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Attitudes and Beliefs of Upper Elementary Teachers Regarding the Teaching of Cursive Handwriting

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Attitudes and Beliefs of Upper Elementary Teachers Regarding the Teaching of Cursive
Handwriting

By
Dorothy Myers

A Dissertation Submitted to the
Gardner-Webb University School of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Gardner-Webb University
2013

Approval Page

This dissertation was submitted by Dorothy Myers under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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Abstract

Attitudes and Beliefs of Upper Elementary Teachers Regarding the Necessity of Teaching Cursive Handwriting. Dorothy Myers, 2013: Dissertation, Gardner-Webb University, Cursive Handwriting/Attitudes/Beliefs/Elementary

This study surveyed current third-, fourth- and fifth-grade teachers in two small school districts in the southeast. One school district has initiated a technology initiative in its elementary schools. The other school district involved in the study incorporates technology but does not have a specified technology initiative.

This dissertation was designed to provide information about the attitudes and beliefs of current third-, fourth-, and fifth-grade teachers about the necessity of teaching cursive handwriting. Many schools today either no longer teach cursive handwriting or do not spend the amount of time teaching cursive handwriting as in years past. With the age of new common standards and technology, many teachers feel they do not have the time to spend teaching cursive handwriting.

Knowing that teachers' attitudes and beliefs affect what is taught in the classroom, the researcher developed a survey to determine the attitudes and beliefs of third-, fourth- and fifth-grade teachers and how those attitudes and beliefs affect their current instruction in the area of cursive handwriting. The survey was evaluated by parametric statistics using an independent t test and an ANOVA as well as nonparametric statistics using the Kruskal-Wallis and Mann Whitney U. The t test and Mann Whitney U were used to determine the difference in attitudes and beliefs among the two school districts. The analysis of variance and Kruskal-Wallis were used to determine the differences between the grade levels and years of experience among the teachers.

The independent t test and Mann Whitney U showed a statistical difference in the attitudes and beliefs between the two different school districts about cursive handwriting. A statistical difference was also found among the number of years of teaching experience using an Analysis of Variance and the Kruskal-Wallis test. However, a statistical significance was not found between the grade levels using an Analysis of Variance or the Kruskal-Wallis test. Qualitative data were also gathered using embedded open-ended questions in the survey. The results from the qualitative data supported the quantitative data found in the statistic results.

Table of Contents

	Page
Chapter 1: Introduction	1
Statement of the Problem	1
Description of Settings	5
Limitations	7
Objectives of the Study	8
Rationale of the Problem	9
Definitions	10
Chapter 2: Literature Review	11
Introduction	11
Teacher Attitudes and Beliefs	11
History of Handwriting	15
Handwriting Instruction	17
Cursive Handwriting	21
Keyboarding and Handwriting	25
Current State of Cursive Handwriting	29
Research Questions	33
Summary	33
Chapter 3: Methodology	35
Statement of the Problem	35
Research Design and Rationale	35
Participants and Data Collection	36
Instrument	37
Analysis Procedures	38
Delimitations	40
Timetable	40
Chapter 4: Results	41
Introduction	41
Findings	42
Research Question 1	43
Research Question 2	49
Research Question 3	55
Research Question 4	60
Summary	67
Chapter 5: Discussion	68
Introduction	68
Research Question 1	68
Research Question 2	70
Research Question 3	71
Research Question 4	73
Implications	75
Recommendations for Future Research	76
Conclusions	77
References	78

Appendix

	Cursive Handwriting Survey	85
Tables		
1	Teacher Demographics	43
2	Frequency of Responses	45
3	Descriptives by Individual Question.....	46
4	Descriptives of Keyboarding Survey Questions	47
5	Teacher Survey Results by Years of Experience	51
6	ANOVA	52
7	Hypothesis Test Summary	52
8	Multiple Comparisons Tukey	53
9	Tukey HSD	53
10	Teacher Survey Results by Grade Level.....	57
11	ANOVA	58
12	Hypothesis Test Summary	58
13	Teacher Survey Results between the Two School Districts	62
14	Teacher Survey Results between the Two School Districts	63
15	Independent T Test	64
16	Group Statistics	64
17	Hypothesis Test Summary	65

Chapter 1: Introduction

The teaching of cursive handwriting in the elementary classroom differs from school to school, district to district, and state to state. Most schools begin cursive handwriting instruction in third grade, with some instruction beginning at the end of second grade. After initial instruction, schools begin to differ in how much time is spent on cursive handwriting practice in Grades 4 and 5 (Koenke, 1986).

Statement of the Problem

Has the world become so technologically advanced that the teaching of cursive handwriting has become a waste of time? As technology is integrated more and more on a daily basis into elementary school classrooms, students are spending more time working with computers. According to a longitudinal study, the number of school districts including keyboarding in the elementary schools in the state of Wisconsin rose from 54% in 1993 to 85% in 2003, and remained at 85% in 2009 (Rogers, 2009). With the demand of standardized tests and less instruction time to teach cursive writing, is it even necessary to teach it anymore? According to the same study conducted in 2009, the percentage of students receiving keyboarding instruction in second grade was 2.4% in 1993 and had increased to 22.4% by 2009. Fourth-grade keyboarding instruction increased from 33% in 1993 to 43% in 2009 (Rogers, 2009). However, an older research study indicated that cursive handwriting is essential to communicate information effortlessly (Wallace & Schomer, 1994). Berninger et al. (1997) suggested that explicit handwriting instruction within a process approach can be beneficial to handwriting and compositional fluency.

What are the attitudes of teachers regarding the role that cursive handwriting plays in today's classroom? A study conducted by Steve Graham found that 93% of the

teachers surveyed believed that manuscript and cursive should be taught (Graham et al., 2007). He also found that cursive handwriting was taught by about 50% of the teachers surveyed. Of the 50% of teachers who thought cursive handwriting should be taught, 63% of these were third-grade teachers, 31% were second-grade teachers, and 6% were first-grade teachers.

Teachers make decisions about curriculum and instruction based on personal practical theories (Cornett, Yeotis, & Terwilliger, 1990). “A teacher’s knowledge and beliefs are influenced by the immediate contexts of the classroom and the students, the larger contexts of the state and national policies, and the surrounding context of cultural norms and values” (Woolfolk Hoy, Davis, & Pape, 2006, p. 717). Knowing that a teacher’s beliefs about a subject matter affect their instructional choices regarding curriculum (Stoldosky & Grossman, 1995), attention should be given to the attitudes and beliefs teachers hold about teaching cursive handwriting.

A teacher’s theoretical orientations about a subject play an important role in their decision making (Graham, Harris, MacArthur, & Fink, 2002). Since the research indicates that there is a connection between teachers’ attitudes and beliefs about a subject, then what teachers believe about the importance of teaching cursive handwriting is a purposeful study.

Medwell and Wray (2007) believed that handwriting is important. In a published article they stated,

Orthographic-motor integration of handwriting—that is the ability to call to mind and write letter shapes, groups of letters and words efficiently and effectively without allocation of cognitive attention, appears to be a very significant part of writing that has been largely overlooked in education. (p. 12)

The author feels that handwriting is a form of communication and for students to be able to communicate effectively in writing, automaticity in handwriting is important. In an older study conducted by Graham, Berninger, Abbott, Abbott, and Whitikar (1997), they found that handwriting fluency still accounts for 42% of the variability in the quality of children's writing in Grades 4 to 6.

Suddath (2009) stated in a *Time* magazine article that we are witnessing the death of handwriting. She believes a shift in educational priorities has left Americans with bad penmanship. She attributes this shift to technological advancements and standardized testing.

Cursive handwriting was taught predominantly in American schools up until the 1920s. Manuscript handwriting was introduced in the 1920s and entered public schools in the 1930s and 1940s (Thornton, 1996). Since then, the majority of schools have adopted the mindset of teaching manuscript first, then cursive. In June 2010, the K-12 Common Core Standards, standards that have been adopted by 45 of the 50 states in language arts and mathematics, were released to the general public (National Governor's Association, 2010). Missing in the standards was cursive handwriting. In its place was a standard that stated, "Use technology, including the internet to produce and publish writing and to interact and collaborate with others" (National Governor's Association, 2010, p. 18). In Grades 3, 4, and 5, the Common Core Standards specifically stated for students to publish writing using keyboarding skills. Schools and school districts have also wavered on their opinions about the teaching of cursive handwriting. A national survey conducted by Steve Graham from Vanderbilt University found that of the 169 teachers surveyed, 63% of the third-grade teachers and 31% of the second-grade teachers taught cursive handwriting (Graham et al., 2007). Even in local school districts that have

policies in place for handwriting instruction, it varies from teacher to teacher and school to school.

At the beginning of the 2010-2011 school year, teachers at a small, suburban school in the south indicated during team meetings that student handwriting is poor but that they do not see the need for, nor have the time for, formal instruction. Surveys were given to the third-, fourth-, and fifth-grade teachers to determine how they would rate the importance of cursive handwriting. Their responses indicated a discrepancy about whether or not cursive handwriting should be taught.

The survey was given to 29 kindergarten through fifth-grade teachers. Seventy-nine percent of the teachers felt that handwriting is important or very important at their grade level. Seventeen percent felt it is somewhat important, and 1% felt it is not important at all. To get a better picture of how third-grade teachers felt about cursive handwriting, the researcher interviewed the teachers during a grade-level meeting. When asked when they began teaching cursive handwriting, three of the five teachers said they began at the beginning of the year. Two of the five teachers did not respond. When asked if cursive handwriting was taught on a daily basis, one teacher responded with a yes, one said no, and the other three teachers did not respond. One teacher who did not respond to any of the earlier questions finally stated that she did not think cursive handwriting was of value as a 21st Century student and/or educator. She stated that knowing how to read cursive is much more valuable and that she only teaches them to write their name. One of the five teachers never responded to any of the questions. These interview responses, and lack thereof, indicated a discrepancy.

There is a lack of current research on how many teachers are teaching cursive handwriting and whether teachers value it as an important skill. With the demands of

other subjects, teachers must spend their time teaching; and with the advancement of technology in schools, it is important to know if teachers believe cursive handwriting is something they should spend time teaching.

Description of Settings

The settings of this study were two small suburban school districts in the southeast. At the time of the study one district had seven elementary, four middle, and two high schools with approximately 11,125 students and 1,500 teachers, according to the 2012 state report card. Of the 11,125 students, 5,779 were male and 5,346 were female. Seventy-seven percent of the students were Caucasian, 10% were African American, 5% were Hispanic, and 3% were Asian. Approximately 20% of the students received free or reduced lunches.

Of the 1,500 teachers, approximately 125 were third-, fourth-, and fifth-grade teachers who were included in this study. The district was rich in technology but did not have a specific keyboarding initiative in place at any of the elementary schools. The district's strategic plan did state that it will develop technology expectations for all grade-level bands and utilization of electronic technology collaborative tools.

In the 2011-2012 school year, the district received an absolute rating of excellent on the state report card. It also received a rating of good for the growth rating. Eighty-eight percent of the students met or exceeded grade-level standards on the state's reading assessment. Eighty-eight percent of the students also met or exceeded grade-level standards on the state's math assessment. Eighty-nine percent of the students met or exceeded grade-level standards on the state's writing assessment.

The district had handwriting expectations in a district Balanced Literacy Curriculum guide developed 8 years ago. The third-grade handwriting expectations

stated that third-grade cursive handwriting would be introduced and taught using the Zaner-Bloser method. The expectations also stated that cursive handwriting instruction and practice would be integrated into activities throughout the day and across the curriculum. The guide encouraged teachers to use cursive handwriting for spelling tests and final drafts of writing. In fourth grade it stated grade letter formation of cursive handwriting should be reinforced and mastered according to the expectations. It also stated that cursive handwriting should be integrated throughout the day along with spelling tests, final drafts, and special projects. The fifth-grade handwriting expectations stated that cursive handwriting letter formation would be reinforced, and correct strokes and letter formation should be modeled by the teacher during instruction as well as monitored during student learning activities. It also stated cursive handwriting should be encouraged for spelling tests, special projects and assignments, and final drafts.

The other school district included in the study was a small suburban school district just across the county line. At the time of the study, this district had six elementary schools, two middle schools, one high school, and one alternative school with approximately 6,600 students. The student demographics included 82% Caucasian, 10% African American, 3% Hispanic, and 5% labeled as Other. Thirty-one percent of the district's population received free and reduced lunch. The district received an Absolute Rating and Growth Rating of Excellent on its state report card. In Grades 3-6, 85.3% scored met or above in reading, 86.6% scored met or above in mathematics, and 85.1% scored met or above in writing. The school district employed 517 teachers with approximately 77 third-, fourth-, and fifth-grade teachers. This school district's strategic plan stated in goal five that it would make classrooms come alive as active learning environments that maximize student achievement. Under this goal, the plan listed four

objectives: (1) maintain state-of-the-art equipment, (2) provide continuous staff development in the use of technology, (3) incorporate state-of-the-art technologies in all new construction, and (4) equip students with the ability to adapt to ever-changing technologies. As a part of this plan, the elementary schools have begun to incorporate iPads into their classrooms.

This school district did not have any formal handwriting expectations for its teachers. According to the Director of Elementary Education, the prekindergarten teachers used Handwriting Without Tears as their primary source of handwriting instruction. Kindergarten and first-grade teachers instructed students in penmanship using whatever handwriting program the individual teachers wished to use. Some second-grade teachers introduced cursive handwriting; however, it was not required. Third-grade teachers were expected to train students in cursive handwriting, but it was not a skill that was followed up on by administration. After third grade, there was no cursive handwriting instruction unless an individual teacher chose to have the students use it.

Limitations

One limitation of this study might have included teachers who did not answer the surveys honestly. Teachers in the district with the iPad-driven schools might have felt the need to answer questions that emphasize keyboarding and technology in a positive light. Teachers' personal biases about cursive handwriting might have also played a part in not answering the questions honestly. Another limitation was the response rate from the district with the iPad initiative. Without an incentive and not knowing the researcher, teachers might not have felt the need for completing a survey. The researcher did not foresee a problem with the response rate from the school district without the technology

initiative since the researcher is from the school district and had support from school and district administration. A third limitation was that the results from the study were from two smaller school districts. This might have limited the generalizability of the study to all school districts that have or do not have a technology initiative.

Objectives of the Study

Many journal articles have been published on how handwriting affects writing (Cahill, 2009; Graham, Harris, & Fink, 2000; Jones & Christenson, 1999; Weintraub & Graham, 1998), and many newspaper articles have been written on people's opinions about cursive handwriting (Carpenter, 2007; Rufo & Cravens, 2004; Suddath, 2009). However, there is not sufficient literature on the attitudes and beliefs of teachers about the teaching of cursive handwriting. Since teachers are charged with the actual instruction in the classroom and should have insight into the impact of not teaching cursive handwriting, more ample data were needed to determine teachers' beliefs and attitudes on this topic since those attitudes and beliefs actually determine what is taught.

By identifying the attitudes and beliefs of teachers about the teaching of cursive handwriting in the elementary school, we can better determine the need for spending classroom instruction time to teach it.

The purpose of this study was to determine the attitudes and beliefs among third-through fifth-grade teachers about the necessity of teaching cursive handwriting in this age of word processing programs and readily accessible keyboards and to compare the results of their beliefs. This study also examined the differences in beliefs among teachers who taught in a school district with iPad-driven technology and those who did not use iPads or daily keyboarding instruction in the classroom. This dilemma about the necessity of teaching cursive handwriting was the problem that was addressed in this

study.

Rationale of the Problem

Teachers' beliefs about what should be taught and how it should be taught has been a subject of many studies (Clark & Peterson, 1986; Kagan, 1992; Woolfolk et al., 2006). Handwriting researchers believe that handwriting should be taught directly and systematically (Cahill, 2009; Graham, 2010; Stainthorp, 2006). This means that students need to have direct instruction from the teacher using a model for handwriting that supports student needs. Handwriting researchers also believe that handwriting is essential for students to be able to record their thoughts and ideas automatically without being bogged down on how to form letters (Baker, Gersten, & Graham, 2003; Stainthorp, 2006; Wallace & Schomer, 1994).

Keyboarding has also been the subject of several studies as a way for students to produce *written* text (Connelly, Gee, & Walsh, 2007; Preminger, Weintraub, & Weiss, 2004; Sulzenbruck, Hegele, Rinkenauer, & Heuer, 2011). With the rise of technology in schools, teachers are allowing students to use computers to compose text. So who is right? Should students be using handwriting, specifically cursive handwriting, or keyboarding? Which is more important and what do teachers believe is more important? Rosemary Sassoon (1999), an expert on the history of handwriting, wrote,

There is still a need for handwriting to be taught and to be taught efficiently.

Should we neglect it a two tier society will emerge. At one extreme, people will only be able to communicate via a keyboard while at the other, possessors of both skills will be able to choose the most appropriate one for the task. My view is that no child, whatever their problem, should be encouraged to give up handwriting and rely exclusively on the computer. And all children, irrespective of their age

and talents, should be trained to use a keyboard from an early age and, from time to time, allowed to see their work produced on a computer giving it the status and appearance of professional print. (p. 151).

Definitions

Attitude. Manner, disposition, feeling, position, etc., with regard to a person or thing; tendency or orientation, especially of the mind.

Beliefs. Personal constructs that can provide an understanding of a teacher's practice (Nespor, 1987; Pajares, 1992; Richardson, 1996).

Cursive. Flowing handwriting often with the strokes of successive characters joined and the angles rounded.

Manuscript. Print that closely resembles the typeset found in books.

Automaticity. The state of being able to complete tasks without conscious thought.

Keyboarding. To put information into a computer using a keyboard.

Chapter 2: Literature Review

Introduction

This review of literature, divided into six sections, provides information about the effect of attitudes and beliefs of teachers, the history of handwriting, handwriting instruction, cursive handwriting, keyboarding versus handwriting, and the current state of cursive handwriting. Searches were made through university databases as well as internet searches using the following descriptors: handwriting instruction, history of handwriting, teaching cursive handwriting, cursive handwriting versus keyboarding, and the effect of teacher attitudes on teaching. The first section discusses the effects of attitudes and beliefs of teachers and their impact on classroom instruction. The second section gives a brief history of handwriting and its progression in America. The third section describes handwriting instruction, including current standards and how handwriting is currently taught. The fourth section provides information about cursive handwriting and its current research. The fifth section includes research on keyboarding versus handwriting in the classroom. The final section reports the most current state of cursive handwriting instruction in the United States.

Teacher Attitudes and Beliefs

Teacher beliefs and attitudes affect what is taught in the classroom and how it is taught (Berry, 2006; Pajares, 1992). “Attention to the beliefs of teachers and teacher candidates can inform educational practice in ways that prevailing research agendas have not and cannot” (Pajares, 1992, p. 329). Studies on teacher beliefs have been conducted for many years. These studies have investigated how teacher beliefs affect teacher decision making in the classroom (Calderhead, 1996; Clark & Peterson, 1986; Nespor, 1987; Parajes, 1992).

An article written by Bruning and Horn (2000) focused on the conditions that affect student development of motivation to write. One of those conditions is a teacher's own conceptions of writing. Bruning and Horn stated, "Teachers' views of writing are very likely to carry over into the design and conduct of their students' writing experiences" (p. 35). He discussed that a teacher's decisions about writing trace back to their own understanding of it and their own personal feelings toward it. To understand how a teacher's beliefs influence classroom practices, it is important to understand what constitutes an educational belief.

According to Pajares (1992), beliefs speak to an individual's judgment of the truth. In an article about teachers' beliefs, Pajares studied the meanings given to belief and how that meaning differs from the meaning of knowledge. In his research, Pajares categorized educational beliefs into six groups: beliefs about confidence to affect students' performance, nature of knowledge, causes of teachers' or students' performance, perceptions of self and feelings of self-worth, confidence to perform specific tasks, and beliefs about specific subjects (p. 316). These categories of educational beliefs combine to make up a teacher's broader general belief system. At the conclusion of his study, Pajares emphasized the importance of studying the effects of teachers' beliefs within these different categories.

Donna Kagan (1992) discussed the implications that research has on teacher belief for the nature of teaching and teacher education. In the article, she stated, "Teacher belief is a particularly provocative form of personal knowledge that is generally defined as pre- or inservice teachers' implicit assumptions about students, learning, classrooms, and the subject matter taught" (p. 66). Kagan organized previous research on teacher belief and content-specific beliefs. Using this type of organization, Kagan was able to

infer “that a teacher’s beliefs usually reflect the actual nature of the instruction the teacher provides the students” (p. 73). In her research, she also found that a teacher’s education, along with classroom experience, forms a teacher’s belief system. Teachers’ beliefs are influenced by their previous experiences as a child, the teacher education program attended, and the effects of working with a cooperating teacher.

Teacher belief appears to rise out of the exigencies inherent in classroom teaching. It may be the clearest measure of a teacher’s professional growth, and it appears to be instrumental in determining the quality of interaction one finds among the teachers in a given school. (Kagan, p. 85)

In another study on teacher belief, Nespor (1987) attempted to explore a framework of teacher thinking using the Teacher Beliefs Study. The study followed eight teachers during one semester using videotaping from the classrooms along with one-on-one interviews. Nespor began by distinguishing beliefs from knowledge. To do this, Nespor distinguished beliefs from knowledge using four features: existential presumption, alternativity, affective and evaluative loading, and episodic structure (p. 318). Existential presumption refers to the belief in the existence or nonexistence of a god. “Alternativity refers to the conceptualizations of ideal situations differing significantly from present realities” (Nespor, p. 319). Nespor identified affective and evaluative aspects of beliefs as the way teachers feel about or value an idea or subject. It can affect the amount of energy teachers put into a lesson or activity. Lastly, episodic storage refers to the personal experiences from one’s cultural or institutional sources. A teacher’s own experience as a student would be an example of an episodic storage. The teaching program a preservice teacher experienced would, according to Nespor, have an effect on a teacher’s belief system as well. These four features outlined the importance of

understanding how a teacher's beliefs can affect classroom practice.

While Nespor's (1987) research focused on teacher beliefs in a general setting, Cornett et al. (1990) applied the concept of personal teacher theories to the science classroom. The researchers used naturalistic techniques to collect data about a teacher's perspective on the science curriculum and instruction. Cornett et al. then inferred possible theories about the teacher according to the data they collected from lesson plans, outlines, instructional artifacts, and observations. The results of the study were specific to the individual teacher the researchers observed and could not be generalized to other teachers. However, the method of data collection did give insight into the teacher's thinking process and educational theories and could be used by other teachers to identify their own personal educational theories.

In a more recent study, Wilkins (2008) investigated 481 kindergarten through fifth-grade teachers' attitudes toward mathematics and beliefs about the effectiveness of inquiry-based instruction. Wilkins proposed that there are many factors that influence a teacher's instructional methods. Wilkins used a model by Ernst (1989) to determine their beliefs and attitudes. Wilkins found teachers' attitudes toward mathematics and mathematics teaching were found to have a positive effect on teachers' use of inquiry-based instructional practices. He also found the teachers' beliefs in the effectiveness of inquiry-based instructional practices also had a positive relationship with the teachers' use of inquiry-based methods (p. 156).

The previous studies discussed teacher beliefs and attitudes in regards to other subjects. In a 2002 study, Graham et al. studied the theoretical orientations concerning writing instruction using a survey. A theoretical orientation is a model used to describe behavior or personality. In this study, 220 first- through third-grade teachers were given

a scale for measuring writing orientation, a demographic questionnaire, and a questionnaire about teachers' writing practices. Seventy percent of the teachers responded to the survey. The scale for measuring writing orientation was used to address the teachers' beliefs about the teaching of writing. The questionnaire emphasized two basic orientations of teaching writing: the natural learning approach and the skills-based approach. A separate questionnaire was also given to the teachers regarding how often their students participated in specific writing activities and instructional procedures. These items included specific skills such as spelling, grammar, planning of writing, revision of writing, peer help, selecting of topics, and sharing of writing with peers. A factor analysis was completed, and three dimensions were yielded: "measuring beliefs about the role of explicit instruction, correctness in students; writing, and natural learning methods" (Graham et al., 2002, p. 147). Using an analysis of variance with repeated measures, a statistically significant difference was found in teachers' beliefs concerning the role of correctness, explicit instruction, and natural learning. Seventy percent of the hypothesized relationships between teachers' theoretical orientations and their reported classroom practices were confirmed. Therefore, the study supports the idea that teachers' beliefs are related to classroom instructional behaviors.

In summary, research has indicated that a teacher's beliefs affect classroom practice. Specific studies in writing, science, and mathematics have found this effect on classroom practices.

History of Handwriting

In America in the early 1800s, cursive handwriting was all about one's place in society. It represented status, education, and trade. Students of cursive handwriting copied passages related to medicine, law, religion, and business. Handwriting was taught

as a form of learning business and not as a means of generating text (Thornton, 1996). Different scripts were used based on social standing, occupation, and gender. In writing schools, which were separate from what were called *dame schools*, only the instructor wrote. The student then copied either from what the instructor wrote or from a copying book. In the mid-1800s, penmanship, cursive, started becoming a part of the school curriculum (Eaton, 1985). The Spencerian Method was widely used as the standardized method (Wallace & Schomer, 1994). Even though the Spencerian Method was simpler than systems used previously, it was still complex compared to today's styles. This was also the time when steel nibs became used more often in schools along with soft-led pencils. These were affordable to schools and, therefore, allowed schools to continue teaching penmanship for many years (Eaton, 1985). Beginning in the early 1900s the Palmer method appeared in the curriculum because it simplified the Spencerian style and teaching techniques while increasing writing speed. At this time, penmanship was considered just as important as subjects such as reading and mathematics. This style was taught exclusively until the 1920s, when manuscript writing was introduced to the schools by Marjorie Wise (Wallace & Schomer, 1994). Pedagogues in the 1900s began looking at handwriting as an expression of the individualized self (Thornton, 1996).

These pedagogues, along with Wise, emphasized,

how easy it was to teach and especially to learn, how well it fit the physiological limitations of small children, how legible it was, how it broke down the barrier between reading and writing instruction by scrapping a two-font system.

(Thornton, 1996, p. 172).

The birth of manuscript in American schools also led to many styles. Zaner-Bloser was among the first style to encompass most classrooms. It was also the style used for

teaching cursive writing (Armitage, 1985). Other styles such as D'Nealian and Italics were also introduced to ease the burden placed on students when transitioning from manuscript to cursive. Since that time, it has been widely accepted that manuscript be taught in kindergarten through second grade and cursive handwriting be taught in second or third grade.

The argument against teaching handwriting due to technology has occurred since the early 1900s with the invention of the mechanical typewriter. In the 1920s, typewriters threatened to do away with handwriting in the elementary schools, and still in the 1950s, arguments were made against forcing children to learn handwriting (Thornton, 1996). Now in today's computer technology age, arguments are made about the teaching of handwriting (Cratty, 2011; Saperstein Associates, 2012a; Zezima, 2011).

Handwriting Instruction

Handwriting is an important skill according to researchers. Thirty-one to 60% of a child's school day is spent on handwriting and other fine motor skills (McHale & Cermak, 1992). Sheffield (1996) gave three reasons why handwriting must be carefully taught: (1) it allows access to kinesthetic memory, or muscle memory; (2) it allows students the freedom to concentrate on spelling and written expression; and (3) most teachers judge student work based on the work's appearance, and adults are judged on the quality of their handwriting.

Throughout the years, handwriting standards have varied from school to school, district to district, and state to state. Some of the most common handwriting standards include that the student will (1) create legible text; (2) demonstrate the ability to print legibly (S.C. Department of Education, 2006); (3) write all upper and lower case letters of the alphabet, using correct letter formation; (4) use letter formation correctly in written

products: letter formation, lines, and spaces to create readable documents (North Carolina Department of Instruction, 2007); (5) print legibly and space letters, words, and sentences appropriately; and (6) write legibly in cursive, spacing letters, words, and sentences appropriately (Ohio State Standards, 2011).

According to research, students need daily instruction in handwriting during kindergarten through Grade 3, whether it is manuscript or cursive handwriting. Handwriting can place constraints on the development of writing and can cause students not to be able to put their thinking into written text (Graham, 2010). “The basic goal of handwriting instruction is to help students develop legible writing that can be produced quickly with little conscious attention” (Graham, 2010, p. 52). Researchers have stated that handwriting should be taught systematically in short sessions several times a week, totaling 50-100 minutes per week, for it to be beneficial to students (e.g., Cahill, 2009; Graham, 2010; Santangelo, & Olinghouse, 2009).

Graham et al. (2000) found that handwriting is causally related to learning to write in a study involving first-grade students. The researchers based the study on the knowledge that handwriting involves using working memory to remember how to form letters, along with thinking about what to write and how to spell words. The anticipated findings were that students would develop automaticity in their handwriting and, therefore, be able to use their working memory to focus on spelling and composition of text. A group of students were given supplemental handwriting instruction for 27 15-minute sessions to improve the accuracy and fluency of their handwriting. Graham et al. (2000) found that the students who receive supplemental handwriting instruction outperformed students in phonological awareness and compositional fluency. The educational implications stated that the students benefited from explicit and supplemental

instruction of how to form and fluently write their letters.

In a survey study regarding how primary grade teachers teach handwriting, Graham et al. (2007) found that nine out of 10 teachers taught handwriting, with the average number of minutes of instruction being 70 minutes per week. During the handwriting instruction, the majority of teachers would model letter formation, have students trace or copy letters, and have students correct malformed letters. The researchers also asked teachers about their beliefs regarding handwriting using a 5-point Likert-type scale, with 1 equaling disagree strongly and 5 equaling agree strongly. For the statement “I like to teach handwriting,” the average response was 4.01. For the statement “I look forward to teaching handwriting,” the average response was 3.44. Ninety three percent of teachers believed that handwriting should be taught as a separate subject. According to this survey, handwriting instruction and practice are important to teachers.

Similarly, in a more recent survey, Donica, Larson, and Zinn (2012) conducted an online survey of 505 teachers and 16 professors to find out about handwriting instructional practices. One piece of information this study included was information about handwriting instruction teachers received in college. The survey results indicated that 35% of the teachers surveyed received handwriting instruction during their teacher education program. Ninety-five percent of the teachers agreed that it should be included in teacher education programs. Eighty-nine percent of the teachers who said they did not receive handwriting instruction in college stated it would have been helpful to have it. About 33% of the teachers had participated in trainings about handwriting instruction since graduating (Donica et al., p. 130).

The teachers also responded to statements about current classroom instruction.

Fifty-two percent of the teachers indicated using a formal handwriting curriculum, and 44.3% spent an hour or less a week on handwriting skills with students because they did not have time to teach it due to state requirements for testing.

Most recently, Tanya Santangelo presented findings from a meta-analysis she and Steve Graham completed on the effects of handwriting instruction (Graham & Santangelo, 2012). During her presentation, Santangelo stated that the majority of students still write by hand when at home and at school. Their research found that students who have difficulties with writing create what are called reader's and writer's effects. The reader's effects impede understanding of the writing and revising of the content by the writer and others. It also impacts others' evaluations of the writing. The writer's effects deal with fluency when composing, such as planning, drafting, and sentence construction. Students use their metacognitive skills to focus on the physical portion of writing, and they are not able to focus on content writing aspects. From the meta-analysis, Graham and Santangelo (2012) were able to determine that handwriting instruction produces great gains. They found that when handwriting is taught, legibility improves. This finding was based on 18 studies from kindergarten through Grade 9. The effect size was .59 which demonstrates moderate significance. Fluency was also found to improve from handwriting instruction. From 14 studies involving kindergarten through ninth grades, the effect size was .67, a moderate significance. The effect size of overall quality of a student's writing was .93, a large effect size, from four studies of Grades 1 through 9. Lastly, the researchers determined that students generate more text due to handwriting instruction. Three studies were examined in Grades 1 through 9. The effect size was 1.58.

Handwriting instruction has been a topic of discussion as the Common Core

Standards have begun being taught in many states. In January 2012, leading researchers met to discuss handwriting in the 21st century at the “Handwriting in the 21st Century Summit.” Researchers shared information about handwriting instruction and its importance in today’s society even with the use of daily technology in schools (Saperstein, 2012a). Berninger (2012) also discussed the importance of handwriting in the 21st century. She discussed that handwriting is not just a motor skill but also a written language skill that involves *non-motor mental processes*. Berninger (2012) gave three reasons handwriting is important: (1) it trains the orthographic loop, which supports spelling and composing; (2) it facilitates perception of letters, which transfers to reading real words as shown in both instructional and brain imaging studies; and (3) it trains serial organization (p. 30).

The research indicates that handwriting is an important skill and teachers feel it is important to teach, but how does cursive handwriting fit into the equation?

Cursive Handwriting

The debate about cursive handwriting has been around for decades, but the influence of technology on today’s society has caused educators, parents, and students to question its necessity (West, 2007). Vic Supon (2009) questioned the practicality of cursive handwriting due to the decreasing time to teach it. Along with time constraints, he was also concerned with the difficulties cursive handwriting causes for left-handed students, English as a Second Language students (ESL), and English Language Learners (ELL). He called for more educational research in the area of cursive handwriting to help determine its importance. Among teachers today, there has been a debate as to whether cursive handwriting should be taught. In an article in *American Teacher* (Cravens, 2004), two teachers argued their reasons for and against the necessity of cursive handwriting.

Most recently, *National Geographic*, a widely recognized publication, referenced the end of cursive handwriting (Rizzo, 2012) and the number of students in colleges today who print instead using cursive.

Many of the studies written about cursive handwriting are comparisons between cursive handwriting and manuscript (Armitage, 1985; Early et al., 1976; la Cour, 1980). Many other studies on cursive handwriting have dealt with learning disabled students or students with occupational therapy problems (Karlsdottir, 1997; Roberts, Siever, & Mair, 2010; Shimel, Candler, & Neville-Smith, 2009). At the time of the study, there was not a sufficient amount of studies on the advantages of learning to write in cursive. However, new research is being conducted by researchers such as Karin James from the University of Indiana on the effects of cursive handwriting on the brain, but these studies are still being researched (Indiana University News Room, 2012). The following portions of this literature review focus on the comparisons between manuscript and cursive handwriting.

Researchers such as la Cour (1980) believed that beginning writing instruction with cursive instead of manuscript is beneficial to students. He hypothesized that the early practice of cursive strengthened the process of learning to read. La Cour believed this happened because students became familiar with the visual shape of the letter and its name early on. “By means of introducing cursive instead of manuscript writing, an altogether different process of copying is initiated within the beginner” (la Cour, 1980, p. 163). He also hypothesized that the use of cursive handwriting helps children with the learning of syllables by understanding the construction of words visually, kinesthetically, and auditorily. He emphasized that the concern should not be with the slant, size, and equality of the letters as far as penmanship is concerned but with the experience the child gains about letter understanding.

Comparatively, Sheffield (1996) believed that handwriting is neglected, whether it is cursive or manuscript. She stated several reasons for teaching cursive in first grade: (1) the act of writing is kinesthetic, not visual, and children can easily learn cursive letters since there is a symbol they can read and write; (2) there is a lack of letter reversals; (3) all letters begin on the writing line so there is less confusion about where to begin for forming each letter; (4) cursive writing makes the clear distinction of word from word. It provides natural spacing between words; and (5) it frees students from the shift from manuscript to cursive in later grades. One of her major arguments favoring the teaching of cursive handwriting first was that students will not have to make the shift from manuscript to cursive in second or third grade. Students would not need any extra training to transfer from manuscript to print.

Furthermore, Early et al.'s (1976) study investigated the effects of initially teaching cursive handwriting to first-grade students. His reason for the study was due to the lack of conclusive data in relevant literature to justify initial teaching of either manuscript or cursive handwriting. The subjects included 21 first-grade children from one school in Indiana and 27 students from another school nearby. Before entering first grade, the students were given a readiness test. The class of 27 students was taught cursive handwriting exclusively using a method which emphasized certain basic developmental principles. The class of 21 first graders was taught manuscript using traditional methods. The hypotheses stated by Early et al. were supported by the data collected. He suggested that due to the data obtained, teaching manuscript initially to children should be reexamined.

In a later study, Doreen Armitage (1985) researched the handwriting of third-grade students to determine if poor printers make poor cursive writers. She stated that the

literature suggested that instruction in cursive handwriting should be withheld from students who have trouble with printing. In her study, she took writing samples from 137 third-grade students. Each student wrote a manuscript sample in October and a cursive writing sample in April. A Diagnostic Inventory was used by trained raters to score the writing samples. The evaluation looked at letter formation, letter size, slant, spacing of letters, spacing of words, alignment of letters, and neatness. The results showed a low correlation between manuscript and cursive when just focusing on the elements of form. There was a strong correlation between the two types of writing when focusing on neatness. Armitage claimed that based on the evidence provided by the study, there is not enough evidence for the thesis that poor printers make poor cursive writers. Therefore, cursive handwriting instruction does not need to be withheld from poor printers.

Graham et al.'s (2007) study, "How Do Primary Grade Teachers Teach Handwriting? A National Survey," found that cursive was the most common script taught. Half of the respondents from his survey reported teaching cursive. Of those teachers, 63% taught third grade and 31% of them taught second grade. Ninety-eight percent of the teachers believed that manuscript and cursive should be taught. The majority of the teachers thought that cursive handwriting instruction should start in second or third grade.

A study conducted by Graham, Weintraub, and Berninger (1998) looked at the relationship between handwriting style, speed, and legibility. In this study, the researchers studied the handwriting style of 600 students in Grades 4 through 9. They took three handwriting samples from the students. One sample was obtained by students copying a text. The second sample was obtained by students generating their own free

written narrative, and the third sample included a free written expository composition. The handwriting samples were examined to determine if the students wrote in manuscript, cursive, mixed-mostly manuscript, or mixed-mostly cursive. When all grade levels were combined, manuscript, cursive, and mixed-mostly manuscript had equal frequency at 30%. The percentage of students using only cursive stayed between 25% and 32% for all grade levels. The handwriting of the students who mixed manuscript and cursive had a faster transcription speed than those who used manuscript or cursive exclusively. According to the survey (Graham et al., 2007) about how primary teachers teach handwriting, 57% of teachers believed that students should be allowed to personalize their own script as they did in this study about speed and legibility.

Keyboarding and Handwriting

So what role does keyboarding play in today's schools? As seen in the study by Rogers (2009), the number of students participating in keyboarding has increased. Several studies have been conducted by comparing keyboarding and handwriting. In January of 2012, leading researchers of handwriting gathered together in a summit to discuss the role of handwriting instruction in today's schools (Saperstein, 2012a). One of the outcomes of this summit was the *Written-Language Production Standards*. The standards were created by a group of researchers at the January summit. They addressed the issue that the Common Core Standards (National Governor's Association, 2010) excluded handwriting standards, and that both handwriting and keyboarding skills are needed.

In 2009, Berninger, Abbot, Augsburger, and Garcia conducted a study comparing keyboarding and handwriting transcription among students with and without learning disabilities. The researchers compared students in second, fourth, and sixth grades in

regards to writing letters, sentences, and essays by pen and by keyboard. The study followed one group of students from first to fifth grade. The second cohort of students was followed from third to seventh grade. Students in each cohort were identified as learning disabled in transcription skills or children without a learning disability in transcription skills. The students were administered three levels of language each year. The order of the administration did not vary to keep the comparisons constant. In the first task, students were asked to write by pen and select by keyboard letters of the alphabet in order as quickly and accurately as possible. For the second task, students were asked to write a sentence by pen and then by keyboard about specific topics. For the final task, students were given 10 minutes to write an essay by pen and then by keyboard. The letter task was scored by the number of legible letters written in alphabetical order during the first 15 seconds by pen and by keyboard. The total time for writing or keyboarding all 26 letters was recorded. The sentences were assessed for the number of words and rate of word production.

Though students were able to produce more letters using the keyboard in all grades and were able to produce more words in sentences in Grades 4 and 6, students in all three grades were able to produce more words written in an essay by pen than by keyboard. Similarly, the researchers did not find any statistical difference in the amount of text produced by pen and keyboard between students identified with and without a learning disability. Thus, the researchers concluded that the use of a keyboard may not necessarily be the best for producing text.

An earlier study conducted in the United Kingdom by Connelly et al. (2007) compared keyboarded and handwritten compositions and the relationship with transcription speed. The researchers set out to examine the link between the quality of

compositions created using a word processor and keyboarding fluency. The study included two parts. In the first study, the researchers examined handwriting and keyboarding fluency in a sample of students ranging from 4 to 11 years old. The study supported the original hypothesis that handwriting fluency outweighs keyboarding fluency without explicit keyboarding instruction. Study two examined the quality of student compositions created by keyboard and by hand. The researchers used a subset from study one which included 48 fourth and fifth graders. The students were asked to write a creative writing piece using handwriting and another creative writing piece using a word processor. The students were given the same directions for each writing task. The writing was scored using the Weschler Objective Language Dimensions (WOLD). The scores for the handwritten pieces received higher scores for both the fourth graders and fifth graders. The researchers suggested that with the investment being made to supply schools with more technology, students could benefit from explicit instruction in keyboarding so that writing skills will not be impeded by the use of a keyboard.

In addition, Preminger et al. (2004) set out to resolve if there is a correlation between handwriting and keyboarding speed and accuracy to determine if keyboarding can be used as an alternative tool for writing. In the study, the researchers assessed 63 students' performances in handwriting and keyboarding skills. The students were pretested on their keyboarding skills using touch typing. The students were then given 15 touch typing instruction lessons for 20 minutes each. A posttest followed the training. The results of the study showed that accuracy in handwriting and keyboarding were high. However, there was a difference in speed. Students had a higher percentage of speed with handwriting than keyboarding. The author suggested the reason for this was due to fifth graders having automaticity in handwriting because of their age, as well as only

having had 5 hours of keyboarding instruction. When comparing speed, handwriting and keyboarding were moderately to significantly correlated. The author suggested that the study indicated keyboarding may be considered as an alternative writing tool but that since it was the first study of its kind, more research may be needed.

Similarly, in an earlier study, Rogers and Case-Smith (2002) studied the relationship between handwriting and keyboarding performance of sixth-grade students. The researchers examined the relationship of sixth-grade students' handwriting speeds and legibility with keyboarding speed. The students' handwriting legibility was first assessed using the Test of Legible Handwriting. Next, handwriting and keyboarding speeds were assessed by having students copy a poem in their usual cursive handwriting and then keyboarding for 2 minutes. After the initial handwriting and keyboarding samples were taken, the sixth-grade students participated in a keyboarding class for 12 weeks. Each of the 30 sessions met for 40 minutes each. After the instruction, students' handwriting speeds and legibility were compared with keyboarding performance. There were low correlations between handwriting speed and legibility with keyboarding speed. This correlation suggests there are some common elements in the skills needed in handwriting in keyboarding. The research also suggested that if students have difficulty with handwriting, they may still be able to produce text using a keyboard.

Stainthorp (1997) took a different direction when examining keyboarding in the elementary school. She researched whether or not using a computer, as compared to handwriting, was an effective way to learn to spell words. In the study, third-grade students spent time learning to spell words on the computer with and without auditory feedback. They also spent time handwriting the words with and without feedback. After the instruction on the words, the students were given a spelling test in which half of the

words were written and half were keyed into the computer. Though students improved in their spelling of the words, there was not a correlation between the spelling of the words and whether the students wrote the word by hand or used the keyboard. The researchers indicated that further research is needed.

Using the knowledge that speed and fluency of writing has been known to correlate with the quality of children's writing, Crook and Bennett (2007) compared the speed and fluency of students' writing composition, ages six to eleven. The researchers considered the skill of writing a *tool-mediated activity*, meaning whatever tool students chose to use, whether it be pen or keyboard, mediation to work towards writing fluency is needed. In the 2007 study, the researchers studied groups of children from two schools. For part one of the study, students keyboarded and handwrote from memory their first and last name or the phrase "the man sat down." In the second part of the study, students copied one of two sentences by keyboard and by pen, a pretyped pangram. The students were asked to do the writing and typing as quickly as possible but to also complete it in the same standard they would complete daily work in class. The samples were then compared for the rate of text production.

The results of the study showed that students wrote quicker by hand than with the keyboard. The researchers concluded that although the students previously had many experiences with computers, writing by pen in the method of this study was faster. The researchers argued that the data do not mean that keyboarding should not be considered as a tool for writing but suggest that more research be done in this area.

Current State of Cursive Handwriting

The current state of cursive handwriting largely depends upon the states and local districts who have adopted Common Core. Since the Common Core standards do not list

cursive handwriting as a skill needed to be taught, the instruction of cursive handwriting is left up to the individual states and local districts.

According to WAGT NBC 26 News report (July, 2012), the Georgia State Department of Education felt strongly enough about the necessity of cursive handwriting that they added it to their Common Core Standards. “The board came together and voted to include cursive writing. Technology is still important but it’s still just one of those skills that to be successful anywhere you need to have legible handwriting” (WAGT NBC 26 News, 2012). In January, the Indiana state senate passed a bill to require public schools to teach cursive handwriting even though it is not in the Common Core Standards which Indiana adopted in June 2011 (Robelen, 2012).

Similarly, the Kansas State Department of Education is currently exploring the issue of cursive handwriting. A survey completed in the state of Kansas found that the majority of Kansas schools are still teaching cursive handwriting. As of November 2012, the Kansas school board was discussing whether or not to establish guidelines for handwriting instruction. They did not already have standards requiring handwriting to be taught (Tobias, 2012).

Back in January 2012, leading researchers of handwriting met at an educational summit to discuss the role of handwriting in the 21st century classroom. The leading researchers spoke to an audience about if and how handwriting should be taught. Dr. Conti, Director of the Human Movement Laboratory at Wayne State University, presented research on the kinematic and clinical correlates of cursive handwriting in elementary school children. She specifically researched the kinetic movements of third- and fifth-grade students from two elementary schools. She tested 53 third graders and 56 fifth graders to determine if illegible handwriting could be predicted. For this study, she

assessed the students using five factors. The first factor tested pinch strength. All of the students showed sufficient pinch strength for their age and gender. The fifth-grade boys demonstrated a stronger pinch. Next, she assessed the students' sensation of the index finger's fingertip knowing that sensation is important to movement. The third factor assessed was coordination using a hand steadiness apparatus and grooved peg board. Next, kinematic variables (motor movements) were assessed using a digitalized tablet. The students had to make four linked l's on the tablet. The samples were studied for character width and slant variability. The last factor assessed was the students' handwriting quality, legibility and speed using the ETCH, Evaluation Tool of Children's Handwriting. Using the ETCH, a score of 75% or above rated legible handwriting. Anything below 75% rated illegible handwriting. Using a linear regression model, Dr. Conti found that illegible handwriting could be predicted on the basis of students' coordination. Students who took longer to complete the grooved pegboard and students who had more errors on the hand steadiness test were predictors of illegible handwriting. The linear regression model also indicated that being male was a predictor of having illegible handwriting.

A handwriting survey was also taken at the summit in which participants answered questions about their own handwriting and beliefs about handwriting. Ninety-one responses were recorded. When asked if their last thank you note was written by hand or keyboarded, 82% stated handwritten and 18% said keyed. Fifty-five percent of the participants stated that when they wrote with a pen or a pencil they used a combination of both manuscript (print) and cursive handwriting. Thirty-seven percent used cursive and only 8% used manuscript (print). Four percent of the respondents felt that only manuscript should be taught in schools. Ninety-five percent believed that both

manuscript and cursive should be taught, and only 1% believed that neither should be taught. When asked about the importance of keyboarding instruction, 66% of the respondents stated it was very important, 30% stated it was somewhat important, and 4% stated it was not too important. The survey findings of these educators were indicators that more research is needed in the area of cursive handwriting.

Also at the 2012 Educational Summit on handwriting, the participants concluded that there was a need for a set of benchmarked handwriting standards. From this summit, the Written-Language Production Standards for Handwriting and Keyboarding were written for kindergarten through eighth grades (Saperstein Associates, 2012b). The standards were divided into three subsections: form and production, fluency, and writing application and word processing. In each of these strands, grade-level expectations were set. In third grade, the standard states that students will begin to form letters and numerals using cursive writing. It also states that students will use keyboards to enter text. In fourth grade the standards require students to form legible letters and numerals in cursive as well as use a keyboard to create written documents. The fifth-grade standards expand even further and require students to maintain legibility in cursive along with using a keyboard to create written documents, while consistently typing without looking at the keys.

The authors of the standards realized the need for keyboarding skills. They stated, “Keyboarding is handwriting’s complement for 21st century environments, and it is a practice that will become increasingly important for students’ writing success” (Saperstein Associates, 2012b, p. 3). Along with keyboarding, the authors wanted to make sure educators and policy makers continued to understand the importance handwriting plays in a child’s language acquisition.

Research Questions

The initial research questions were:

1. What are the attitudes and beliefs among third- through fifth-grade teachers about the necessity of teaching cursive handwriting?
2. How do teachers who have been teaching 1-10 years compare in their attitudes and beliefs about the necessity of teaching cursive handwriting with teachers who have been teaching 11-20 years and more than 20 years?
3. How do the attitudes and beliefs of the teachers differ about the necessity of teaching cursive handwriting among the three grade levels?
4. How do the attitudes and beliefs of teachers differ about the necessity of teaching cursive handwriting among teachers whose schools are not involved in using iPads for daily instruction with teachers whose schools are involved with using iPads for daily instruction?

Summary

The research in this literature review indicated that teacher beliefs and attitudes affect how and what teachers teach in the classroom. This chapter reviewed the history of handwriting in America and its changes over the course of time in education. Next, the chapter reviews how researchers believe handwriting should be instructed and how teachers are currently teaching handwriting in classrooms across the United States. Recent surveys revealed that teachers believe handwriting is important, but that there is not enough time to teach it. The surveys also revealed that teachers are still teaching cursive handwriting and believe that it should be taught. Lastly, this review of literature sought to demonstrate the debate by parents, educators, researchers, and occupational therapists about manuscript versus cursive and cursive versus keyboarding. With the role

that technology is playing in the everyday life of students and the implementation of the Common Core Standards, more research is needed about the advantages and disadvantages to cursive handwriting versus keyboarding.

Chapter 3: Methodology

Statement of the Problem

Technology in schools is a given. The number of schools using computers and keyboarding on a daily basis continues to rise. In fact, the new Common Core Standards adopted by 45 out of 50 states requires students to publish writing using keyboarding. However, students still need to know how to write using a pen or pencil. Students do not have a piece of technology in front of them 24 hours a day. It is the opinion of the researcher that students need to be able to put their thoughts down on paper, take notes, write down homework, make lists, etc. The question is where does cursive handwriting fit into all of this? How do teachers of cursive handwriting feel about the necessity of teaching it? Knowing that what teachers believe affects what they teach and how they teach, what are the attitudes of third-, fourth-, and fifth-grade teachers regarding the necessity of teaching cursive handwriting?

The purpose of this study was to determine the attitudes and beliefs among third-, fourth-, and fifth-grade teachers about the necessity of teaching cursive handwriting and compare the results of their beliefs by grade level, years of experience, and whether or not they teach in a district with a technology initiative.

Research Design and Rationale

The initial research questions were:

1. What are the attitudes and beliefs among third- through fifth-grade teachers about the necessity of teaching cursive handwriting?
2. How do teachers who have been teaching 1-10 years compare in their attitudes and beliefs about the necessity of teaching cursive handwriting with teachers who have been teaching 11-20 years and more than 20 years?

3. How do the attitudes and beliefs of the teachers differ about the necessity of teaching cursive handwriting among the three grade levels?

4. How do the attitudes and beliefs of teachers differ about the necessity of teaching cursive handwriting among teachers whose schools are not involved in using iPads for daily instruction with teachers whose schools are involved with using iPads for daily instruction?

To answer these questions a mixed-method embedded design was implemented as the methodology of this study to determine the attitudes and beliefs of third- through fifth-grade teachers about the necessity of teaching cursive handwriting. Embedded designs are used to collect quantitative and qualitative data simultaneously. The qualitative data played a supportive role to the quantitative data (Creswell, 2008). The quantitative data was obtained from surveys, and the qualitative data supplemented the quantitative data with open-ended questions in which responses were analyzed qualitatively.

Participants and Data Collection

The participants for both the quantitative and qualitative data of this study were current third-, fourth-, and fifth-grade teachers in two adjoining suburban school districts in the southeast. The number of survey participants was 165 teachers. An electronic survey instrument was sent via email to teachers who teach third, fourth and fifth grade in the two districts. Teachers were asked about their current beliefs and attitudes about the importance of teaching cursive handwriting, the importance of students using cursive handwriting, whether or not cursive handwriting should be taught as a separate subject, and about its relevance in today's society with the advances in technology. Open-ended questions that could be analyzed qualitatively were also included in the survey.

According to Creswell (2008), a mixed-methods approach collects diverse types of data to provide an understanding of the research problem. The qualitative responses allowed the researcher to have a greater understanding of the attitudes and beliefs of the teachers related to the teaching of cursive handwriting.

Instrument

Since an existing survey could not be found, the researcher created a survey (see appendix) and validated the survey using two schools from a school district that was not involved in the dissertation data. To validate the survey, the group in the pilot study was asked to answer the questions honestly and then give feedback on the wording of the questions. The participants were asked to address the clarity of the survey statements and questions, the appropriateness of the Likert scale method, and the amount of time in minutes it took to complete the survey. Once the responses were received, a Cronbach's Alpha Reliability test was used to determine the reliability of the survey instrument. Using this test gave a measure of internal consistency.

The survey was designed to collect data to answer the research questions stated. The first portion of the survey had statements about the attitudes and beliefs teachers hold about the teaching of cursive handwriting and keyboarding. A 5-point Likert scale was used for these questions. A Likert-type scale is considered an interval/ratio scale and assumes that the response choices are of equal distance from each other (Creswell, 2008). A Likert scale is easy to construct and is commonly used to assess opinions and attitudes. The second portion of the survey asked questions that participants could respond to in short answers. These questions were analyzed for themes and common responses. The final section of the survey asked questions about the demographics of the teachers such as number of years of teaching experience, formal preparation for teaching handwriting,

school district employer, and what grade they teach. This information was used to compare groups and analyze beliefs and attitudes among the different groups.

Before the survey was given to participants, permission was obtained from the correct party within each school district to conduct the survey. To begin the collection of data, teachers from both school districts were sent an electronic survey to complete. The participants had a 2-week time frame to complete the survey. By completing the survey, participants implied consent.

Analysis Procedures

Once the surveys were collected, Statistical Package for the Social Sciences (SPSS) was used to analyze the findings and compare the groups. The statistical significance level 0.5 was used to determine statistical significance. The information was coded to determine significance between third, fourth, and fifth grades; years of experience; and school districts. The results from a Likert scale survey are actually ordinal data. Since it is often interpreted as interval data, parametric and nonparametric statistics were used when analyzing the data. The parametric statistic, analysis of variance (ANOVA), was used to determine if there was a statistical difference among the three grade levels and the number of years of teaching experience. Another parametric statistic, t test for independent samples, was used to analyze the responses to determine if there was a difference between the two districts. The nonparametric statistic used was the Kruskal-Wallis; it was used to analyze the differences in the grade levels and years of experience. The Mann-Whitney U served as a second way to compare the responses from the two districts. The information collected from the open-ended questions was analyzed by the researcher to determine reoccurring statements and themes. This information was then used to inform the researcher's understanding of quantitative data.

The first research question, “What are the attitudes and beliefs among third-through fifth-grade teachers about the necessity of teaching cursive handwriting,” was reported by the responses received from the participants. The data from each statement from the survey was reported in a table describing the frequency of responses for each of the statements as well as a table describing the mean and standard deviation.

The second research question, “How do teachers who have been teaching 1-10 years compare in their attitudes and beliefs about the necessity of teaching cursive handwriting with teachers who have been teaching 11-20 years and more than 20 years,” was analyzed using an analysis of variance and the Kruskal-Wallis to determine if there was a statistical difference among the three levels of years of teaching. The open-ended responses were also analyzed based on the teachers’ years of experience. Common themes were identified and reported.

The third research question, “How do the attitudes and beliefs of the teachers differ about the necessity of teaching cursive handwriting among the three grade levels,” was analyzed in two ways. First, an ANOVA and the Kruskal-Wallis were used to test for significance of difference among the three grade levels. Second, the open-ended questions were analyzed for ordinary themes, unexpected themes, hard to classify themes, and major and minor themes (Creswell, 2008). A narrative was written to explain the findings from the survey questions.

The fourth and final research question, “How do the attitudes and beliefs of teachers differ about the necessity of teaching cursive handwriting among teachers whose schools are not involved in using iPads for daily instruction with teachers whose schools are involved with using iPads for daily instruction,” was analyzed using a t test for independent samples along with the nonparametric method, Mann-Whitney U. The t test

for independent samples and Mann-Whitney U evaluated the differences between the two groups of teachers. The independent variables were the two sets of teachers: teachers from the school district without schools using iPads for daily instruction and those from the school district with schools using iPads for daily instruction. The dependent variable was their answers to each item from the survey. The researcher then looked for a statistical significance of $p < 0.5$.

Delimitations

This study is subject to the following delimitations.

1. This study was limited to current third-, fourth-, and fifth-grade teachers.
2. This study was limited to two suburban school districts in the southeast.
3. This study looked at the attitudes and beliefs of elementary teachers who are involved in the writing activities of students. It did not include teachers of art, music, physical education, technology, or media.

Timetable

This study began in January of 2012. A pilot survey was given to a group of third-, fourth-, and fifth-grade teachers at a nearby school district to validate the reliability of the survey. The results from the pilot survey were ready within a few weeks after conducting the survey. Once the survey was validated, the survey was emailed to the third-, fourth-, and fifth-grade teachers in the two school districts involved in the study. Once the surveys were completed, the researcher began analyzing the data using SPSS for the Likert scale questions and an analysis was completed on the open-ended questions.

Chapter 4: Results

Introduction

The debate about teaching cursive handwriting continues in schools, school districts, and states today. Given the debate about the necessity of teaching cursive handwriting, this study looks at the attitudes and beliefs of teachers about the necessity of teaching cursive handwriting. This chapter presents the results of a survey given to third-, fourth-, and fifth-grade teachers in two neighboring school districts in the southeast examining those attitudes.

This study focused on four research questions: (1) what are the attitudes and beliefs among third- through fifth-grade teachers about the necessity of teaching cursive handwriting; (2) how do teachers who have been teaching 1-10 years compare in their attitudes and beliefs about the necessity of teaching cursive handwriting with teachers who have been teaching 11-20 years and more than 20 years; (3) how do the attitudes and beliefs of the teachers differ about the necessity of teaching cursive handwriting among the three grade levels; and (4) how do the attitudes and beliefs of teachers differ about the necessity of teaching cursive handwriting among teachers whose schools are not involved in using iPads for daily instruction with teachers whose schools are involved with using iPads for daily instruction?

The study used quantitative and qualitative measures to focus on these questions. In January 2012, a survey was sent electronically to 125 third-, fourth-, and fifth-grade teachers in a small suburban school district in the southeast that does not have a technology initiative of daily iPad use within the classrooms. Seventy-five surveys were also sent to third-, fourth-, and fifth-grade teachers in a neighboring school district that does have an iPad technology initiative. The same survey was given to the teachers of

the two school districts. Likert scale questions were asked to collect quantitative data along with open-ended questions to collect qualitative data.

Since an existing survey could not be found, the researcher created her own survey. A pilot study was conducted using two schools in an adjacent school district to the school districts being featured in this study. Cronbach's Alpha was used to determine the reliability of the survey. This measure of internal consistency is used to determine how closely related a set of items are as a group. A coefficient of .70 or higher is considered acceptable. For this pilot test, Cronbach's Alpha yielded a reliability factor of .775. The reliability is not as high as the researcher would like for it to be; however, it is still within the adequate range.

The researcher also asked for feedback from the pilot study group about the clarity of the questions, the amount of time it took to complete the questions, and any other questions they might feel would be pertinent to ask. The only suggestions that were made were about grammatical errors made on the survey. Therefore, the researcher maintained the original questions and format.

Findings

Overall, 200 surveys were sent electronically to third-, fourth-, and fifth-grade teachers from the two school districts. Eighty-seven surveys were completed from the school district without the district technology initiative. Thirty-nine responses were received from the school district with the iPad technology initiative. The total response rate was 63%. The first school district's return rate was 70% and the second school district's response rate was 52%. Demographic data from the teachers who participated in the survey can be found in Table 1.

Table 1

Teacher Demographics

	Number of Respondents	Percentage
<u>Gender</u>		
Male	13	10%
Female	113	90%
<u>Grade</u>		
Third	43	34%
Fourth	41	33%
Fifth	42	33%
<u>Years of Experience</u>		
1-10 years	57	45%
11-20 years	46	37%
More than 20 years	23	18%

The demographics show the majority of teachers responding were female. There was an equal amount of third-, fourth-, and fifth-grade respondents. Teachers who had been teaching 1 to 10 years also had the most respondents.

Research Question 1

What are the attitudes and beliefs among third- through fifth-grade teachers about the necessity of teaching cursive handwriting? Statements 1, 2, 3, and 6 from the survey are related to Research Question 1. Statement 1 asked the teachers to respond to the statement “I teach cursive handwriting.” Of the 126 respondents, 45% responded they do not teach it at all. Twenty-one percent teach it as needed. Three percent said they teach it monthly. Thirteen percent teach it weekly, and 15% teach it daily. Three of the respondents did not answer statement 1.

Statement 2 asked the teachers to respond to the statement “My students spend time practicing cursive handwriting.” Fifty-one of the respondents stated their students do not spend any time practicing cursive handwriting. Twenty-one percent of the respondents stated their students practice cursive 15 minutes per week. Sixteen percent of the respondents’ students practice cursive handwriting 30 minutes per week, 10% practice 45 minutes per week, and only 2% of the respondents’ students practice an hour or more per week. One respondent did not select a response. The third statement teachers responded to was “Students complete assignments in cursive handwriting.” The largest group of teachers, 37%, stated that their students do not complete assignments in cursive. Twenty-nine percent stated that their students complete assignments in cursive on rare occasions. Twenty-one percent of teachers’ students complete assignments in cursive occasionally and 8% often. Only 3% of teachers’ students complete assignments in cursive consistently. Two teachers completing the survey did not respond to this statement.

Though the majority of the teachers do not teach cursive handwriting or have students spend time practicing cursive handwriting, their opinion was different when asked about cursive handwriting being a skill students need to learn. Statement 6 asked teachers to respond to the statement “Cursive handwriting is a skill that students need to learn.” Only 5% of the teachers strongly disagreed with the statement that cursive handwriting is a skill that students need to learn. Twenty-five percent disagreed with the statement. Twenty-three percent of the teachers remained neutral on the statement. However, 33% agreed with the statement that cursive handwriting is a skill that students need to learn. Twelve percent strongly agreed with the statement, and three teachers did not respond. Table 2 shows the frequency of the previous results.

Table 2

Frequency of Responses

Statements (n=126)	Likert Scale Score				
	1	2	3	4	5
I teach cursive handwriting. (n= 124) (1= not at all, 2= as needed, 3= monthly, 4= weekly, 5= daily)	47	28	4	16	19
My students spend time practicing cursive handwriting. (n= 126) (1= not at all, 2= 15 min. per week, 3= 30 min. per week, 4= 45 min. per week, 5= one hour or more per week)	65	26	20	12	3
Students complete assignments in cursive handwriting. (n= 124) (1= not at all, 2= on rare occasions, 3= occasionally, 4= often, 5= consistently)	46	36	28	10	4
Cursive handwriting is a skill students need to learn. (n= 123) (1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree)	6	32	29	41	15

Note. Difference in Likert Scale descriptions.

Descriptives were also calculated for individual survey questions in Table 3.

Table 3

Descriptives by Individual Question

Survey Question	Mean	Std. Deviation
I teach cursive handwriting.	2.29	1.51
My students spend time practicing cursive handwriting.	1.90	1.12
Students complete assignments in cursive handwriting.	2.11	1.09
I like teaching cursive handwriting.	2.94	1.11
I personally use cursive handwriting when I write.	3.18	1.21
Cursive handwriting is a skill that students need to learn.	3.22	1.10
Cursive handwriting should be taught as a separate subject.	2.84	1.17
I think it would be beneficial to receive training on how to teach cursive handwriting.	2.78	1.18
I give my students the choice whether to use cursive handwriting or some other form of written communication.	3.54	1.31

Note. Scale: 1= strongly disagree to 5= strongly agree.

The mean score for statements 1 and 2 differ slightly. More teachers disagree with the statement “I teach cursive handwriting” than the statement “My students spend time practicing cursive handwriting.” The mean greatly differed when teachers responded to statement 6, “Cursive handwriting is a skill that students need to learn.” The mean was 3.22 with a standard deviation of 1.10. Another noticeable statement was “I give my students the choice whether to use cursive handwriting or some other form of written communication.” The mean was 3.54 with a standard deviation of 1.31.

Three statements were reverse keyed since the question pertained to teachers’

attitudes and beliefs about keyboarding instead of cursive handwriting. Descriptive data can be found in Table 4.

Table 4

Descriptives of Keyboarding Survey Questions

Survey Question	Mean	Std. Deviation
My students receive keyboarding (typing) instruction at school.	2.61	1.00
Students complete assignments using a keyboard.	2.87	0.90
Keyboarding is a skill that students need to learn.	1.27	0.80

Note. Scale: 1= strongly agree to 5= strongly disagree.

When analyzing the keyboarding statements, there was also a significant difference in relationships to the statements about cursive handwriting. The Likert scale was reversed giving strongly disagree the value of 5 and strongly agree the value of 1. When responding to the statement “My students receive keyboarding instruction at school,” the mean was 2.61 with a standard deviation of 1. The mean for the third statement, “Keyboarding is a skill that students need to learn,” was 1.27 with a standard deviation of .80 and compares with the majority of what teachers stated in the open-ended questions.

Three of the open-ended questions on the survey relate to the first research question. Teachers were asked, “If you teach cursive handwriting, why do you teach it?” They were also asked, “If you do not teach cursive handwriting, why do you not teach it?” A third question that was asked was, “In your opinion is it more important for students to know how to write in cursive or keyboard? Why do you think so?” These

open-ended questions were analyzed for themes. The majority of teachers who teach cursive handwriting said they teach it because it is required as a part of the state standards. Another common theme among the teachers' responses was that they taught cursive so students would know how to read cursive in older historical documents and so students can know how to sign their names. Several teachers also mentioned teaching cursive because it gives students an option in handwriting and can be helpful to those who have a hard time writing in print. One fifth-grade teacher stated,

Students should read and write in cursive for several reasons: (1) they may come across older documents they have to research in college that are handwritten; (2) cursive handwriting is more legible than print for some student due to the continuous flow and break in between words; (3) they need to be able to sign their names (and sometimes read others' signatures) in cursive for legal documents, etc.; (4) cursive is sometimes easier for students to use for note taking as they go to high school and college; (5) we are always trying to offer options/choices for everything we teach. Why not handwriting since cursive may be handwriting of choice?

The majority of teachers who responded to the open-ended question, "If you do not teach cursive handwriting, why do you not teach it," stated there was not enough time to teach it due to the other requirements that needed to be taught. Another common theme was cursive handwriting is not applicable in today's society. One comment by a fourth-grade teacher read,

I do not think it is very beneficial in today's society. The majority of information that is read is in print. Newspapers are in print, books are in print and computers type print unless you choose a cursive font. I do not believe that it is a good use

of instructional time.

A third open-ended question had teachers respond to “In your opinion, is it more important for students to know how to write in cursive or keyboard? Why do you think so?” An overwhelming majority of teachers said keyboarding. Their major reasons for choosing keyboarding were because of today’s technological society. Many of the teachers felt that students should only have to know how to sign their names. They stated that keyboarding is more important for future school work and today’s jobs. A handful of teachers felt that both cursive and keyboarding were important skills. Many of these responses stated that students needed to know how to read cursive because of historical documents and be able to sign their name. However, they felt keyboarding is equally important because of technology in today’s world.

Research Question 2

How do teachers who have been teaching 1-10 years compare in their attitudes and beliefs about the necessity of teaching cursive handwriting with teachers who have been teaching 11-20 years and more than 20 years? Four statements from the survey pertained to this research question. The results from these four research questions can be found in Table 5.

For statement 1, “I teach cursive handwriting,” 70% of teachers who had been teaching 1 to 10 years strongly disagreed or disagreed with that statement. Twenty-six percent of the teachers strongly agreed or agreed with the statement. Seventy-four percent of teachers who had been teaching 11-20 years strongly disagreed or disagreed with the same statement, and 23% agreed or strongly agreed that they teach cursive handwriting. The percentages changed for those teachers who had been teaching 20 or more years. Fifty-eight percent strongly disagreed or disagreed with the statement “I

teach cursive handwriting.” Thirty-eight percent strongly agreed or agreed with the statement.

The second statement that pertained to Research Question 2 stated, “My students spend time practicing cursive handwriting.” Sixty-seven percent of the teachers who had been teaching 1 to 10 years strongly disagreed or disagreed with the statement, and 23% agreed or strongly agreed with the statement. Seventy-nine percent of the teachers who had been teaching 11-20 years strongly disagreed or disagreed with the statement “My students spend time practicing cursive handwriting,” while 6% agreed or strongly agreed with the statement. Once again, the data shifted slightly with the teachers who had been teaching 20 or more years. Forty-six percent strongly disagreed or disagreed with the statement, while 25% agreed or strongly agreed.

The third statement pertaining to Research Question 2 stated, “Students complete assignments in cursive handwriting.” The teachers teaching 1 to 10 years remained consistent with 72% strongly disagreeing or disagreeing with the statement. Seven percent of these teachers strongly agreed or disagreed. Of the teachers teaching 11-20 years, 60% strongly disagreed or disagreed, while 10% strongly agreed or agreed with the statement. Sixty-one percent of the teachers teaching 20 or more years strongly disagreed or disagreed with the statement, while 22% strongly agreed or disagreed.

The fourth statement pertaining to Research Question 2 stated, “Cursive handwriting is a skill students need to learn.” Thirty-four percent of teachers who had been teaching 1 to 10 years strongly disagreed or disagreed with the statement, while 48% strongly agreed or agreed. Comparatively, of the teachers who had been teaching 11-20 years, 34% strongly disagreed or disagreed, while 36% strongly agreed or agreed. The teachers who had been teaching 20 or more years shifted slightly as compared to the

others years of experience. Twenty-one percent strongly disagreed or disagreed, while 50% strongly agreed or agreed with the statement. Table 5 shows the data compiled by the grade-level ranges of the teachers from both school districts. Statement 1 from the survey is abbreviated “teach curs.” Statement 2 is abbreviated “prac. curs.” Statement 3 is abbreviated “use cursive,” and statement 6 from the survey is abbreviated “skill.”

Table 5

Teacher Survey Results by Years of Experience

Years of Experience		Strongly Disagree or Disagree		Neutral		Strongly Agree or Agree		Total
		N	%	N	%	N	%	N
1-10	Teach Curs.	40	70%	2	4%	15	26%	57
	Prac. Curs.	38	67%	5	9%	14	25%	57
	Use Curs.	41	72%	12	21%	4	7%	57
	Skill	19	34%	10	18%	27	48%	56
11-20	Teach Curs.	35	74%	1	2%	11	23%	47
	Prac. Curs.	38	79%	7	15%	3	6%	48
	Use Curs.	29	60%	14	29%	5	10%	48
	Skill	16	34%	14	30%	17	36%	47
20+	Teach Curs.	14	58%	1	4%	9	38%	24
	Prac. Curs.	11	46%	7	29%	6	25%	24
	Use Curs.	14	61%	4	17%	5	22%	23
	Skill	5	21%	7	29%	12	50%	24

Note. Description of statement abbreviations are explained before the table.

Parametrical and nonparametrical statistics were used to compare the attitudes and beliefs of teachers based on their number of years teaching. A one-way Analysis of Variance was used along with the nonparametric Kruskal-Wallis test to analyze the data among the number of years of experience. Both tests showed a statistical significance between the grade levels. As seen in Table 6, the analysis of variance showed

significance, $F(2, 123) = 3.978, p = .021$. In comparison, the nonparametrical test, Kruskal Wallis, also showed a statistical significance. As seen in Table 7, the significance level was $p = .010$. This value is less than the significance level .05.

Table 6

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6823.988	2	3411.994	3.978	.021
Within Groups	105498.813	123	857.714		
Total	112322.802	125			

Table 7

Hypothesis Test Summary

Null Hypothesis	Test	Sig.	Decision
The distribution of survey is the same across categories of years.	Independent Samples- Kruskal-Wallis Test	.010	Reject the Null Hypothesis

A Tukey post-hoc comparison among the three levels of years of experience indicates statistical significance as well in Tables 8 and 9. The Tukey indicated that most of the difference was attributed to the older teachers. The young and intermediate levels

showed little difference in their responses while there were significant differences between the older teachers and both of the other groups.

Table 8

Multiple Comparisons Tukey

(I) years	(J) years	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Young	int	-.39664	5.80462	.997	-14.1676	13.3744
	old	-19.22273*	7.23461	.024	-36.3863	-2.0592
Int	young	.39664	5.80462	.997	-13.3744	14.1676
	old	-18.82609*	7.47916	.035	-36.5698	-1.0824
	young	19.22273*	7.23461	.024	2.0592	36.3863
Old	Int	18.82609*	7.47916	.035	1.0824	36.5698

Note. *The mean difference is significant at the 0.05 level.

Table 9

Tukey HSD

Years	N	Subset for alpha = 0.05	
		1	2
Young	57	32.3860	
Int	46	32.7826	
Old	23		51.6087
Sig.		.998	1.000

Note. Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 36.249.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Open-ended questions were used to dig deeper into the attitudes and beliefs of

teachers according to their number of years of experience. The first open-ended question asked, “In your opinion, is it more important for students to know how to write in cursive or keyboard? Why do you think so?” Among teachers who had been teaching 1 to 10 years, the majority of them said keyboarding. Four teachers from this level of years of experience stated that both were important, and two stated cursive was more important. Among teachers who had been teaching 11-20 years, the majority also said keyboarding. Nine teachers responded that both cursive and keyboarding were important, and one teacher stated that cursive handwriting was more important. Similarly, teachers who had been teaching for more than 20 years had the same opinion. The majority felt keyboarding was more important, five teachers stated both were equally important, and three felt cursive was more important.

The fifth open-ended question in the survey asked, “If you have received training to teach cursive handwriting, what kind of training did you receive?” The researcher wanted to find out if there was a difference in the amount of training among the teachers according to their years of experience. Among the teachers who had been teaching 1 to 10 years, two teachers had received training to teach cursive. One received training as a part of a college program; the other received training from the district. Nine teachers who had been teaching between 11-20 years had received training to teach cursive handwriting. The training came from college courses and district training. Four teachers who had been teaching more than 20 years received formal training to teach cursive handwriting.

The next open-ended question in the survey asked teachers, “Do you know how to write in cursive? If so, where did you learn to write in cursive?” One teacher from all of the grade levels stated they did not learn to write in cursive. All the teachers who have

learned to write in cursive were taught in elementary school.

Research Question 3

How do the attitudes and beliefs about the necessity of teaching cursive handwriting differ among third-, fourth-, and fifth-grade teachers? The survey given to teachers had several statements related to this question. Statements 1, 2, 3, 4, 6, and 13 pertain to this research question.

The first statement pertaining to Research Question 3 was “I teach cursive handwriting.” Thirty-three percent of third-grade teachers strongly disagreed or disagreed with this statement. Seven percent of third-grade teachers remained neutral, and 60% strongly agreed or agreed that they taught cursive handwriting. Among fourth-grade teachers, 87% strongly disagreed or disagreed with statement 1. Thirteen percent strongly agreed or agreed. Similarly, 88% of fifth-grade teachers strongly disagreed or disagreed, while 10% strongly agreed or agreed with the statement.

When responding to statement 2, “My students spend time practicing cursive handwriting,” 51% of teachers strongly disagreed or disagreed with the statement, and 23% strongly agreed or agreed. Among fourth-grade teachers, 81% of the teachers strongly disagreed or disagreed with the statement, while 5% strongly agreed or agreed. Fifth-grade teacher responses were comparable with 83% of the teachers strongly disagreeing or disagreeing and 7% strongly agreeing or agreeing.

Statement 4 asked teachers to respond to the statement “I like teaching cursive handwriting.” Thirty percent of third-grade teachers strongly disagreed or disagreed with the statement. Forty-four percent strongly agreed or agreed. Twenty-two percent of fourth-grade teachers strongly disagreed or disagreed with the statement “I like teaching cursive handwriting,” 55% remained neutral, and 24% strongly agreed or agreed. Among

fifth-grade teachers, 30% of them strongly disagreed or disagreed, 43% remained neutral, and 26% strongly agreed or agreed.

When asked if cursive handwriting is a skill students need to learn in statement 6, 32% of third-grade teachers strongly disagreed or disagreed, 21% remained neutral, and 47% strongly agreed or agreed. Fourth-grade teachers responded similarly with 29% strongly disagreeing or disagreeing cursive handwriting is a skill students need to learn. Twenty-two percent remained neutral, and 49% strongly agreed or agreed with the statement. Fifth-grade teachers responded similarly with 32% strongly disagreeing or disagreeing, 28% remaining neutral, and 40% strongly agreeing or agreeing with the statement “Cursive handwriting is a skill students need to learn.”

The last statement in the survey asked teachers to respond to the statement “I give my students the choice whether to use cursive handwriting or some other form of written communication.” Thirty-two percent of third-grade teachers stated that they strongly disagree or disagree, 24% remained neutral, and 43% strongly agreed or agreed. Among fourth-grade teachers, 12% strongly disagreed or disagreed, 21% remained neutral, and 67% stated they strongly agreed or agreed with the statement. Sixty-nine percent of fifth-grade teachers also strongly agreed or agreed that they give their students the choice whether to use cursive handwriting or some other form of written communication. In Table 10, the abbreviations “teach curs.,” “prac. curs.,” “use curs.,” “like teach,” “skill,” and “choice” coincide with the previously mentioned statements.

Table 10

Teacher Survey Results by Grade Level

Grade Level Taught		Strongly Disagree or Disagree		Neutral		Strongly Agree or Agree		Total
		N	%	N	%	N	%	N
Third	Teach Curs.	14	33%	3	7%	26	60%	43
	Prac. Curs.	22	51%	11	26%	10	23%	43
	Use Curs.	26	63%	8	20%	7	17%	41
	Like Teach	13	30%	11	26%	19	44%	43
	Skill	14	32%	9	21%	20	47%	43
	Choice	14	32%	10	24%	18	43%	42
Fourth	Teach Curs.	35	87%	0	0%	5	13%	40
	Pract. Curs.	34	81%	6	14%	2	5%	42
	Use Curs.	29	69%	11	26%	2	5%	42
	Like Teach	9	22%	22	54%	10	24%	41
	Skill	12	29%	9	22%	20	49%	41
	Choice	5	12%	9	21%	28	67%	42
Fifth	Teach Curs.	37	88%	1	2%	4	10%	42
	Pract. Curs.	35	83%	5	12%	3	7%	42
	Use Curs.	28	67%	9	21%	5	12%	42
	Like Teach	13	30%	18	43%	11	26%	42
	Skill	13	32%	11	28%	16	40%	40
	Choice	8	19%	5	12%	29	69%	42

Note. Description of the statement abbreviations are before the table.

Nonparametric and parametric statistics were used to analyze the survey data. A one-way Analysis of Variance did not find a statistical significance among the grade levels. As seen in Table 11, the ANOVA showed $F(2,123) = 1.014, p = .366$. In comparison, the nonparametrical test, Kruskal Wallis, did not show statistical significance. As seen in Table 12, the significance level was $p = .256$. This value is greater than the significance level .05.

Table 11

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1822.559	2	911.280	1.014	.366
Within Groups	110500.242	123	898.376		
Total	112322.802	125			

Table 12

Hypothesis Test Summary

Null Hypothesis	Test	Sig.	Decision
The distribution of survey is the same across categories of grade.	Independent Samples-Kruskal-Wallis Test	.256	Retain the Null Hypothesis

Three open-ended questions give insight into the attitudes and beliefs of teachers according to their grade level taught. Teachers were asked, “In your opinion, is it more important for students to know how to write in cursive or keyboard? Why do you think so?” Thirty-five of the third-grade teachers stated keyboarding is more important for students to learn. One teacher responded cursive, and seven teachers responded both cursive and keyboarding were important. The teachers who stated keyboarding was more

important gave several reasons. The majority of these teachers said it was because of today's technology that students needed to be able to learn keyboarding. They noted students would need to know it because it is required in the Common Core State Standards, for getting jobs, and for having to type in middle school and high school. The teachers who stated cursive or both cursive and keyboarding are important said so because students need to be able read things in cursive, take quick notes, and be able to sign their names.

Among fourth-grade teachers, 28 responded it is more important for students to learn how to keyboard. Their reasons were similar to that of the third-grade teachers. Reasons included students would have to take state tests on computers, be able to use keyboarding in future jobs, and because of today's technological advancements. Eight fourth-grade teachers stated that students should learn to use both cursive and keyboarding, and only two teachers stated it is more important for students to learn cursive. These two teachers stated cursive was important because it was easier for them to write using cursive than learning typing skills.

Thirty-one fifth-grade teachers responded keyboarding is a more important skill to learn. The majority of their reasons were due to technology advances. Many stated since most communication is done via email and texting, keyboarding is more important. Five of the fifth-grade teachers felt both should be taught. Their reasons for believing cursive should be taught were so students would be able to read important historical documents as well as communicate if there was no technology available.

The second open-ended question asked teachers to respond to "If you teach cursive handwriting, why do you teach it?" The majority of third-grade teachers stated they teach cursive handwriting because it is required by state standards. Of those

teachers, a few stated they only teach it after the state test in May. Among fourth-grade teachers, there was a mixed response about teaching cursive handwriting. Many teachers stated they did not necessarily teach cursive but had their students practice cursive because it was an expectation. Several teachers also stated they taught cursive because it was a state standard. One fourth-grade teacher responded,

I believe handwriting is almost a part of your personality. I look at an old recipe card handwritten by my grandmother and her memory is very real. I would hate to think that lovely handwritten letters are to become a thing of the past.

The majority of fifth-grade teachers responded they do not teach cursive handwriting. Several of the teachers who said they did not teach cursive have students practice cursive handwriting so they can read other peoples' cursive handwriting and sign their name.

In contrast, the third open-ended question asked teachers, "If you do not teach cursive handwriting, why do you not teach it?" The majority of the third-grade teachers stated they do teach it. Fourth- and fifth-grade teachers responded similarly to each other by stating that they do not teach it because of they do not have time during the school day, and it is not a state standard.

Research Question 4

How do the attitudes and beliefs of teachers from a school district with a technology initiative differ from those teachers who do not teach in a school district with a technology initiative? In the analysis of this research question, the district referred to as district one had begun an iPad initiative within its elementary schools. The school district referred to as district two was rich in technology but did not have any specific technology initiative within the elementary schools. The same survey was given to the teachers in both school districts. Parametric and nonparametric statistics were used

to determine if there was a difference among the two school districts. Statements 1, 2, 3, 6, 10, 11, 12, and 13 pertain to this research question.

Statement 1 asked teachers to respond to “I teach cursive handwriting.” Ninety-seven percent of the teachers from district one strongly disagreed or disagreed with the statement, and 3% remained neutral. No teachers strongly agreed or agreed. In contrast, 55% of the teachers from district two strongly disagreed or agreed with the statement “I teach cursive handwriting,” 4% remained neutral, and 40% strongly agreed or disagreed.

Statement 2 referred to whether the students practiced cursive handwriting. Ninety-two percent of teachers from district one responded with strongly disagree or disagree, 8% remained neutral, and 0% strongly agreed or agreed. Sixty-three percent of teachers from district two strongly disagreed or disagreed, 20% remained neutral, and 17% strongly agreed or agreed that their students practice cursive handwriting.

Statement 3 asked teachers to respond to the statement “Students complete assignments in cursive handwriting.” Ninety percent of teachers from district one stated that they strongly disagreed or disagreed, while 10% remained neutral. Once again, no teachers strongly agreed or agreed. Fifty-five percent of district two teachers strongly disagreed or disagreed with the statement, 28% remained neutral, and 16% strongly agreed or agreed.

In statement 4, teachers were asked to respond to the statement “Cursive handwriting is a skill students need to learn.” The percentage of teachers in district one who had strongly disagreed or disagreed declined to 31%. Twenty-nine percent remained neutral and 39% strongly agreed or agreed. District two responses indicated that 31% percent of the teachers strongly disagreed or disagreed, while 21% remained neutral. Forty-eight percent of teachers from district two strongly agreed or agreed.

Table 13

Teacher Survey Results Between the Two School Districts

School District	Strongly Disagree or Disagree		Neutral		Strongly Agree or Agree		Total
	N	%	N	%	N	%	N
Dist. 1 Teach Curs.	38	97%	1	3%	0	0%	39
Prac. Curs.	36	92%	3	8%	0	0%	39
Use Curs.	35	90%	4	10%	0	0%	39
Skill	12	31%	11	29%	15	39%	38
Choice	13	33%	5	13%	21	54%	39
Dist. 2 Teach Curs.	47	55%	4	5%	34	40%	85
Prac. Curs.	55	63%	17	20%	15	17%	87
Use Curs.	47	55%	24	28%	14	16%	85
Skill	26	31%	18	21%	41	48%	85
Choice	13	15%	19	22%	54	63%	86

Note. Descriptions of the abbreviations were listed previously on page 57.

Statements 10-12 were coded in reverse order since they pertain to keyboarding instead of handwriting. The results of these statements can be found in Table 14.

Statement 10 is abbreviated “Key Inst.,” statement 11 is abbreviated “Use Key.,” and statement 12 is abbreviated “Key Skill.” Table 14 shows that the district with the technology initiative has a higher percentage of students receiving keyboard instruction, with 74% compared to 64%. Both districts have a high percentage of teachers who believe keyboarding is a skill students should learn. One hundred percent of the teachers from the district with the iPad initiative believe it is a skill students should learn, and 93% of the teachers from the school district without the technology initiative believe it is a skill students should learn.

Table 14

Teacher Survey Results Between the Two School Districts

School District	Strongly Agree or Agree		Neutral		Strongly Disagree or Disagree		Total
	N	%	N	%	N	%	N
Dist. 1 Key Inst.	29	74%	3	8%	7	18%	39
Use Key.	10	26%	18	46%	11	28%	39
Key Skill	38	100%	0	0%	0	0%	38
Dist. 2 Key Inst.	54	64%	11	13%	19	23%	84
Use Key.	27	31%	42	49%	17	20%	86
Key Skill	80	93%	1	1%	5	6%	86

Note. Descriptions of the statement abbreviations are before the table.

An independent samples t test was used to determine statistical significance.

Table 15 shows the results of this test. There was statistical significance among district (M=30.33, SD 5.83697) and district two (M= 34.8736, SD 7.38447) conditions; $t(124) = -3.391, p = .001$. The results, found in Tables 15 and 16, suggest that there is a difference in the attitudes and beliefs between the teachers who teach in the school district with a technology initiative and the teachers who teach in a school district without a specific technology initiative.

Table 15

Independent T Test

	Levene's Test for Equality of Variances		t test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	3.125	.80	-3.391	124	.001	-4.540	1.339	-7.190	-1.891
Equal variances not assumed			-3.707	91.319	.000	-4.540	1.225	-6.973	-2.107

Table 16

Group Statistics

	FM	N	Mean	Std. Deviation	Std. Error Mean
Survey1	>= 4.00	39	30.3333	5.83697	.93466
	< 4.00	87	34.8736	7.38447	.79170

The nonparametric test, Mann Whitney U, as seen in Table 17, was also used to determine if there was a statistical significance. The test showed that there was a high statistical significance between the two school districts, $p = .002$.

Table 17

Hypothesis Test Summary

Null Hypothesis	Test	Sig.	Decision
The distribution of Survey 1 is the same across categories of FM.	Independent Samples- Mann Whitney U Test	.002	Reject the Null Hypothesis

Three open-ended questions were asked and analyzed for themes to further study the differences among the two school districts. The first open-ended question asked, “In your opinion is it more important for students to know how to write in cursive or keyboard? Why do you think so?” In both districts the majority of the responses stated keyboarding was more important for students to learn. The majority of the teachers from both districts stated keyboarding was most important for students to learn. One teacher from the school district without the iPad initiative stated,

I believe in this technological age, it is not necessary for students to be proficient at cursive handwriting. Especially in fast-paced grades as fourth and fifth, with rigorous and fast-paced content areas, cursive handwriting is something that is not as much a priority for me (time-wise). In contrast, since we are in a computer-driven society, I believe that keyboarding is much more beneficial for students to be competitive.

A teacher from the school district with the iPad initiative stated,

As much as I personally love cursive writing and use it regularly myself, I believe that it may be more relevant for students to learn keyboarding so as to begin to

acclimate themselves to real world technology usage. I usually use cursive to quickly take or write notes but with the accessibility of device equipped with keyboards, note-taking is easily done and savable and personal notes are usually more conveniently done through e-mail. I don't necessarily like it, but that seems to be the way it is.

Sixteen teachers from the school district without the iPad initiative responded both keyboarding and cursive handwriting were important. One teacher stated,

I think it is important for them to learn both. Students need keyboarding to keep up with technology, but should also know enough about cursive writing to be able to read documents from the past, letters from the past, letters from grandparents etc. They also need to have enough knowledge of cursive writing to be able to sign their names to legal documents. Currently students have to write a paragraph in cursive writing on the SAT. If they have not been instructed on how to write in cursive this is an impossible task under a time limit. Finally, some students show much better penmanship when they switch from manuscript to cursive.

Eight teachers from the district with the iPad initiative also responded that both cursive and keyboarding were important. Three teachers from the school district without the iPad initiative believe cursive handwriting is more important and no teachers from the school district with the iPad initiative responded that cursive handwriting was more important.

The second open-ended question had teachers respond to the statement "If you teach cursive handwriting, why do you teach it?" Since the majority of the teachers in district one do not teach cursive handwriting, very few responded to this statement. Those who did respond stated that they teach cursive handwriting because it is required.

Two of the teachers stated it was important for students to learn so they will be able to sign their name. The responses from district two were similar. The majority of the teachers responded by stating it was a requirement. Several other teachers stated that they taught cursive because it is a life skill, and it helps develop penmanship needed in the future. Two teachers also stated it helps students who are poor printers be able to write.

The third open-ended question asked the teachers who do not teach cursive handwriting why they do not teach it. As in the other research questions, the majority of the teachers from district one stated that they do not teach it because it is not a part of their curriculum nor do they have the time to teach it. Several teachers responded that they do not have time to teach it but would teach it after the state's test in May. Similarly, the teachers from district two stated that they do not teach cursive handwriting due to time constraints.

Summary

Chapter 4 of this research study analyzed survey data collected from two small suburban school districts in the southeast. One school district currently has a technology initiative involving iPads in the elementary schools. The other district is rich in technology but does not have any specific technology initiatives. A survey was given to the third-, fourth-, and fifth-grade teachers in both districts. Thirteen Likert scale questions asked teachers about their attitudes and beliefs about cursive handwriting and keyboarding. Six open-ended questions were also asked to allow teachers to expand on their beliefs and attitudes. The survey questions were analyzed using descriptive data. The open-ended questions were analyzed for common responses and themes. The implications of results found are discussed in Chapter 5.

Chapter 5: Discussion

Introduction

The purpose of this study was to determine the attitudes and beliefs among third-, fourth-, and fifth-grade teachers about the necessity of teaching cursive handwriting. This topic was studied to determine if what teachers think and believe about cursive handwriting affects how or what they teach in the classroom.

Through a Likert-type scaled survey with embedded open-ended questions, the researcher sought to answer four research questions. This chapter is organized with a discussion about the results from each research question. Following the results, implications and recommendations for future research are discussed.

Research Question 1

What are the attitudes and beliefs among third-, fourth-, and fifth-grade teachers regarding the necessity of teaching cursive handwriting? This question was analyzed by studying the results of all third-, fourth-, and fifth-grade teachers from the two districts surveyed. A total of 126 responses were collected. The data from this study showed that the majority of third-, fourth-, and fifth-grade teachers do not teach cursive handwriting. The attitudes and beliefs shared by the teachers in the open-ended questions suggested the reason they do not teach cursive handwriting is due to time constraints during the day. With having to teach required subjects and no requirement to teach cursive handwriting, coupled with today's technological advancements, there does not seem to be time for it during the instructional day.

Even though 45% of teachers do not teach cursive handwriting, only 5% of teachers disagreed that cursive handwriting is a skill that students need to learn. Forty-five percent agreed that cursive handwriting is a skill that should be taught. Research has

indicated that the attitudes and beliefs of teachers affect what and how they teach in the classroom (Kagan, 1992). If this is true, then if 45% of teachers believe cursive handwriting is a skill students need to learn, should it not be taught by someone?

The open-ended questions reveal more of the teachers' thoughts about why teachers are not teaching cursive handwriting even though they believe it is a skill students need to learn. According to the third-, fourth-, and fifth-grade teachers from these two school districts who do not teach cursive handwriting, time constraints are a large factor keeping teachers from teaching it. Cursive handwriting is not required on any of the state tests; but other subjects such as reading, writing, mathematics, social studies, and science are. These subjects take the majority of instructional time. Many teachers also commented on the new Common Core Standards. In the new Common Core Standards, students are required to use technology to publish writing (National Governor's Association, 2010). There is no mention of cursive handwriting in the Common Core Standards. According to the teachers surveyed, with today's technological advances, keyboarding is more important and students only need to know how to sign their name in cursive.

One of the open-ended questions asked teachers if they had received any training to teach cursive and, if they had, what kind? The majority of the teachers stated they had not received any training. Fourteen teachers stated they had received some training in college. Four teachers responded they had been trained in a workshop. This differs from a study conducted by Donica et al. (2012). According to Donica et al.'s study of 505 teachers and 16 professors, 35% of teachers stated they received handwriting instruction during their teacher education program. The data obtained from this study coincides with the research Kagan (1992) conducted about teacher beliefs. She found that a teachers'

education, along with classroom experience, forms a teacher's belief system. If only 11% of teachers in this study received cursive handwriting training in college, then it is possible they have no background for believing in the instruction of cursive handwriting.

Research Question 2

How do teachers who have been teaching 1-10 years compare in their attitudes and beliefs about the necessity of teaching cursive handwriting with teachers who have been teaching 11-20 years and more than 20 years? The number of teachers who disagreed with the survey statement "I teach cursive handwriting" decreased as the number of years of experience increased. Seventy percent of teachers with 1 to 10 years' experience disagreed, 74% with 11-20 years' experience disagreed, but 58% of teachers with more than 20 years' experience disagreed.

As seen in the survey results, the teachers who had been teaching 11-20 years had a stronger disagreement about cursive handwriting than the teachers who had been teaching 1 to 10 years. They had the highest percentage of teachers who do not teach cursive handwriting. The researcher expected the teachers who had been teaching 1 to 10 years to have the highest percentage of disagreement about teaching cursive handwriting since they would have had technology themselves as students while in school. One possible reason for this is that the span of years of experience ranged 10 years. The teachers completing the survey who had 11-20 years of experience could have been on the lower end of experience and they, as well, would have had experience with technology as a student. The difference between the teachers who had been teaching 1 to 10 years and 11-20 years only differed by 4%. This difference is close enough that it is not considered significant. The significant percentage is that of the teachers who had been teaching more than 20 years. Fifty-eight percent disagreed with the statement "I

teach cursive handwriting.” This lower percentage could be due the fact that these teachers most likely taught when cursive handwriting instruction was required and was taught on a daily basis.

The open-ended statements shed light as to why teachers who had been teaching more than 20 years believe cursive handwriting is a skill students need to learn. Several of these teachers mentioned students have more legible cursive handwriting than print and that students need to know how to read cursive to be able to read historical documents or someone else’s writing.

When analyzing the survey statement “Cursive handwriting is a skill students need to learn,” the teachers were similar in their thinking. Thirty-four percent of teachers who had been teaching 1 to 10 years disagreed with the statement, 18% remained neutral, but 48% agreed cursive handwriting was a skill students need to learn. Among teachers who had been teaching 11-20 years, 34% also disagreed, 30% remained neutral, and 36% agreed with the statement. Once again, this experience level of teachers had a somewhat stronger disagreement about cursive handwriting. Teachers who had been teaching more than 20 years viewed cursive in a more positive light. Twenty-one percent disagreed that cursive handwriting is a skill students need to learn, 29% remained neutral, and 50% agreed it is a skill students need to learn.

Research Question 3

How do the attitudes and beliefs about the necessity of teaching cursive handwriting differ between third-, fourth-, and fifth-grade teachers? The Analysis of Variance performed on the grade levels along with the Kruskal-Wallis test did not show a statistical significance among the three grade levels. The researcher wonders if it is possible the data would have turned out differently if the grade levels had been

separated by school districts. The school district with the iPad technology initiative had strong disagreements about cursive handwriting across all grade levels. Ninety-seven percent of these teachers strongly disagreed or disagreed with the statement “I teach cursive handwriting.” However, 55% of the teachers from the school district without the iPad initiative strongly disagreed or disagreed. When combining both districts, 69% of the teachers strongly disagreed or disagreed with the statement “I teach cursive handwriting,” and 28% strongly agreed or agreed. Just looking at the difference between the two school districts among third-grade teachers validates this theory. Ten percent of the third-grade teachers from the school district without the iPad technology initiative disagreed with the statement “I teach cursive handwriting.” Eighty-four percent agreed with the statement. Among third-grade teachers in the school district with the iPad technology initiative, the opposite percentages were true. Eighty-three percent disagreed with the statement “I teach cursive handwriting,” and 17% agreed.

Similar results were true when analyzing the statement “Cursive handwriting is a skill students need to learn.” Fifty-eight percent of the third-grade teachers in the school district that did not have an iPad initiative agreed with the statement, while 26% disagreed. Thirty-three percent of the teachers from the school district with the iPad initiative agreed cursive handwriting is a skill students need to learn, while 50% disagreed. These results indicated that putting the two school districts together to analyze the difference among the grade levels may have skewed the data.

When analyzing the data from both districts, 60% of third-grade teachers strongly agreed or agreed with the statement “I teach cursive handwriting.” This compares with a national survey conducted by Graham et al. (2007) which found that 63% of third-grade teachers teach cursive handwriting. The percentages for fourth- and fifth-grade teachers

in this current study dramatically increased. Eighty-seven percent of fourth-grade teachers strongly disagreed or disagreed with the statement “I teach cursive handwriting.” Similarly, 88% of fifth-grade teachers strongly disagreed or disagreed. However, when responding to the statement “Cursive handwriting is a skill students need to learn,” the percentage of teachers who disagreed went down significantly: 29% of fourth-grade teachers and 32% of fifth-grade teachers disagreed with the statement. Even though cursive handwriting is not something the majority of fourth- and fifth-grade teachers teach, it is a skill that teachers believe students need to learn.

Research Question 4

How do the attitudes and beliefs of teachers from a school district with a technology initiative differ from those teachers who do not teach in a school district with a technology initiative? The data between the two school districts varied when the survey statements were about cursive handwriting. The results did not vary as much when the statements were about keyboarding. The district with the iPad initiative was referred to as district one in Chapter 4, while the district without the iPad initiative was referred to as district two. District one’s teachers overwhelmingly disagreed, 97%, with the statement “I teach cursive handwriting,” while 55% of district two’s teachers disagreed. Similarly district one’s teachers also disagreed with the statement “My students spend time practicing cursive handwriting,” with 92% disagreeing; 63% of district two’s teachers disagreed. However, when asked to respond to the statement “Cursive handwriting is a skill students need to learn,” both districts’ responses were similar. Thirty-one percent of teachers in both districts disagreed with the statement. Thirty-nine percent of district one’s teachers agreed, while 48% of district two’s teachers agreed cursive handwriting is a skill students need to learn. Even though district one has an iPad

initiative in place, and its teachers do not teach cursive handwriting, many believe cursive handwriting is a skill that students need to learn.

There was not a difference between the two districts when it came to the statements about keyboarding. The teachers in both districts overwhelmingly agreed keyboarding is a skill students need to learn. One hundred percent of the teachers from district one agreed it is a skill students need to learn, and 93% of teachers from district two agreed. It seems district one is teaching according to its beliefs. One hundred percent of the teachers believe keyboarding should be taught, and 97% of those teachers do not teach cursive handwriting. Ninety-three percent of district two's teachers believe keyboarding is a skill students need to learn, but 55% do not teach cursive handwriting.

These results are similar to the results reported from the Handwriting in the 21st Century Educational Summit (Saperstein Associates, 2012c). At the summit, the participants, who were leaders in the field of handwriting instruction, were asked, "How important is keyboarding instruction?" Ninety-three percent responded either very important or somewhat important, and 4% responded not too important.

There were some misconceptions between the two districts among the open-ended statements "If you teach cursive handwriting, why do you teach it" and "If you do not teach cursive handwriting, why do you not teach it?" The majority of the teachers from district one stated they do not teach cursive handwriting because it is not required. The majority of the teachers who teach cursive handwriting from district two stated they teach cursive handwriting because it is required. Upon further research, the researcher discovered that district one has already begun implementing the new Common Core English Language Arts standards. District two will begin using the new Common Core English Language Arts standards next year. If this same survey was given to district two

again next year, results might turn out differently based on the knowledge that the Common Core English Language Arts standards do not include cursive handwriting.

Implications

Knowing that keyboarding is now included in the English Language Arts Common Core Standards and that students will be required to produce work using technology, will more districts display the same attitudes and beliefs as district one? This is one implication that schools, school districts, educational leaders, and states need to study as they determine what teachers should be teaching.

Currently, states are debating adding cursive handwriting to the Common Core Standards. As of the date this was written, Georgia, Indiana, Idaho, California, and Massachusetts had reinstated cursive handwriting as a requirement. Kansas adopted a policy recommending cursive handwriting instruction but not requiring schools to teach cursive handwriting. Most recently North Carolina presented legislation for it to be considered (Keung Hui & Poe, 2013). If states are feeling strongly enough about cursive handwriting to pass legislation requiring it, then it will be important for states to find the time for teachers to teach cursive since this was one of the major reasons keeping them from teaching it. It will also be important for states to convey to their teachers the reasons they have reinstated cursive handwriting. Teachers who do not believe in the need for cursive handwriting will need to be convinced of its importance since teacher belief impacts classroom instruction.

Another implication for schools, school districts, and states if teachers are expected to teach cursive handwriting is that teachers will need training. If teachers are to effectively instruct students in cursive handwriting, then training will be important. Only 11% of the teachers from the current study responded that they had received

training on how to teach cursive handwriting. If a school, district, or state is going to require teachers to teach cursive handwriting, lack of knowledge and training about the subject can hinder its instruction in the classroom.

Recommendations for Future Research

One recommendation for future research is to continue to research the findings offered by neurologists, like that of Dr. Karin James about how cursive handwriting affects the brain. Dr. James is currently studying how printing, as well as cursive, affect cognitive development in children (Indiana University News Room, 2012). She has presented preliminary findings to the National Handwriting Summit as well as the Indiana Senate Committee on Education and Career Development. Other studies like that of Berninger et al. (2009) that analyzed the quality of writing produced by keyboarding and handwriting need to continue to be studied to see if there is a true indication that one allows students to produce more quality text.

In the spring of 2013, after the survey was given to the two school districts, the district that did not have a specific technology initiative gave 20 new iPads to each of its seven elementary schools. All of the schools were also equipped with wireless access so that personal devices could be used in each of the classrooms. As this school district continues to grow its classroom technology, attitudes and beliefs among teachers may change due to the technological advancements made. A future survey may need to be given to determine if these beliefs have changed.

The current study can also be validated further by extending the research to larger school districts, as well as states. This study only focused on two small school districts in the southeast. More studies need to be conducted to determine if the data can be generalized in other districts. With the onset of the Common Core standards, which do

not require cursive instruction, and some states beginning to add cursive handwriting back into their standards, how will this affect what teachers actually do in the classroom?

Conclusions

Through a Likert scale survey with open-ended questions of 126 teachers in two small, suburban school districts in the southeast, the researcher was able to determine the attitudes and beliefs of third-, fourth-, and fifth-grade teachers about the necessity of teaching cursive handwriting. Though the results of this study did not indicate cursive handwriting was currently being taught by the majority of teachers, it did indicate that teachers believe cursive handwriting is a skill students need to learn. It also indicated teachers believe keyboarding is a skill students need to learn.

It can be concluded that depending on where teachers teach, the grade level they teach, and the number of years they have been teaching, their attitudes and beliefs about cursive handwriting are affected. There are strong opinions about cursive handwriting based on these teacher characteristics. According to this current study, by using parametric and nonparametric statistics, there are implications that the number of years a teacher has been teaching affects the attitude and beliefs of the teacher about cursive handwriting. Along with the years of experience, the district in which a teacher works may also have an impact on teacher attitudes and beliefs about cursive handwriting.

The data collected in this research can be used by individual schools, school districts, and state educational leaders as they work together to make decisions about the future of cursive handwriting in this technologically advanced world.

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Appendix

Cursive Handwriting Survey

Cursive Handwriting Survey

Please circle the answer that best fits your opinion.

Survey Statements

1. I teach cursive handwriting?
 Not at all As Needed Monthly Weekly Daily
2. My students spend time practicing cursive handwriting.
 Not at all 15 min per week 30 min per week 45 min per week 1 hour or more per week
3. Students complete assignments in cursive handwriting.
 Not at all On Rare Occasions Occasionally Often Consistently
4. I like teaching cursive handwriting.
 Strongly Disagree Disagree Neutral Agree Strongly Agree
5. I personally use cursive handwriting when I write.
 Not at all On Rare Occasions Occasionally Often Consistently
6. Cursive handwriting is a skill that students need to learn.
 Strongly Disagree Disagree Neutral Agree Strongly Agree
7. Cursive handwriting should be taught as a separate subject.
 Strongly Disagree Disagree Neutral Agree Strongly Agree
8. Your level of training to teach cursive handwriting is...
 Not at all Below Average Average Above average Extensive
9. I think it would be beneficial to receive training on how to teach cursive handwriting.
 Strongly Disagree Disagree Neutral Agree Strongly Agree
10. My students receive keyboarding (typing) instruction at school.
 Not at all As Needed Monthly Weekly Daily
11. Students complete assignments using a keyboard.
 Not at all On Rare Occasions Occasionally Often Consistently
12. Keyboarding is a skill that students need to learn.
 Strongly Disagree Disagree Neutral Agree Strongly Agree

13. I give my students the choice whether to use cursive handwriting or some other form of written communication.

Not at all On Rare Occasions Occasionally Often Consistently

Please express your opinion to the following questions.

14. In your opinion is it more important for students to know how to write in cursive or keyboard? Why do you think so?

15. If you teach cursive handwriting, why do you teach it?

16. If you teach cursive handwriting, do you use a formal handwriting program? If so, which program?

17. If you do not teach cursive handwriting, why do you not teach it?

18. If you have received training to teach cursive handwriting, what kind of training did you receive?

19. Do you know how to write in cursive? If so, where did you learn to write in cursive?

Demographics

Please circle the response that best describes you.

1. Are you male or female?

Male

Female

2. What Grade do you teach?

Third

Fourth

Fifth

Other

3. Does your school use laptops or iPads for daily instruction?

Yes my school use laptops or iPads for daily instruction.

No, my school does not
use laptops or iPads
for daily instruction.

4. Did you receive training in your teacher preparation program on how to teach cursive handwriting?

Yes

No

5. How many years have you been teaching?

1-10 years

11-20 years

More than 20 years