A practicum used computers to improve the use of standard English and the attitude towards writing of a group of middle school students in a predominantly Nicaraguan neighborhood in a large metropolitan area. The project was directed towards 32 sixth- to eighth-graders of average ability who were enrolled in an introductory computer literacy/applications course. In this classroom, 56.25% of the students were Nicaraguan, 12.5% were White Non-Hispanic, and 31.25% were Black. Out of this group, 10 sixth-graders were targeted for the research project on the basis of low scores: (1) on the Stanford Achievement Test; and (2) on a holistically assessed writing sample. An attitude survey was also administered. After the 8-week implementation period, an assessment of students' stories showed that they had improved their use of standard English, and the post-treatment attitude survey indicated that students enjoyed writing the stories and felt more positive about the writing process. (Four tables of data and 14 references are included. Seven appendixes—including a school improvement plan, writing attitude presurvey and postsurvey, holistic grading criteria, and stories written by two students—are attached.) (SR)
USING COMPUTERS TO IMPROVE WRITING SKILLS
AND ATTITUDES OF MIDDLE SCHOOL STUDENTS

by
MARK H. SHIELDS

A Practicum Report
submitted to the Faculty of the Center for the
Advancement of Education at Nova University in partial
fulfillment of the requirements for the degree of
Master of Science.

The abstract of this report may be placed in a
National Database System for reference.
Abstract

Using Computers to Improve Writing Skills and Attitudes of Middle School Students.
Shields, Mark H., 1991: Practicum Report, Nova University, Center for the Advancement of Education.
Descriptors: Computer Assisted Instruction/Computer Software/Microcomputers/Middle Schools/Teaching Methods/Writing Difficulties/Writing Instruction/Writing Processes/Word Processing/Writing Improvement/Writing Research

The importance and effectiveness of using computers to improve writing skills and student attitudes was addressed in this practicum report. Research in this area indicated that the environment, computers, and writing assignment topic, had a positive effect on writing skills and attitudes towards writing. The author's objective was to develop a program that used computers to improve the use of standard English and the attitude towards writing of the targeted group of 10 sixth-grade students. The author administered a prewriting sample and writing attitude presurvey. After the implementation period, a postwriting sample and writing postsurvey were administered to help determine the effectiveness of the program. The program was successful. The 10 students improved their use of standard English as evidenced in their stories. The students enjoyed writing the stories and as ascertained by the answers to a writing postsurvey, felt more positive about the writing process. Appendices include School Improvement Plan, Writing Attitude Presurvey, Writing Attitude Postsurvey, Holistic Grading Criteria, and Story Written by Two Students.
Authorship Statement.

I hereby testify that this paper and the work it reports are entirely my own. Where it has been necessary to draw from the work of others, published or unpublished, I have acknowledged such work in accordance with accepted scholarly and editorial practice. I give this testimony freely, out of respect for the scholarship of other workers in the field and in the hope that my own work, presented here, will earn similar respect.

Mark Shields
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CHAPTER I

Purpose

This practicum study was implemented at a large middle school located in a large metropolitan area. The predominately Nicaraguan community in which the school was located was growing and mainly comprised of blue collar workers and laborers. The neighborhood was comprised of many apartment complexes, stores, and restaurants. The school had a student population of 2,160. The school administration was made up of one principal and three assistant principals.

The practicum took place in one of two computer labs within the school. The computer lab consisted of 16 Apple II GS computers and three Apple ImageWriter printers. The student per computer ratio was 2:1. The uniqueness of this lab was the fact that the computers and printers in the lab were connected by means of the Apple-Talk network system. A network is a system by which multiple microcomputers called workstations are connected by cable to one another. In addition, another hardware component, usually also a
microcomputer, is connected to the workstations. This device is characteristically faster and has a higher data-storage capacity because of its hard disk drive. This device is the file server. The primary purpose of the file server in workstation environments is to send or receive information from other computers and from peripheral devices, such as printers. The use of networks eliminates the need for managing a myriad of program disks. Application software is stored on the file server and managed by the instructional management system. This reduces the time and energy spent on distributing and collecting disks. Each workstation can also be used as a stand-alone computer, when desired, and allows users to save their data on diskettes to use at home or at any other site that is not connected to the network. Another benefit of a network is that each workstation does not need its own printer. One or several printers can serve all or many of the workstations on the network. When users request that a printout be made, the documents are sent to the printer. Through a process called spooling, the documents are placed in numerical order and are then printed in the order that the documents are sent to the
printer. The user can then use the computer for other purposes and retrieve the printed document at a later time.

The project was directed towards 32 sixth to eighth grade students of average ability. In this target group, 56.25 percent were Nicaraguan, 12.50 percent were White Non-Hispanic, and 31.25 percent were Black. The students were enrolled in an introductory computer literacy/applications course taught by this writer.

The writer has been a teacher for six years and, at the time of the practicum, taught computer literacy and programming classes at the practicum site. The writer taught six class periods a day: three classes of introduction to computer literacy/applications; one introduction to computer programming, which was comprised of seventh and eighth grade students that had been recommended for this course; and two mathematics classes. The writer was also the computer coordinator at the school. The responsibilities of this role were to attend local workshops, advise other teachers about software purchases, and initiate orders for supplies. At a local computer oriented conference, the writer had
also given a presentation about the advantages of the Apple II GS version of LogoWriter (a program that implements both the Logo language and word processor) versus the standard version. The writer also had articles about LogoWriterGS and network geography software published in a newsletter that was distributed district wide.

Each school site within the district where this author taught proposed a yearly school-wide goal for educational improvement. The faculty at the author's school voted to make its goal to improve the students' written use of standard English.

Proper use of standard English in the areas of reading and writing can be a difficult task for American-born, English speaking students. The problem becomes more difficult when English is not the students' primary language. Because of this problem, the faculty at the practicum site decided to increase the ability of students to utilize standard English through reading and writing as a part of its district mandated school-wide goal (Appendix A:34). The author also consulted with the Language Arts Department Chairperson at the practicum site. The chairperson's
letter confirmed the author's belief that students at the author's school needed to improve their writing skills and that a program to improve these skills would enhance the language arts curriculum (Appendix B:37).

In order to determine the class from which the target group should be chosen, the author of this practicum reviewed the Stanford Achievement Test (SAT) scores of students in three of the author's introductory computer classes. A stanine score of 5 is considered average on the SAT. Table 1 clearly shows that there was a deficiency in the area of reading in the author's second period class of 32 sixth through eighth graders. Of the 32 students whose SAT scores were considered, four students had stanines in the above average range, five students scored just below the average, whereas 16 students had stanines considerably below average. There were three students whose scores were missing for reasons unknown to this author. One student was in an English for Speakers of Other Languages (ESOL) program, thus, the test score was not recorded. This author decided to choose the target group of students from this class.
Table 1
Second Period Class
Reading Stanines

<table>
<thead>
<tr>
<th>Subject</th>
<th>Stanine</th>
<th>Subject</th>
<th>Stanine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
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<td>18</td>
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</tr>
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<td>24</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>25</td>
<td>*</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>*</td>
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<td>2</td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>29</td>
<td>9</td>
</tr>
<tr>
<td>14</td>
<td>*</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>4</td>
<td>32</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Average stanine = 5  
* = Missing score  
These scores missing for reason unknown to author  
# = ESOL student whose scores were not recorded

The author then assigned a prewriting sample to all of the students in the class. The scores on this writing sample enabled the author to choose the target group for this practicum, establish baseline data, and support the problem statement. The writing samples were graded using holistic grading criteria (Appendix C:39). The sentence starter used was "Coming to school
The students were given 30 minutes to complete the writing sample. An acceptable score would be 3, 4, or 5 points. As seen in Table 2, nine of the students in the class scored between 1 and 2 points and one student scored a 3.

Table 2
Student Scores on Prewriting Sample

<table>
<thead>
<tr>
<th>Student</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
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<td>6</td>
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</tr>
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<td>8</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: Samples were graded on a scale of 5 (the highest) and 1 (the lowest).

The author then chose these 10 students who scored the lowest on the writing sample to be the members of the target group and hoped that the chosen treatment would raise their scores to a 3, 4, or 5.
The members of the target group were then given an attitude presurvey to complete. The survey was designed by the author to determine whether or not students liked to write letters, reports, and stories using pencil and paper. The results (Appendix D:41) showed an overwhelming negative attitude towards writing. Item Number 1 on the presurvey showed little difference in response because most students would rather write letters to their friends using paper and pencil because it allowed them to express themselves more openly and privately. Item Number 2, which was about writing reports, and item Number 3, which was about writing stories, showed a more negative response. The students did not like a paper-and-pencil approach to writing because so much time and effort needs to be spent rewriting and editing before the final draft is completed. This was based on conversations with the students.

There was a definite need to improve the students' writing at the school site. As noted earlier, the language arts chairperson and the faculty agreed with the author that the students' writing skills needed improvement. The students' scores on the prewriting
sample indicated that there was a discrepancy between the students' at the practicum site's actual writing scores (1 or 2 on the prewriting sample) and the acceptable level of proficiency (3 to 5). The results of the attitude presurvey indicated that the students did not like to write. Because of these factors, the author decided to develop a program that would use computers to improve the students' use of standard English in the writing process and also to instill in them a positive attitude towards writing.

Throughout the final report, the term "the author" will apply to the author of this practicum report. The author of this practicum developed a program that used computers to improve the students' use of standard English in writing. To be successful, the program had to meet two objectives:

1. After participating in an eight-week program to improve writing skills, the 10 students in the target group will increase the scores on a postwriting sample so that they meet the acceptable criteria of a total score of 3, 4, or 5. The postwriting sample will be graded on the same holistic grading as was used on the prewriting sample.
2. After participating in the eight-week program, the students will improve their attitude towards writing as assessed by a decrease to less than a total of 15 negative answers on the writing attitude postsurvey (Appendix E:43) versus the attitude presurvey.
CHAPTER II
Research and Solution Strategies

An increasing number of teachers and researchers have explored the use of computers as writing tools for students with poor writing skills. The hope was that the computer would be a more engaging tool than the pencil and would make revision easier. If students were more willing to write and were able to write and revise more easily, the overall quality of their written products would improve.

Although a number of arguments could be made against computer usage with reluctant writers, the fact remains that teachers in remedial writing courses had been unable to help their students by using traditional textbooks. Perhaps through the study of the effects of computers and text writers, the revising strategies of reluctant writers could be improved (Rosenbaum, 1984).

In a study conducted with remedial students, the teachers did not tell children what to write. Instead, they provided students with a context for discussion and helpful procedures for getting them started in the writing process. Conversational approaches included
activities such as joint brainstorming, having the students tell a story, or encouraging the students to recall personal experiences (Neumann and Cobb-Morocco, 1987).

Students were more willing to consider revisions and changes when the recopying penalty was eliminated. Moore (1989:381) repeated a student's explanation that "Instead of having to write reports freehand and getting writer's cramp, you can use the computer and save a lot of time, paper, and not have to scrub away spongy little eraser marks." The powerful editing tools of word processors enabled students to manipulate oral and written language as they inserted, deleted, and rearranged text. Students learned about the process of writing as they spoke, thought about, and wrote about their writing. "Computers and word processors seem to capture the creative and imaginative minds of the students" (Moore, 1989:382). Beginning and reluctant writers frequently had great thoughts but were stymied by the mechanics of getting their words onto paper, and that is where computers could be a help. Penso (1989) stated that many simple programs offer image and word integration. With limited
instruction, children will enjoy creating beautiful messages. Students at the secondary level will continue to profit from simple structured formats and picture perfect products. Several programs, such as Monsters and Make Believe, print colorful scenes and images ideal for stimulating class discussion and introducing students to story creation.

In certain situations, the teacher may have access to only one computer in the class. This should not inhibit the students from using the computer to improve writing skills. Pon (1988) addressed this situation in an article entitled "Process Writing in the One-Computer Classroom." The author suggested that there were many different kinds of prewriting activities a teacher might choose to use with the students. These ranged from brainstorming or clustering ideas to researching and participating in sensory experiences. It is suggested in the article that these activities could be done with conventional tools, but the computer lends itself perfectly to these kinds of activities. The computer is well suited for listing and grouping activities because of its inserting capacity. The use of computers as word processors for writing papers is
common place in English departments, but computers are also helpful for demonstrating group composing. While writing reports or research papers, students can prepare preliminary questions and answer the questions as they do their research (Wright, 1986).

Teachers need to be aware of the individual needs of each student. According to an ethnographic study by Hermann (1987), learning word processing while learning how to write is a highly stressful experience for some students; thus, a word processing course taught by writing teachers should be available separate from the composition course. Teachers have to become sensitive to the compatibility of their teaching style with the learning styles of their students.

A number of studies have compared the responses of students to writing with word processors with their responses to writing with traditional tools. One particular study by Baer (1987) identified three contextual variables that affect students' attitudes towards writing: the content of the writing assignments, including appeal of the topic and how much involvement students have in non-composing activities; the setting where the writing activities occur,
including the physical arrangement of the lab; and the method used for writing, including characteristics of the word processor itself and the quality of printed output. A two-year longitudinal study explored how students' thinking changed as they became experienced computer users. All of the students, when interviewed about their attitudes towards writing using computers, significantly expanded their skills, confidence, ambitions, and willingness to share their work with others. Researchers also observed students working with hypermedia technology in ways that suggested further possibilities for enhancing students' thinking skills (Tierney, 1989). Hypermedia technology helps one collect, explore, and organize information of all kinds. Information is organized on cards, a universal metaphor for storing information. Cards that could contain both text and graphics are displayed on the screen one at a time. A collection of cards make a stack (a hypermedia file) that are saved on disk. Buttons allow one to link information on one card to another card or another stack.

A three-year study examined the efficacy of computer versus paper and pencil in the teaching of
writing in the regular classroom. Results showed that the students who used computers developed more positive attitudes towards revision, drafting, and learning to use computers than those who only had brief exposure. Contributions of computers, printers, and a good learning environment led to the development of mature writing skills (Eastman et al., 1989). Moore (1989) discussed the findings of a pilot developmental writing program in a large Southeastern school district and indicated that students using word processors significantly improved the quality of their writing as compared with students not using word processors. The neat, clean typed text made students feel that they were good writers (Moore, 1989).

A significant fact that affected students' attitudes about writing on the computer was their keyboarding skills. Some researchers have reported that children could learn to type in as little as three hours of practice (Suttles, as cited in Dybdahl and Shaw, 1989). Researchers have demonstrated that writers who compose at the computer are motivated to spend more time composing. According to Solomon, as cited by Dybdahl and Shaw (1989), word processors
release children's creativity. "When they don't have to worry about the mechanics of their writing, they can be spontaneous" (Dybdahl and Shaw, 1989:381).

As stated by Balajthy (cited in Dybdahl and Shaw, 1989), interest in keyboarding skills has led many school districts to mandate the teaching of keyboarding at the elementary level. A study conducted to investigate the effects of the acquisition of keyboarding and word processing proficiency on the fluency and syntactic complexity of writing concluded that by April of the school year, the fourth graders composing on the computer were producing significantly more writing than those writing by hand.

The research material that was discussed in this section not only revealed pertinent information about the practicum problem but also served to further stimulate the author of this practicum to tackle the problem. The sources offered what seemed to be appropriate and acceptable solution strategies for the identified problem of this practicum.

Based on the research findings of Neuman and Cobb-Morocco (1987), the author's solution strategy was to use computers to improve the writing skills of the
students in the target group by providing them with a context for discussion and helpful procedures for getting them started in the writing process. Pon (1988) suggested prewriting activities such as brainstorming and participating in sensory experiences. Tierney (1989) suggested that students who wrote using computers showed a more positive attitude towards writing and were more willing to share their work with others. Rodrigues and Rodrigues (1986) stated that students who used word processors or other computer writing programs demonstrated a greater pride in their work. It was also stated that students learned to enjoy writing more and become more fluent. The author decided that the software package, Tutor-Tech, conforms to all of the above requirements because the program is designed to be an authoring program. The student writes a presentation with a series of pages that can link together in any way that the student wishes. The users may import certain pictures or graphics into their presentations. The users can also utilize videotdiscs into their presentations.
CHAPTER III

Method

The author chose students from the second period class to be in the target group. The selection was based on Stanford Achievement Test scores. The students were all administered a prewriting sample. The writing samples were scored using the holistic grading criteria (Appendix C:39). The author chose the 10 lowest scoring students to be in the target group. The author then administered a writing attitude presurvey (Appendix D:41).

The practicum was implemented for four days a week for eight weeks. The implementation took place in the practicum site's computer lab. There was a computer available for each student in the target group. The students used an authoring computer program entitled Tutor-Tech, published by Techware, Inc. A description of what took place each week follows.

Week One

The author introduced the computer program, Tutor-Tech, an authoring computer system. The author, using
an overhead projector and an LCD display unit, projected the main program screen on a wall in the classroom. This enabled the students to view the program more clearly. The author demonstrated that all components of the program are obtained by the use of the mouse. Each pull down menu and its components were discussed. The author also described how to import graphics from the clip art disks as well as other disks that accompanied the program. The emphasis of the program was to create a "stack" that consisted of pages linked together. The method for placing on-screen icons called "buttons" was shown. The author also discussed that the program the students were to create needed to inform the user about what to do by placing user-friendly messages on the screen.

Week Two

The author obtained books from the media center that asked the readers to choose which way they wanted the story to branch. The author read one of these books to the class. They were, by a show of hands, to vote on which way they wanted the story to branch. The other books were left in the class and were available to the students. The author then told the target group
that they were to write a story using the same method of branching as the one they had previously chosen. A story that had been written by the author was displayed on the wall using the overhead and LCD display. The story gave the students two decisions to make. They again voted on which ending to choose. After reading the decision that the students had made, they were again given two possible endings to choose from. The author then displayed the choices that the students did not choose.

Week Three

The students were asked to decide what type of story they wanted to write, e.g., scary stories, fantasy stories, or humorous stories. Once they decided the type of story they wanted to write, they had to create a title page.

Week Four

The concept of flowcharting was introduced. The various flowcharting symbols were discussed even though they were not needed to complete this project. The students had to plan the pages and how they were to be linked together. This prior planning was very
important because the students had to have a concrete plan for their story before trying to write it on the computer. Once they had their story planned out, the author had to approve it. The students then began creating their stories one page at a time.

Week Five

The students continued writing their stories. Because the ratio of students to computers was 2:1, one student would type one day and then save the story. Their partner would use the computer the next day. This arrangement caused some minor problems in that some students wanted to finish their story before they wanted their partner to begin. The author began the next day's class with a brief discussion about compromising. After this discussion, there were only a few occasional arguments.

Week Six

A majority of the students completed the first draft of their story. The author took this time to demonstrate how to place the on-screen icons or "buttons" on each page. This was the most important task because these buttons are what link the pages to
each other. The students were to use their flowchart of the story as a reference to help decide which pages should be linked together (Appendix F:45).

The author also demonstrated how to import graphics for those students who wished to add pictures to their stories. It was during this week that the first drafts were printed so that the author could edit them.

Week Seven

The author had spoken with the students' language arts teachers and was told that if the student turned in a copy of the story to them, the student would receive extra credit points. Because of this, the final stories were printed out in duplicate (Appendix G:47). One was kept by the author to use as examples of students' work for inservice meetings or conferences. The stories were also copied to two class disks. These disks were placed in the media center along with a copy of the program so that other students would be able to read and enjoy the stories.
Week Eight

The author administered the postwriting sample and the writing attitude postsurvey. The topic for the postwriting sample was "The last days of school . . ."
CHAPTER IV
Results

The author of this practicum developed a program that used computers to improve the target students' use of standard English in writing. The program's success was judged by two objectives.

The first objective was:

1. After participating in an eight-week program to improve writing skills, the 10 students in the target group will increase their scores on a postwriting sample so that they meet the acceptable criteria of a total score of 3, 4, or 5. The postwriting sample will be graded on the same holistic grading as was used on the prewriting sample.

After the eight-week implementation, the author administered a postwriting sample and graded each one according to the preset holistic grading criteria. The story starter used for the postwriting sample was "The last days of school . . . ." As can be seen in Table 3, all of the 10 students in the target group scored at least two points higher on the postwriting sample than on the prewriting sample and met the acceptable sc.
of 3, 4, or 5. Three of the 10 students improved on the postwriting sample by one point to an acceptable score of 3 points. Four students' scores increased by two points to within the successful range of 3 to 5. One student's score did not increase, but it was still in the acceptable range. One student scored a perfect score of 5. This indicated that the first objective of the practicum was met.

Table 3
Improvement in Scores of Writing Samples

<table>
<thead>
<tr>
<th>Student</th>
<th>Prewriting Score</th>
<th>Postwriting Score</th>
<th>Score Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>+1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>3</td>
<td>+2</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>4</td>
<td>+2</td>
</tr>
<tr>
<td>4</td>
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<td>3</td>
<td>0</td>
</tr>
<tr>
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<td>2</td>
<td>4</td>
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</tr>
<tr>
<td>10</td>
<td>2</td>
<td>4</td>
<td>+2</td>
</tr>
</tbody>
</table>

Note: Writing samples were graded on a scale of 5 (highest) to 1 (lowest).
The second outcome objective of the practicum was:

2. After participating in the eight-week program, the students will improve their attitude towards writing as assessed by a decrease to less than a total of 15 negative answers on the writing attitude postsurvey (Appendix E:43). The students were asked to indicate their feelings about using computers to write letters, stories, and reports. The results of the postsurvey showed that the number of negative responses decreased significantly from the presurvey. The results of the presurvey and postsurvey can be seen in Table 4.

Table 4

Comparison of Negative Responses On Writing Attitude Presurvey and Postsurvey

<table>
<thead>
<tr>
<th>Question</th>
<th>Number of Negative Responses Presurvey</th>
<th>Number of Negative Responses Postsurvey</th>
</tr>
</thead>
<tbody>
<tr>
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<td>8</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>8</td>
</tr>
</tbody>
</table>
The program that the author designed to help students with their use of standard English was successful. Both objectives of the practicum were met.
CHAPTER V

Recommendations

The ultimate goal of this project was to use the computer to help students strengthen their writing skills and improve their attitude towards writing. Because the results of this practicum were positive, the author recommended that:

1. The author will extend the project into the summer school curriculum as well as make it a part of the computer curriculum at the school site.

2. Copies of the students' stories be placed in the media center at the school site should be held for other students to read.

3. Inservice workshops at the school site be held to demonstrate the benefits of this program. Teachers of other curriculum areas could then adapt the program to fit their needs.

4. The author will write an article about the project and submit it to the district computer department for publication in a district-wide newsletter.
In addition, the author wrote a summary of the practicum as a part of the Impact Adapter Grant, a grant that requires the recipients to choose an idea from other educators and adapt the idea to their particular classroom needs.

Because the software used, Tutor-Tech, is designed to be used with Apple IIe computers, it can also be used with the Apple IIGS, but the colors on the screen will be blurry. To solve the problem, the user must change the screen of the IIGS to monochrome. Another disadvantage to this program is that students may not edit their text as easily as they would on a word processor. If the Apple IIGS is the computer being used, a similar product, HyperStudio 2.0, by Roger Wagner Publishing Inc. would be recommended because this program is designed specifically for the IIGS computer.
Reference List


HyperStudio 2.0 (Computer Software). El Cajun, CA: Roger Wagner Publishing Inc.


Tutor-Tech (Computer Software). Alamonte Springs, FL: Techware, Inc.

Appendices
Appendix A

School Improvement Plan
A. IDENTIFICATION INFORMATION

School Name: Region No.
Location No.: Phone:
High School Feeder Pattern:

B. TARGETED PRIORITY GOAL

Example

Reference Code 1  A  2

School-Level Goal - To increase the percentage of minority students who are placed in the Developmental and Enrichment Strategies for reading and mathematics under PREP guidelines.

Actual

Reference Code 1  A  1

School-Level Goal - To increase the ability of students to utilize standard English through reading and writing.

C. RATIONALE/NEE D S ASSESSMENT (Briefly describe why the goal in "B" has been targeted for improvement. The response should refer to applicable factors at your school; e.g., student achievement data, attendance records, discipline referrals, dropout rates)

See Attachment 1

D. MEASURABLE OBJECTIVE(S) (Specify in quantifiable terms the improvement which is expected).

Example: The percentage of Black and Hispanic students in grades K-3 which is recommended, under PREP guidelines, for placement in the Developmental and Enrichment Strategies in reading and mathematics will be at least ___% higher for the 1991-92 school year than for 1990-91.

Actual: D.1. 70% of the students sampled will increase their writing skills in the course of the school year as measured by a pre/post analysis of writing samples.

D.2. 70% of the students sampled will increase their reading skills in the course of the school year as measured by a pre/post test using the Reading Comprehension subtest of the Stanford Diagnostic Reading Test, Third Edition.
Appendix A

Attachment I

C. The entire faculty and staff met in small groups during their professional service periods to review the Superintendent's Educational Excellence Goals and the Objectives of Selected Educational Organizations/Agencies/Groups and to do a needs assessment to identify the goal and objectives that was the most critical one to improve at ------- Middle School.

The goal that was identified as being most critical one to improve educational achievement at ------- Middle School was the Superintendent's goal IA3. It was selected because of standardized test results, student performance in class activities and assignments, student performance on course assessments, identified deficiencies in the use of standard English and the instructional needs of the overall student population.
Appendix B

Letter from Language Arts Chairperson
Appendix B

Letter from Department Chairperson

To Whom It May Concern:

I verify that there is a definite need to improve the writing abilities of the students at this school site. The project that Mark Shields is undertaking will be beneficial to the students.

Sincerely,

Language Arts Department Chairperson
Appendix C

Holistic Grading Criteria
Appendix C
Holistic Grading Criteria

The completed writing samples were graded according to the following criteria:

1. Complete sentences
2. Subject-verb agreement
3. Punctuation
4. Capitalization

Papers were scored with 1 = lowest and 5 = highest for each of the above criteria.
Appendix D

Writing Attitude Presurvey
Appendix D

Writing Attitude Presurvey

Place an "X" next to your response.

Using a pencil and paper:

1. I like to write letters to my friends.
   Yes ____ No ____

2. I like to write reports.
   Yes ____ No ____

3. I like to write stories.
   Yes ____ No ____
Appendix E

Writing Attitude Postsurvey
Appendix E
Writing Attitude Postsurvey

Place an "X" next to your response.

Using a computer:
1. I would like to write letters to my friends.
   Yes ____  No ____

2. I would like to write reports.
   Yes ____  No ____

3. I would like to write stories.
   Yes ____  No ____
Appendix F

Flowchart of Story Written by Two Students
Appendix F

Flowchart of Story Written by Two Students

Title

Plot

Run & Hide

Door

Spray

Stay

Jump

Run

Plot
Appendix G

Story Written by Two Students
Appendix G

Story Written by Two Students

THE
GRASSHOPPERS

STUDENT #1

STUDENT #2
One Saturday afternoon, while I was watching television I heard little chirping noises outside. How weird, I thought. I wanted to go outside and see what was going on and what the noise was. As I opened the door outside I saw about 50,000 grasshoppers on my front lawn. I thought about screaming, running, hiding inside my closet but it was too far from the door. I was so confused! I didn't know what to do. The only thing I had in mind was escaping from here.

Click to continue »
I stood there looking at them in a funny way. They started hopping after me.
I ran into the kitchen. I could not find the fire extinguisher or any other thing that could kill them or scare them away. There was no where to hide. They were all over the kitchen. I found a way of escaping from the kitchen, but I could not get through. I was surrounded by grasshoppers. On the other side of the counter I saw a can of spray, but it was too far away.

If you should reach for the door, click here.

If you should reach for the spray, click here.
I was still staring at those grasshoppers. They were coming inside the house. Some of them were in my hair and on my shirt, they were everywhere. I went up the stairs. Some of them were coming after me. I was running to find that I didn't notice the sun in front of me. I turned to head really hard for the door. By that time I was willing to do anything even jump out the window.

If you should jump out the window click here

If you should run into a room click here
I tried to reach for the spray. I almost tripped in the process. I started looking around the kitchen. I finally had found something to reach the spray with. It was the broom. I got it and started reaching for the spray. It finally fell to the ground. I picked up the spray. I sprayed everywhere but nothing seemed to be happening. It took a while but finally they all started hopping away. Soon they were all gone. I went back to watching T.V. When my mom came home she asked me, "What did you do today?" I said, "Oh nothing."
I started running for the door. All of the grasshoppers started hopping after me. Amazingly I managed to run out and close the door in time so they wouldn’t follow me. I went to a neighbor’s house and asked to use the telephone. I called a pest control company. They came in a few minutes. They got rid of every last grasshopper. I was so relieved. What a deal!

The End

Now, back to the beginning.
I ran into the room. Once I got in I ran into the bathroom. There was no way out. That's when I saw the bathroom window but it was too small for me to fit. I looked around for something to break it open. I found a hammer. I started pounding. It took me a long time to break it open. Once it was opened I got out. I was so relieved. When I got back home there was not one grasshopper left. The only bad thing was that my mom's bathroom had a hole where the window was and I did not want my mom to find out.

Click here to go to the beginning (1) The end
I ran to the window and opened it. I looked down. It was high and super scary. I wanted to back out but I couldn't. I looked down again, closed my eyes, and jumped. I fell really hard on my front lawn. But fortunately I was O.K. I ran to call my mom. When I told her what had happened she ran home and got them all out. I was so relieved when they were all done.

The End.