56	25	0.43	98.62
57	18	0.31	98.93
58	20	0.34	99.28
59	13	0.22	99.5

Teacher's Age	Freq.	Percent	Cum.
60	8	0.14	99.64
61	6	0.1	99.74
62	5	0.09	99.83
63	5	0.09	99.91
67	1	0.02	99.93
68	1	0.02	99.95
69	1	0.02	99.97
72	1	0.02	99.98
76	1	0.02	100
Total	5,802	100	

Appendix C

Weighted Responses by Race

Teacher's race/ethnicity	Freq.	Percent	Cum.
Hispanic, American Indian	10	0.17	0.17
Hispanic, Hawaiian Native	6	0.1	0.28
Hispanic, Asian	7	0.12	0.4
Hispanic, Asian, Hawaiian Native	1	0.02	0.41
Hispanic, Black	15	0.26	0.67
Hispanic, White	250	4.31	4.98
Hispanic, White, American Indian	3	0.05	5.03
Hispanic, White, Asian	2	0.03	5.07
Hispanic, White, Black	2	0.03	5.1
Hispanic, White, Black, American Indian	1	0.02	5.12
Hispanic, White, Black, Asian, Hawaiian	1	0.02	5.14
Non-Hispanic, American Indian	138	2.38	7.51
Non-Hispanic, Hawaiian Native	31	0.53	8.05
Non-Hispanic, Hawaiian Native, American	1	0.02	8.07
Non-Hispanic, Asian	198	3.41	11.48
Non-Hispanic, Asian, Hawaiian Native	3	0.05	11.53
Non-Hispanic, Black	453	7.81	19.34
Non-Hispanic, Black, American Indian	2	0.03	19.37
Non-Hispanic, Black, Hawaiian Native, American	1	0.02	19.39
Non-Hispanic, Black, Asian	1	0.02	19.41
Non-Hispanic, White	4,616	79.56	98.97
Non-Hispanic, White, American Indian	31	0.53	99.5
Non-Hispanic, White, Hawaiian Native, American	1	0.02	99.52

Teacher's race/ethnicity	Freq.	Percent	Cum.
Non-Hispanic, White, Asian	18	0.31	99.83
Non-Hispanic, White, Asian, American In	1	0.02	99.84
Non-Hispanic, White, Black	6	0.1	99.95
Non-Hispanic, White, Black, American Indian	2	0.03	99.98
Non-Hispanic, White, Black, Asian, Hawaiian Native	1	0.02	100
Total	5,802	100	