HOW DOES THE WORD PROCESSOR INFLUENCE WRITING IN BEGINNING WRITERS?

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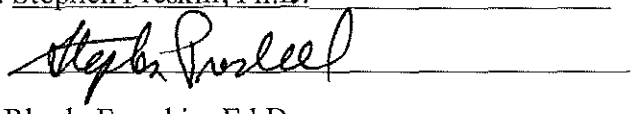

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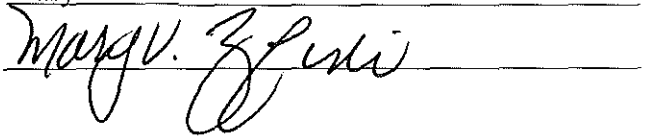

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Abstract

In today's age, it is as imperative as ever for children to know how to write and communicate effectively. With the advent of new technologies, it may be that new materials and strategies are needed for achieving these important goals. The purpose of this study is to see whether or not the word processor influences writing skills in children between the ages of 6 and 9. The study is meant to see the differences in the students' writing abilities when what they are using in order to write changes from a pencil and paper to a word processor.

After consent forms and permission forms were sent out and collected, the researcher explained the assent form to the students. The study was conducted over the course of 10 school days during a normal writing period. For the first five days, the students participating in the study were asked to write using a pencil and paper. For days six through ten, the students were given the opportunity to write using the word processor. The majority of topics were self selected by the students. Students filled out feelings charts on days one and six.

The results from the study were quite compelling. The students enjoyed writing using the word processor. When using the word processor, the noise level in the classroom as well as the classroom dynamic changed. The teachers in the classroom went from being teachers to coaches. The conversations between students and teachers as well as student to student conversations were all about the writing assignment.

With the above results as well as the interest that students have for technology, it seems like a "no-brainer" to use the word processor when writing. When in doubt with writing, try using the word processor. Using the word processor is influential for the majority of beginning writers because instead of concentrating on letter formation they are able to push a key and know that the letter is going to look the same every time.

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My fellow literacy classmates, we have taken almost every class together and it is time that we walk across the stage one more time!

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I know I am a lot to handle sometimes; but from the bottom of my heart, thank you for putting up with me everyday!

Chapter I

INTRODUCTION

Background

Most people have written with the infamous fat pencil and the wide-ruled newsprint paper as the writing process was being taught. The paper would then change from newsprint paper to a different textured paper and over time the lines would get smaller and smaller. For 50 years, most beginning writers used heavy fat pencils to make gripping the pencil easier and to help young children achieve precision in hand writing. Many teachers took a lot of time making sure that each letter was perfectly formed. Although the writing tools of the '80s and '90s still included pencils and pens, this was the time when personal computers or word processors were first introduced into the classroom. Some eager innovative teachers began to integrate word processing for writing instruction. Today, almost every elementary school in America has a computer where beginning writers are able to learn to write using a different set of tools.

All too often when beginning writers start to write they focus more on what each individual letter looks like. Teachers make it seem easy to write each letter when teaching children. Therefore, students think that they need to achieve perfection just like their teacher. Many people do not remember how they learned to write, but most people can remember the worksheet that asked them to write a letter across that one seemingly endless line. So, what was the teacher looking for? Was it perfection or that the child knew the basics of how to form that letter? With word processors, the simple click of the key makes each letter the same way every time. The only error there could be is not hitting the correct key.

In today's age, knowing how to use a computer is essential. From the daily functions like checking and writing emails to reviewing bank accounts, it is something that adults depend on. So, why should children not be using word processors to write? Not only is it a major part of life as children get older, but using a word processor for writing could help students to sharpen their skills of letter recognition. Beginning writers would have to find each letter that they would want to use on the keyboard until they became familiar enough with the placement of letters or accurately memorized the entire keyboard. This could potentially help struggling readers as well since there is a high correlation between letter recognition and decoding.

Technology is taking over. From new iPhones coming out every six months to being able to be in two different countries and being able to have "face-to-face conversations," technology is rapidly developing. With technology changing so quickly, does it make sense to keep the basics away from young writers? The word processor would allow beginning writers to focus on the ideas behind their writing instead of the more technical aspects of writing. Not only is the student likely to get so much more out of his/her writing time, but the teacher would be able to see what the student is capable of conceptually. The student would not have to worry about properly forming each specific letter.

Problem Statement

Since many beginning writers are anywhere from age 6-9, they most likely know how to use technology better than most adults. For them, it is second nature. However, for beginning writers, it seems as if they struggle with the letter formation and not the actual writing. Why do I say that? Basically, I can go up to any child and ask them to tell me a story and they will tell me

a pretty decent story. So, would introducing word processors help beginning writers? It could, though more research is clearly called for.

Today, teachers are integrating technology into their lessons in order to make them more interesting. From using SmartBoards to basic computers with projectors, the learning is enhanced by technology. If teachers are integrating technology to make it more interesting for children to learn, why not let children use the technology to benefit themselves? More than likely students will be more focused on the task at hand which allows them to write more.

Research Question

How does using the word processor influence writing skills in beginning writers? Specifically, how does the use of the word processor affect fluency, creative elaboration, extensiveness, and word choice? Furthermore, to what extent does the use of the word processor influence how beginning writers feel about writing?

Definition of Terms

- *Word processor* is another name for the computer.
- *Key* refers to the buttons on the keyboard.
- *Adoption* means to choose, follow, and accept as well as to assure.
- *Adaption* is any alteration in the structure or function.
- *Appropriation* is the act of setting apart or taking for one's own use.
- *Innovation* is when something new or different gets introduced.
- *ICT* stands for information and communication technologies.
- *Word choice* is a term for using a wide array of vocabulary used. It is important to note that the assessor is not looking for words to be spelled accurately; however, the assessor must be able to make out the word without the assistance of the child.
- *Creative elaboration* is defined as the degree of detail the students use in developing their ideas.
- *Extensiveness* is defined as the length of the writing based on the number of sentences used.
- *Fluency* deals with the number of words per sentence and whether or not the sentences flow well with one another.

Chapter II

LITERATURE REVIEW

Writing Assessment

Writing has not changed very much over the years. Since the start of the 1920s, the fat eraser-less pencils and the wide-ruled newsprint paper were what teachers relied upon to help beginning writers. The use of these materials sometimes dragged on even to middle school. The type of paper that was used in the 1920s for beginning writers has hardly changed. What accounts for the enduring use of this clumsy paper? The answer is simple; it promotes accuracy in letter formation. For over fifty years, this paper has supported the production of carefully drawn characters and early letter formation. This paper, in particular, became the site where students learned to differentiate between top and bottom and left and right and where they gained mastery over the skill of placing letters carefully on a line. It is also where they gained a first appreciation for how much English letters vary in size and design. Writing is not an easy task, and assessing writing is not easy (Cochran-Smith, Kahn, Paris, p. 1990).

When it comes to writing assessment, there are different aspects of writing that can be assessed. The quality of handwriting as well as content can be assessed. Quality handwriting in and outside of the classroom is very important. "Quality handwriting means that the written content is easy to read in either manuscript or cursive" (Ediger, 2001, p. 1). Handwriting quality is important because it means that the words are legible for both the student and the teacher. Assessment of handwriting dates back to 1791 when John Jenkin wrote the *Art of Handwriting*. In the book, Jenkin has stressed the mechanics of handwriting. In the book *Practical Penmanship*, Foster stressed the importance of wrist/finger movement to increase the speed in

writing. Charles Zaner and Austin Palmer stressed speed and legibility in handwriting in the 1900s. The handwriting scale that teachers currently use is based off E.L. Thorndike's student achievement scale, which he created in 1904. Thorndike was innovative in creating a rubric to assess achievement because using a rubric for legibility is the best form of assessment. It is important to note that handwriting can be assessed; however, it cannot be compared with respect to the assessment of mathematics or science (Ediger, 2001).

As mentioned before, writing skills can also be assessed. However, the assessments for beginning writers are less widely available for kindergarten and first grade. The study by Ritchey (2006) assessed writing using four different tools. The four different tools that were used are letter writing, sound spelling, real word spelling, and nonsense word spelling. In the study, letter writing focused on whether or not a student could write upper and lower case letters in a random order without a model. Sound spelling occurs when the student is asked to write letters that make a specific sound. Real word spelling is the student's ability to write five actual words. Nonsense word spelling is whether the student was able to sound out and write five nonsense words. The study concluded that kindergarten students have more developed writing skills than one would think. When writing, students often use their phonological skills as well as alphabet knowledge in order to produce text. It is important to realize that the skills needed for reading and writing are developing simultaneously; therefore, it is important for teachers to help foster the relationship between reading and writing (Ritchey, 2006).

Impact of Word Processors in the Classroom

What is so important about the computer in the classroom? How has it changed the way teachers do things? Many teachers feel comfortable teaching the basic curriculum in school.

Until recently, many elementary teachers did not explore technology. Today, teachers are slowly learning how to incorporate technology into the everyday classroom. Computers can be used in various ways to communicate effectively with others. After all, communication is essential for talking, reading, or writing. The computer can be used to create various documents such as writing a newspaper article, making a book, or making a poster with a message. All of these documents suggest communication with others. These ideas also suggest that the student has to obtain information, write information down, and spread the document in order to spread the word (Thode, 2004).

Literature is one way that teachers and students are able to connect. Literature allows for a comfortable environment where both parties can show the relationship between technology and language arts. All of the various things that can be done on a computer allow a creative way to solve problems or present ideas. Students love to use technology and are fascinated by all that it can do. Teaching with technology is a "hands-on, minds-on" process that allows students to engage in learning. However, it can also allow for some disruptions in how the class typically functions (Thode, 2004, p. 2-3).

Word Processors and Writing

So, are computers always effective in the classroom? The answer is no. If the teacher does not know how to use the computer or incorporate it effectively, then the computer will not be effective. According to Barlow (2005), sometimes school districts buy computers with the hopes that teachers will "figure out how to use them effectively." Students need to be taught how to form letters and numbers, teachers need to be instructed on how to incorporate new

technology into the classroom. Before districts purchase computers, it is important for the district to have a sound plan for the implementation of computers into the classroom. Simply setting the computers up in the classroom and telling the teachers to utilize them is not effective (Barlow, 2005, p. 63-67).

There has not been a lot of research done on technology and literacy development, but eager teachers in the 1980s were integrating technology into the classroom. Teachers at that point used different computer software in order to get the students typing and reading on the computer. When the Internet became available in the classroom, more teachers allowed students to use the Internet in order to enhance research and reading abilities (McNabb, 2005).

Many will agree that writing is the primary use of word processors. When teaching, there are different levels that a student goes through when using the computer. The first level is the adoption level because it allows students to make revisions as well as reorganize text easily. Teaching composition while using a word processor has made a major impact in the way students write (MacDonald & Caverly, 2006).

Some researchers argue, "word processors alter both individuals' writing styles and the methods used to teach them" (Grejda & Hannafin, 1992, p. 144). Although the findings of the use of the word processors have been inconsistent, some have found the effects to be positive and others have had inconsistent findings. Grejda & Hannafin (1992) found that revisions occur more often on the word processor; however, it often does little to help improve the overall quality of the work. Word processors have hampered other aspects of writing. In junior high school, word processors allow students to expand their compositions as well as help identify and correct existing errors when compared to writing with paper and pencil. Word processors did

improve the students' attitude, but failed to improve the overall quality of the work. According to Grejda and Hannafin (1992), "word processing students performed consistently better than other students did" (p. 148). The students were more successful in revising existing work as well as original writing, and made more revisions in their work. The overall quality did not improve, but the word processing group performed marginally better than the paper and pencil group. "Various authorities have expressed concern that providing writing instruction exclusively via word processors may ultimately interfere with conventional writing" (Grejda, Hannafin 1992, p. 148). This means that teachers should still use the paper and pencil method in the classroom; and therefore, should not rely on only using the computer to teach students how to write.

Not only is word-processing software a good tool for editing papers; it is also helpful for instruction. Tools like spell check, grammar check, and the thesaurus can help improve writing skills. These tools are important at the adoption level in order to develop more self-regulated learners. All of these functions have the ability to be turned on or off when starting to write. The teacher and the student can use these tools as a form of assessment or reward when writing. The teacher can foster a game-like atmosphere when writing by allowing the student to turn off the tools and write. The student then would have to revise the assignment as best he/she could and would allow both the teacher and student to see where improvement is needed. It then becomes a more "teachable" moment for both the teacher and the student (MacDonald, Caverly, 2006, p. 36).

The appropriation and innovation levels are related to the aspect of being are able to give feedback. The "track changes" function is helpful at the appropriation level. This is helpful when teacher or peers are editing work. It allows the suggestions to be accepted or rejected and comments can be made as to why the changes are being suggested. At the innovation level,

blogging and collaboration are two ways that students are able to interact on specific topics with other peers. As new software is developed, this stage will grow and change (MacDonald & Caverly, 2006, p. 36).

Supporting Young Writers with Technology

Teachers need to be able to support young writers when teaching them how to write. There are many different tools to support young writers. One is software called *Read, Write, and Type*. It was developed in 1994. The software provides materials that are designed to teach beginning reading skills by emphasizing the student's writing skills. It was developed for six to nine year olds who were struggling to read and write. The program helps students develop an awareness of the "40 English phonemes and the ability to associate each phoneme with a letter or combination of letters and a finger stroke on the keyboard" (Torgesen, 2007, p. 1). Another goal of the program is to identify "phonemes in words and fluency in sound out, typing, and reading regularly spelled words" (Torgesen, 2007, p. 1). Each lesson is based on one of the 40 different English phonemes. An activity book corresponds to the software. The study found that there were "statistically significant positive effects" (Torgesen, p. 3) on phoneme segmenting and word attack. As can be seen through this study, reading and writing go hand-in-hand.

Young writers can also be supported with eZines. What is an eZine? "eZines are digital magazines that offer readers a way to access content electronically" (Castek 2010, p. 1). They can be used to form connections between reading and writing. Some eZines that publish original stories, poems, artwork, book reviews, and essays are for students by students. Reading this work may cause students to write better or submit their own work to be published. Setting this goal will allow students to want to revise and edit their work to perfection. Other websites like

TeXT allows teacher to formulate their own website for their own class that allows the teacher to publish his/her students' work samples with the ability to select who is able to see the site.

It is important to support all young writers because writing like reading is not an easy task. However, teachers need to pay special attention to those students with learning disabilities. When it comes to technology and writing, the studies that have been conducted on students with learning disabilities have only benefited when instruction was combined with word processing, writing strategy, and a writing process approach. When this happened, the quality and quantity of work increased with students with learning disabilities. In order for students with LD to benefit from using the computer for neatness and revision, students with LD need to be able to have instruction on writing strategy throughout the word processing approach. Students also need keyboard training before introducing them to writing strategy and the writing process on the computer. This would allow them to remove another hurdle in their learning to write using the computer. Poor spellers profited more from the use of spell check and grammar check on the word processor (Wong, 2001, p. 359-361).

Assistive Technologies for Students with Dyslexia and Dysgraphia

For students with dyslexia and dysgraphia, writing is a substantially harder task. "sixty-five to eighty-five percent of school aged children with learning disabilities have basic deficits in language and reading" (Wadlington 2000, p. 2). This high incidence of students with learning disabilities in language and reading really shows how important it is for teachers to be prepared to aid students in these areas. For teachers, understanding students with dyslexia who have difficulties with receptive and/or expressive language makes it extremely difficult for students in

language arts. Students with dyslexia benefit from a structured setting in writing that includes "brainstorming, drafting the initial composition, editing for meaning, editing for mechanics, finishing the piece, and sharing" (Wadlington 2000, p. 7). When teaching, teachers must teach all of the steps of the writing process in order to ensure that the students have the tools needed when writing. One thing that sometimes helps students with dyslexia is the ability to tape record the first draft. This way the student is able to express the information without getting frustrated and then the information can be transcribed later. Copying is also difficult for students with dyslexia and dysgraphia. Students with dyslexia benefit from having a "buddy" in the classroom in order to share notes. When it comes to handwriting for students with dyslexia, it is important to stress legibility and fluency rather than perfect mastery. Another good idea is to "teach keyboarding and the use of the word processor, even though keyboarding may be difficult in the beginning" (Wadlington 2000, p. 8) Keyboarding may be difficult in the beginning, but it will benefit the student as he/she progresses throughout the grades since writing will become more and more challenging.

The University of Washington conducted a study in 2000 that had some great insight to assistive and adaptive technology in students with specific learning disabilities. "Assistive and adaptive technology does not 'cure' a specific learning disability" (University of Washington 2000, p. 3-4). Rather, compensation is what is being achieved when students with learning disabilities use different tools. These tools then allow the student with a learning disability the opportunity to show what he/she is capable of achieving. However, it is important to remember that not every student with a disability needs specific hardware or software. Students with dyslexia can benefit from using built-in features on the computer such as spell check, grammar check, font size and color changes. These capabilities are available on every computer; however,

different software can be purchased such as "Microsoft Word". Using the computer to write provides a different way to express information (University of Washington, 2000, p. 3-4).

When using software such as "Microsoft Word," it is important to know how to incorporate the technology effectively. The spell check function can be used in order to allow students with disabilities to focus on what they are writing rather than worrying if things are spelt correctly. Outlining is another big thing that the computer allows students to do. It can help students with learning disabilities to organize words and ideas as well as support them with a visual representation. The font size and color changing options allow student to visualize the differences as well as help them sequence and sort thoughts and ideas. For students with dysgraphia, the use of the computer may be a viable method for students that have difficulty expressing thoughts through handwriting (University of Washington, 2000, p. 3-4).

According to Ortoff, many students are learning to write as they are learning to type; therefore, less class time is devoted to penmanship. Even though the computer is an effective tool in most cases, it is still important for teachers to teach handwriting skills. This is because handwriting is an important developmental skill. It may seem that handwriting is slowly being phased out due to the computer, but handwriting is essential in order to develop other skills such as "free motor skills, visual perception, sensory integration, gross motor trunk stability, and self-esteem" (Ortoff 2006, p. 1). Not allotting the appropriate amount of time to develop these skills would hinder the students' skills in all of the other areas. In addition, ignoring the difficulties with handwriting because it is supposed to be "automatic" is not a good idea. These handwriting problems need to be caught as early on as possible. Handwriting problems can be one sign for a possible disability (Ortoff, 2006, p. 1-3). With that, it is important to realize that although computers are effective tools in most cases not every subject area can be done on the computer.

For example, teaching math would be quite difficult to do on the computer. Not only is math a challenge to teach on the computer, science is also difficult to teach on the computer since it is so hands-on. However, if the computer can be used in the classroom for writing, it makes sense to use the computer.

Word Processors and Beginning Writers

Almost every classroom in America has at least one computer that is sometimes being used by writers to assist with their work. The use of the word processor has the unique ability to support the current needs of the writing process because it eliminates two steps in the process; rewriting and recopying. In a study by Cochran-Smith, Kahn, and Paris (1990), the five to ten year old students that were observed during the study eventually took the focus off the neatness of handwriting. The students began to focus less on neatness and began to focus more on letter sound relationships in encoding, content, and organization and final editing. When using the word processor with the help of teachers, beginning writers changed the way they carried out the writing process. The students were then able to take advantage of some of the different aspects of word processing in order to develop new writing strategies. The study found that "word processing did not make children write better, prompt them to revise more, or teach them new writing strategies" (Cochran-Smith, Kahn, Paris, 1990, p. 244).

When word processors are introduced into the classroom and are utilized by the students, the role of the teacher changes from facilitator to guide and participant. The use of the computer in the classroom changes classroom culture as well as social interactions between students and teachers while introducing new technology. The introduction of a word processor in the classroom for writing transforms writing into a completely different experience from the

traditional pencil and paper writing. There is a possibility to see a difference in attitudes, interaction, instructional strategies, and written products (Van Leeuwen and Gabriel, 2007, p. 420-427).

Van Leeuwen and Gabriel (2007) did a study in a first grade classroom with four students. The study found that three out of the four students preferred writing with the word processor. However, these results do not precisely reflect the complex findings of these authors. Students were not uniformly positive about computer use when writing. For instance, the "students expressed their concern with the mechanics of writing and the efforts involved with letter formation, spelling words, typing on the computer and creating pictures to illustrate their story" (p. 423) as they wrote on the computer. On the other hand, students talked about how their hands tire when writing with a pencil and paper. Students also enjoyed searching for the letters on the keyboard. The study also found that students with strong writing skills who were accustomed to using pencil and paper found it more difficult to focus when using the computer. However, re-reading while using the computer occurred more frequently and happened in short bursts. Computer use also allowed the teacher to have short mini-lessons as the student was writing. These lessons were not planned; the lessons pertained to questions the student had.

When it comes to writing, students need to be in the right mind frame. Therefore, attitude plays a critical role in what is achieved during the writing period. When writing with the word processor, students' attitudes were positive. When the students were engaged in writing tasks, they were focused and enthusiastic writers. The students enjoyed counting the number of sentences that were already written. According to the study, "their body language demonstrated excitement with their progress" (Van Leewuen & Gabriel, 2007, p. 423). The teacher that was a part of the study noted that the students would ask "can we go into the computer lab to finish up

a story" (Van Leewuen, Gabriel, 2007, p. 423)? Being able to use the computer was something that the students enjoyed. The teacher also noted that "even with the ancient technology in my room, there's still…novelty in…using the computer to write" (Van Leewuen, Gabriel, 2007, p. 423).

The complexity of these findings led the researcher to wonder what the benefits of computer use might be for beginning writers. Consequently, this study centers on these questions: 1.) How does using the word processor influence writing skills in beginning writers? 2.) To what extent does the use of the word processor influence how beginning writers feel about writing?

Chapter III

METHODS

Setting

The setting for this study is Public School 13, M. L. Lindemeyer, located in Port Richmond on Staten Island, New York. The exact address of the school is 191 Vermont Avenue Staten Island, New York. Port Richmond is located on the North Shore of Staten Island, one of the five boroughs of New York City.

There are 748 students ranging from kindergarten through grade five who attend P.S. 13. The school population of the school consists of 20% Black, 38% Hispanic, 28% White, 0% Native American, and 14% Asian or Native Hawaiian/Other Pacific Islander. The student body includes 13% Limited English Proficient and 76% of students receive either free or reduced-priced lunch. The average class size is 26 students per class.

Participants

The participants in the study were students between ages 6 to 9 in a self-contained first and second grade mixed class. I looked at a group of 12 students; 10 males and 2 females. The classroom teacher allowed me to use all of the students in the class.

Instrumentation

The primary materials were pencils and standard lined paper. Word processors with a word processing application were also used. The students were then asked to use the word processor to write after five days of traditional writing. The students' writing journal may also be referenced for the students to gain ideas for writing. Rubrics were used to help the investigator to

evaluate the study. The rubric incorporated the following areas: word choice, creative elaboration, extensiveness, and fluency. When talking about word choice, the assessor looked for a wide array of vocabulary used. It is important to note that the assessor did not focus on accurate spelling; however, the assessor needed to be able to distinguish what the word was without the assistance of the child. For this study, creative elaboration is defined as the degree of detail the students use in developing their ideas. Extensiveness is defined as the length of the writing based on the number of sentences used. The last part is fluency which deals with how many words are in each sentence and whether or not the sentences flow well with one another.

The classroom teacher identified the 12 students to be the students for the study, 2 females and 10 males. Consent forms and permission forms were distributed to the parents whose children were asked to take part in the study. The teacher was also be given a permission form. After the researcher received all of the consent and permission forms back, the researcher explained what was going to take place in the study and had the students sign the assent form. After all of that, the study was then started.

Procedure

This study took place over a 10 day period in which all of the days were school days. Each writing period lasted no more than 30 minutes and generally took place during the normal writing time. On the first day, the researcher provided an opportunity for the students to write on a self-selected topic that interested them. For the first five days, the students wrote with traditional writing materials – a pencil and paper. If they wished, they were able to write on multiple topics or they were able to develop the original topic as much as they liked. On the first day before writing, the students were asked to fill out a feeling chart. This was used to assess

their emotions about the writing process. At the end of each writing day, the researcher took pictures of each writing sample in order to be able to assess the students' writing skills using the attached rubric (Appendix C).

On the sixth day, the students were given a fresh opportunity to write on a self-selected topic that interested them. This time, instead of writing with a pencil and paper, they wrote using a word processor. The students wrote during days 6-10 using a word processor and the same procedures that were used with the paper and pencil writing were

used during days 6-10. The feelings chart was also administered only on the first day, because the students were circling several feelings.

Results

Student I

Over the course of the first five days, Student 1 was eager to get her writing assignment completed. When the teacher wrote the basic number of sentences that the student was expected to write, the student would write even more basic sentences than were requested. An example of her sentences would be "I like to play in the rain. I like to play in the pudools (puddles). I like to bring my umbrella." For this example, the students were asked to write a story or a description of the picture and were asked to write at least three sentences about the picture. When writing on a separate day and prompted by the question "what do you want to be when you grow up?" Student 1 had more elaboration. She wrote: "When I am big I am going to be a doctor because I can help them to feel well. I will give them shots and give them a lolepop (lollipop) or toy if they are brave." When comparing both examples, it appears that Student 1 is able to create more

complex sentences and is able to use more challenging words such as brave. She also tried to sound out more difficult words in the second sentence.

Throughout days six through ten of the study, Student 1 was able to write a story of her own. The first day she immediately got right to work and began to write about "The Princess Castle" which she continued to add on to over the entire study. She started out writing the story just as any fairy tale starts out "Once upon a time there was a princess name Cinderella she wanted to marry a prince." She continued on with "her too sister wanted to marry a prince too. because Cinderella wanted to go to the ball so bad to dance with the prince." She was able to write all of that within the first writing period. The next day she added to the story "Because her grand mother change the mice in to a coacher and the to lizards was brothers. The princess needs a prince named Mario. The princess said help, help Mario saved the princess. Mario clamed (climbed) up the stars (stairs) to save the princess." The following day she continued to write "but he cant go in the room. Because the jargon lock the room so the princess can not come out of there. Roar said the dragon the monster was scary because he had long teeth and big eyes Mario said don't worry princess. The next day Mario went to the dragon room and Mario go the keys." Although she was unable to finish the entire story in the time that she was in the class for writing, she was able to produce the basics of a great story.

Student 1's attitude toward writing did not change between writing with the word processor or handwritten. In both instances, the student marked "very happy" when asked "how are you feeling before you begin writing using the word processor?"

Although there was no change in feelings between using the word processor to write or handwriting, there were many differences that can be seen when handwriting and word processing. For example, one would be that Student 1 was not prompted for the word processing

aspect. However, when comparing the word choice between handwriting and the word processor along with creative elaboration, there are major differences. With the word processor, Student 1 chose the word brave, climbed, and coach(er); however, when she was handwriting, she was choosing more simplistic words and sentences that were starting the same way "I like…" The variations of word choice throughout the word processing piece are something that is astonishing when compared to the handwritten work. As Student 1 continued to write on the word processor, she became more engaged in her writing and was able to make it more extensive. It is apparent that she has trouble with fluency, but when comparing the work she does with a word processor to what she handwrites it is almost as if two different students are engaged in writing.

Student II

When handwriting, Student 2 wrote sentences like "they eat ice pops. they are happy. it summer". He would also write things such as "They are in the water. They are in the boat. They are having fun. They are in water. It is a late. They have paddue (paddle)." Although both of the previous examples were prompted, he was unable to give more of a creative story like the researcher gave an example of when talking about the picture. When Student 2 was prompted with the question "what do you want to be when you grow up?" he had a lot to say. When I get big I am going to be a zoo keeper. I am going to feed zoo animals like hippopoptmas, leperds, tigers, and spiders. I also want to take care of bear, shark, penguin, goldfish."

However, Student 2's creative imagination was sparked when he was able to write with the word processor. He wrote "Tonight I saw monster in my closet and it was a scary Monster. In my closet. With my clothes! A zombie with clothes! Then he wanted to dress just like me. And I was hungry. So my monster went fishing to get us something to eat. Then he caught a big bleue fish." He continued the next day with "And I saw my monster because he gon finishing he

doesn't see him so he was sad and was happy were he saw him what's up glad to see you WHAT IS THAT? THIS IS THE FISH THAT I CATH GABE. MY THEETH it was dead allrety I cared big fish home it smels like saltwater. Then we aet it and it was good because it was hot super hot". The next day, he began to write "Dragons are big and scary and some are babys dinosors too dragons are difrent colors scary too And they are not real people and spooky dragons too. And colorfull red hats."

When it came to how Student 2 was feeling toward writing while using paper and pencil, Student Two circled "happy". However, when asked how Student Two was feeling toward writing using the word processor, Student Two circled both "hungry" and "sleepy". However, the class' schedule changed from having writing in the morning when the handwriting activity took place to the afternoon when the word processing activity took place. Therefore, the time in the day may have affected him.

There are a many similarities in punctuation and capitalization between both the handwritten pieces and the word processing pieces. In addition, students used something else that can be seen in both works is "slang"; for example, the words such as "allrety" instead of "already". However, when using the word processor, he was able to write more extensively than compared to his handwritten work. He was also more fluent and had better word choice in his writing on the word processor. He chose words such as saltwater, spooky, colorful, and glad instead of words such as big or having.

Student III

Student 3 is very bright and enjoys writing as much as he enjoys reading. In his first hand written piece he wrote: "There (They) are eating ice pops. There (They) are happy. It is summer. There (They) are wearing shows (shoes). There (They) are wearing shirts. There (They) are

wearing shorts." The next day he wrote: "There (They) are boys. There (They) in the boat. The boat is orange. There (They) are boating. The boys are on the lake." He also wrote "I like to go in the rain because I could play."

When writing with the word processor, Student 3 was able to write "The monster of doom. When she wake up she saw a monster under her bed. The monster was so scary. The scary monster was destroying the house. The monster was eating her shirt. She was throwing her socks at the monster. The monster is sleeping in the bed onder (under) her bed\". In the same day, he wrote "Bouncy nut. The nut was bouncy. They are playing with the bouncy nut. The nut was bouncing allover the place. The bouncy nut was in the pool. The people got the..."

When Student 3 was asked to fill out his feeling chart about how he was feeling toward using a pencil and paper to write, he circled "confused". However, when he was filling the same feeling chart out for using the word processor, he circled "hungry". The time of the day had changed when writing was taking place for using the word processor. When the class used the word processor to write, it happened at the end of the day, but the handwriting was taking place in the morning.

When using the word processor and handwriting different pieces of work Student 3 is quite extensive with his writing. He is able to write at least 5 sentences on each topic. However, it is apparent that when using the word processor, his word choice and creative elaboration comes into play. Choosing words such as bouncy, destroying, scary, and doom when using the word processor was very interesting to see since when handwriting he was choosing more simple sentences such as "They are ...". Fluency is something that he was having trouble with when handwriting, but he was able to elaborate more when he was typing.

Sometimes staring at a blank computer screen with the curser flashing is quite overwhelming. Surprisingly enough that did not overwhelm the students when it came to writing. All three students were able to improve their writing skills when they worked on the computer. The improvement started the very first day of using the computer and continued over the course of the study. The word choice and creative elaboration that all three students were showing when using the computer to write drastically changed when compared to their work when handwriting. Their fluency and extensiveness also improved when using the computer. They were writing sentences that were more than the basic sentence. They were able to develop the sentences more. With these results, it did not surprise the researcher that the students wanted to write using the computer. Overall, when the students were using the computers to write, the classroom seemed as if the students transformed into expert writers.

CHAPTER IV

CONCLUSIONS AND DISCUSSION

Limitations

There were many limitations with the study. The first and most challenging limitation was the students' poor and inconsistent attendance rate throughout the entire study. In addition, the study was limited by the delay in getting permissions. Another limitation that goes along with the inconsistent attendance rate is that some students were pulled out for other various services when the study was taking place. It also seemed as if there was some confusion between the teacher and the researcher when it came down to how much time the students actually spent writing.

There were some limitations when trying to figure out how the participants were actually feeling towards writing. This was seen by the researcher when the participants were filling out the feelings charts.

In the classroom that the researcher was placed in, there were a total of twelve students ten of whom were male and two females. Therefore, there was also a limited gender mix. One of the biggest limitations of the study was that the students had never used the word processor for anything but playing games. This was their first time using it to type a story. Another limitation of the study was the setting of the classroom. The classroom was a self-contained 1st and 2nd grade mixed ability classroom with one teacher and three paraprofessionals. When the study was taking place, there was also a student teacher and the researcher in the room. This caused many of the students to rely too heavily on the teacher while writing.

Another limitation was the time of day when the writing was taking place fluctuated depending on the specials and other events scheduled for the day. Although this is generally hard to control, it would have been interesting to see if feelings and energy toward writing changed depending on the time of day writing was taking place.

Discussion and Conclusions

Over the course of the study, there were some unanticipated findings. The noise level in the classroom drastically changed when the students began to write on the computer. They were engaged in writing and were focused on figuring out how to properly use the word processor in order to type. When typing on the computer, all of the questions were directly related to the students work or the computer. Most of the questions were: "How do you make a capital letter? Where is the period, question mark, etc? How do you go to the next line? Where is the letter __?" Although this was expected from the students, the frequency in which it was occurring was higher than expected. The students were more focused on writing rather than telling stories about other random subjects as they did when they were handwriting. It was interesting to see how their motivation level changed drastically when the computers were brought out. In some ways, the computers were a reward for the students. There were students who were having "meltdowns" in the classroom prior to bringing out the computers; but once the computers were brought out, the "meltdowns" disappeared. The eagerness to share between students was something that was completely unexpected. The students wanted to share every time they wrote a good sentence or once they first decided what they were going to write about. Their enthusiastic nature about writing drastically changed when using the computer. If the students

knew how to type on the word processors a little better, there would have been a dramatic change.

Something that was noticed when they were typing is that they wanted the spaces in between words to look like their handwriting. So, instead of putting one space in between each word, they would put four to six spaces in between each word. They also enjoyed pushing the enter button between each sentence.

The study worked as well as it did because the cooperating teacher was simply fantastic. She was completely willing to help with whatever was necessary. She was friendly and easy to get along with and had a great rapport with her class. The accessibility to computers was also fantastic.

There were a lot of things that could have gone a little more smoothly. If the students had more experience typing on the computer, the results would have been different. Another thing that did not work so well was the pull-outs for services, attendance rates, and the amount of time that it took to get back the consent forms from the parents. Although the students in the study were incredible, the classroom was a little hard to manage since it is a first and second grade mix with three paraprofessionals and a lead teacher. It might have worked out better if the study was held in either a general education first or second grade class. The student to teacher ratio helped when students were asking questions; but for the researcher, it was difficult to hear and be a part of everything that was happening in the classroom.

There was a lot of new learning taking place. From the researcher teaching the paraprofessionals to students learning how to use the computer to type, learning was taking place all over the classroom. The most eye opening learning involved students helping other students. This happened when students taught other students how to spell different and more challenging

words to students teaching one another how to put pictures into their stories at the end of the writing period. It was great to see the students taking charge in the classroom. They enjoyed sharing their writing and helped one another if needed. The most asked question was still "how do you spell?" However, the students were asking how to spell more challenging words. The researcher was also able to show the paraprofessionals how to place pictures into text and how to use "Microsoft Word" more effectively.

The most revealing part of the study was also the most challenging. Because the majority of the students' attendance rates fluctuated, the study was not as revealing as the researcher had hoped. However, the students who were there for the majority of the study revealed that with the proper teaching of typing, students would type more in the same amount of time compared to handwritten work. However, the researcher is curious if the typing took place over a longer amount of time if the infatuation with the computer and typing would decrease; therefore, decreasing the motivation of writing with the computer.

As mentioned earlier, the dynamic of the classroom drastically changed when using the computer to type. The researcher's experience with the study was challenging, but also very rewarding. Seeing the students grow from the first day of using the word processor to type to the last day of the study drastically changed. Their ability to write on the computer as well as how familiar they became with the location of the keys was just astonishing. They were able to tell one another where different keys were located on the keyboard, how to put pictures into text, and were able to talk about their writing in different ways. The extent to which the students were able to write on one topic was amazing. They were writing more using the word processor than when they were handwriting. This may or may not have to do with the lines on the paper that they are

given when handwriting. Many students even in college write enough to fill up a certain amount of space and then stop. In contrast, the computer has endless amounts of space to write.

Although the results only talked about three specific students, there were two other students that the researcher did not have enough data on to include in the research, but found other great information when working with them. For students that have difficulties when handwriting, they enjoyed using the computer to write. Knowing that every time they pushed a key on the keyboard the letter would look the same was very comforting for some students. One student in particular would become very frustrated when handwriting and would have "meltdowns", but when using the computer he was "meltdown" free. This was something that was interesting to observe.

Another interesting piece was that when the students were asked to handwrite, the number of time students that asked to go to the bathroom or to get a drink of water was high. Some students were asking two or three times in the same period to go to the bathroom or to get a drink of water. However, when the students were using the computer to write, the questions "can I go to the bathroom or can I get a drink of water" were few and far between and normally the students really needed to go to the bathroom or get a drink of water.

Implications for Future Practices

The use of the word processor was great for writing. However, there are some implications for future practices that would have been beneficial. First, one implication that may be out of the researcher's control would be the attendance rate. Having consistent data would have been beneficial for the researcher to have substantial evidence for both handwritten work and word processing pieces. Along with the attendance, the ability to have total control over the

classroom when conducting the study would benefit the results. Having total control over the classroom would have ensured that the instructional time was the same every day, that the collecting of data was facilitated, and overall, that the study was easier to carry out.

Next, another implication would be to have a few lessons on the basics of typing such as how to make a capital letter, where the period button is, and the like. Using technology early on in the students' lives is beneficial to them, but teaching them the basics in a group setting such as key placement would be beneficial to the researcher. One other suggestion would be to have them practice typing a given paragraph or two in order to allow them to become familiar with the placement of keys on the keyboard. Having short mini lessons before they use the word processor in order to type would be beneficial to the students. There are so many things that different programs can do, but sometimes it is too much to try to learn all in one day. Therefore, allowing them to experiment with different aspects of a computer program along with teaching them all of the functions that are possible as they ask are necessary in order to do the study well.

Third, something else that would benefit the researcher for this study would also be to know the computer functions well. As a researcher, some students may ask more than the basic functions. For example, the students in this study enjoyed that they were still able to put pictures into their work via clipart. There were several teachers in the classroom who were not comfortable using technology in this way. The students thoroughly enjoyed using the computer to write and accompanied their writing with pictures at the end of each day.

Although teaching handwriting is still important, the students who are struggling with handwriting should be able to use the computer. Using the computer as a tool allows the students who are struggling to write the ability to elaborate more on the topic and be less frustrated. Therefore, if students are struggling with writing, the computer would be a useful tool.

Implications for Future Research

When thinking about future research, there are a few things that come to mind. One implication that would help would be allowing the students to use the software that is on many SmartPhones. When students have difficulty spelling a word, the software offers suggestions for what the word might be that the student is trying to spell. Having access to this software would allow the students to write more words without asking the question "how do you spell ____?" This would also allow the teacher to have one on one writing time with each student and the computer. Making time for these interactions between the student and teacher would allow the teacher to give important feedback to the student and the student would have the ability to make corrections to his or her work as the teacher is conferencing with him or her. Therefore, the interaction between student and teacher over writing would change the editing and proofreading process.

Another implication that would be beneficial for future research would be to look at the talk-to-text software. It would be interesting to look at how many words the student is thinking compared to how many words get onto the paper. Having this technology would help teachers see how brilliant the young minds of first or second graders can be. There were many times when the students would say amazing ideas to the researcher; but once it came to writing or typing them, very few ideas actually made it onto the paper. Unsure of the reason why, it would be interesting to compare how extensively stories are written that are at first expressed verbally to those that are then produced by hand, to those, finally, that are then typed on a word processor.

One other thing that should be done differently is the feelings' chart. The students had the ability to choose 25 different emotions off of the chart. In retrospect, the researcher felt that the

students were overwhelmed with the amount of choices. Since the students were unable to read the words under the pictures, the students chose the words that they knew or remembered after the researcher or teachers read them off the paper. Having fewer options would probably be a good idea in order to get more accurate results.

References

Barlow, D. (2005). the teachers' lounge. *Education Digest*, *70*(8), 63-67. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=tfh&AN=16782732&site=ehost-live

Castek, J. (2010). Making the most of new technologies to support literacy. *California Reader*, *44*(1), 46-50. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=54407467&site=ehost-live

Cochran-Smith, M., Kahn, J., & Paris, C. (1990). Writing with a felicitous tool. *Theory into Practice*, *29*(4),235-245. Retrieved fromhttp://web.ebscohost.com/ehost/detail?vid=5&hid =111&sid=b0a5d4b3-7905-4b00-bc98e7b5ca14d34b%40sessionmgr104&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=eric&AN=EJ422124

Ediger, M. (2001). Assessing handwriting achievement. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED447508&site=ehost-live

Grejda, G., & Hannafin, M. (1992). Effects of word processing on sixth graders' holistic writing and revisions. *Journal of Educational Research*, *85*(3), 144-149. Retrieved from http://web.ebscohost.com/ehost/detail?vid=9&hid=111&sid=b0a5d4b3-7905-4b00-bc98-e7b5ca14d34b%40sessionmgr104&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=eric&AN=EJ446619

MacDonald, L., & Caverly, D. (2006). Techtalk: word processing from adoption to innovation.

Journal of Developmental Education, *30*(2), 36-38. Retrieved from http://web.ebscohost.com/ehost/detail?sid=1cd7c335-73e1-408b-a091-daff3051f1f8%40sessionmgr115&vid=1&hid=111&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=ehh&AN=23830681

McNabb, M. (2005). Raising the bar on technology research in English language arts. *Journal of Research on Technology in Education*, *38*(1), 113-119. Retrieved from http://web.ebscohost.com/ehost/detail?sid=94574664-0b15-4acd-b2b6-0abb68f072fd%40sessionmgr113&vid=1&hid=111&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=eric&AN=EJ719940

Ortoff, S. (2006). Handwriting made easier. *Children's Special Services*, *115*(5), 46-49.Retrieved from http://search.ebscohost.com/login.aspx?

Ritchey, K. (2006). Learning to write. *Teaching Exceptional Children*, *39*(2), 22-26. Retrieved from http://www.cec.sped.org/Content/NavigationMenu/Publications2/TEACHING ExceptionalChildren/default.htm

Thode, T. (2004). Reading and writing and technology education! it. *Technology & Children*, *9*(2), 02-03. Retrieved fromhttp://search.ebsochost.com/login.aspx?direct=true&db=tfh&AN=15534986&site=ehost-live

Torgesen, J. (2007). Read, write & type. *What Works Clearinghouse*, Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED496724&site=ehost-live

Van Leeuwen, C., & Gabriel, M. (2007). Beginning to write with word processing: Integrating writing process and technology in a primary classroom. *International Reading Association*, *60*(5), 420-429.

Wadlington, E. (2000). Effective language arts instruction for students with dyslexia. *Preventing School Failure*, *44*(2), 61-65. Retrieved from http://proxy1.wagner.edu:2252/ehost/delivery?sid=ac4346c3-2ca5-4789

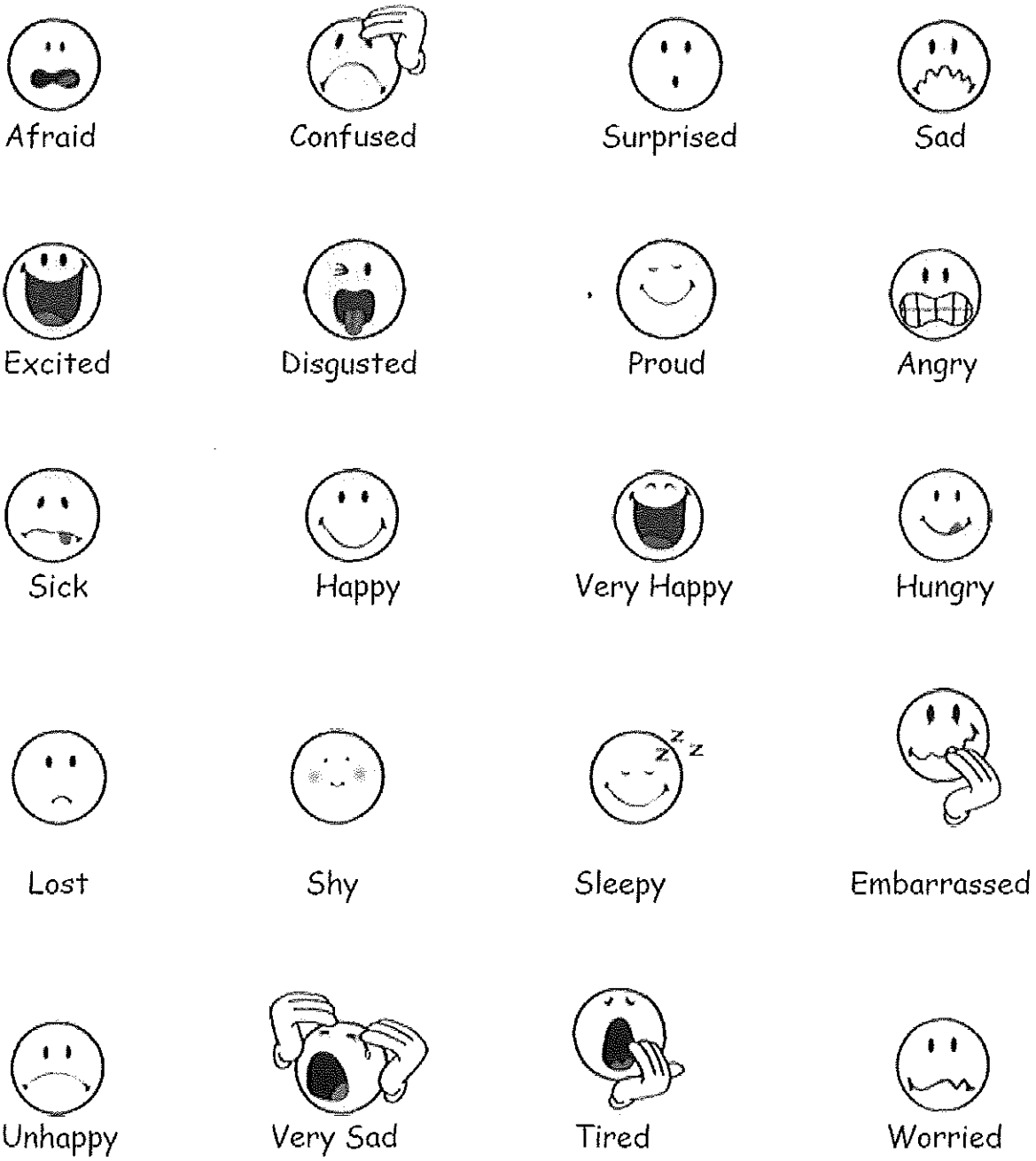
Wong, B. (2001). Commentary: pointers for literacy instruction from educational technology and research on writing instruction. *The Elementary School Journal*, 101(3), 359-369. Retrieved from http://searach.ebscohost.com/login.aspx?direct=true&db=ehh&AN=4120661&site=ehost-live

Working together: computers and people with learning disabilities. (2000). Unpublished manuscript, Department of Education, Washington University, Seattle, Washington. Retrieved from http://www.washington.edu/doit/Brochures/Technology/atpwld.html

APPENDIX A

Feeling Chart

Please underline how you are feeling before you begin writing using the word processor.
Please circle how you are feeling after you wrote with the word processor.



APPENDIX B

Feeling Chart

Please underline how you are feeling before you begin writing using paper and pencil.
Please circle how you are feeling after you wrote with paper and pencil.


Afraid


Confused


Surprised


Sad


Excited


Disgusted


Proud


Angry


Sick

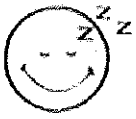

Happy


Very Happy


Hungry

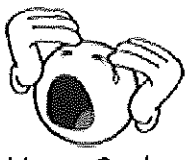

Lost


Shy


Sleepy


Embarrassed


Unhappy


Very Sad


Tired


Worried

APPENDIX C

Story Writing : Thesis Research Rubric

Teacher Name: **Ms. Casey**

Student Name: _____

CATEGORY	4	3	2	1
Word Choice	Throughout the story, there is a wide range of vocabulary used. New words were attempted along with unexpected and descriptive words.	Throughout the story, some new words were attempted. Descriptions were basic and there were no unexpected words.	Throughout the story, there were basic words used. All words were based off of the word wall or spelling words up until this point.	Throughout the story, there were only sight words used and a few basic words.
Creative Elaboration	The story contains many creative details and/or descriptions that contribute to the reader's enjoyment. The author has really used his imagination.	The story contains a few creative details and/or descriptions that contribute to the reader's enjoyment. The author has used his imagination.	The story contains a few creative details and/or descriptions, but they distract from the story. The author has tried to use his imagination.	There is little evidence of creativity in the story. The author does not seem to have used much imagination.
Extensiveness	The final draft of the story is over 6 sentences. It looks like the author took great pride in it.	The final draft of the story is 4 to 5 sentences. It looks like the author took some pride in it.	The final draft of the story is 2 to 3 sentences. It looks like parts of it might have been done in a hurry.	The final draft is only a sentence.
Fluency	There are 7 to 8 words in each sentence and the sentences cohere or flow with one another really well.	There are 5-6 words in each sentence. The student attempted to make the sentences cohere or flow with one another.	There are 4-5 words in each sentence. The student did not try to attempt to make the sentences cohere or flow with one another.	There 4 or less words in each sentence. The student is writing the basics in each sentence.