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Andrea J. Carroll

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A STUDY OF THE EFFECTS OF USING THE WORD PROCESSOR  
AND TELECOMMUNICATIONS IN THE WRITING PROCESS  
FOR ELEMENTARY STUDENTS

by  
Andrea J. Carroll

A THESIS

Submitted in partial fulfillment of the requirements of  
the Master of Arts Degree in the Graduate Division of Rowan  
College of New Jersey

1995

Approved by \_\_\_\_\_

Date Approved May 1995

## ABSTRACT

Andrea J. Carroll

A STUDY OF THE EFFECTS OF USING THE WORD PROCESSOR AND  
TELECOMMUNICATIONS IN THE WRITING PROCESS  
FOR ELEMENTARY STUDENTS  
1995

Dr. Louis Molinari  
Elementary Education

It is the responsibility of an elementary teacher to provide students every opportunity to succeed in the classroom. Writing compositions, using correct style, form and mechanics can be a complex task for elementary students. If a method can be used to assist the relief of these complexities involved in the writing process, then this development should be encouraged.

The purpose of this study was to determine if fourth grade students will become better writers producing clearer style, form, and mechanics when using the word processor in the writing process. It will also determine if the use of telecommunications will cause students to edit and proofread more frequently.

The subjects of this study were fourth grade students at Hamilton School in Voorhees Township, New Jersey public schools. The experimental group consisted of twenty students.

Ten of the twenty students used the word processor alone to compose a final composition. The other ten students used the word processor and telecommunicated their final draft to twenty other students to a distant elementary school within the Voorhees Township school district. The results of their final compositions was determined by the Registered Holistic Scoring method.

The time involved in this study was ten weeks. The students produced a final draft following the writing process. Registered Holistic Scoring was the instrument used to grade the students' compositions. Using a computer analysis program for a t-test, the scores were compared as a group and by gender. Differences were considered significant at the 0.05 level of confidence.

When the data was analyzed, the results clearly show that the use of the word processor with telecommunications as compared to using the word processor alone made little significance in the quality and productivity of fourth grade students' creative writing.

## ABSTRACT

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A STUDY OF THE EFFECTS OF USING THE WORD PROCESSOR AND  
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This study determined the effects on revisions and proofreading of the writings of fourth graders when using the word processor and telecommunications with the writing process. The results showed little significance in the difference of revising and proofreading when using the word processor alone as compared to the use of the word processor with telecommunications.

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## Table of Contents

	Page
Acknowledgements.....	iv
List of Table.....	vii
 Chapter	
1. The Problem.....	1
Significance of the Study.....	1
Purpose of the Study.....	5
Statement of The Hypothesis.....	6
Methods and Procedures.....	8
Limitations of The Study.....	9
Definitions of The Study.....	10
Organization of The Study.....	13
Notes.....	15
2. Review of the Literature.....	17
Introduction.....	17
Traditional Teaching of Writing.....	17
Contemporary Teaching of Writing.....	18
The Process Writing Approach.....	20
Assessing the Process Writing Approach.....	21
Word Processor Linked with Whole Language	
Instruction.....	22
Telecommunications.....	24
Why Use Telecommunications with Process	
Writing.....	25
Notes.....	27
3. Design of the Study.....	29
Introduction.....	29
Setting.....	29
Description of The Population.....	30
Description of The Instrument.....	30
Relationship of The Instrument to The Null	
Hypothesis.....	38
Procedures.....	39
Scoring procedures.....	44
4. Description and Analysis of the Data.....	46
Introduction.....	46
Presentation and Statistical Analysis of the	
Data.....	47
Related to the Null Hypothesis.....	59

5.	Summary, Conclusions, Implications.....	61
	Introduction.....	61
	Summary of the Problem.....	61
	Summary of the Hypothesis.....	62
	Summary of the Procedures.....	64
	Conclusions, Implications, and	
	Recommendations.....	67
	Recommendations for the Future.....	68
	Bibliography.....	70
	Appendix A.....	73
	Appendix B.....	88
	Appendix C.....	89
	Appendix D.....	91
	Biographical Data.....	92



## List of Tables

	Page
1. t-Test For the Difference Between the Means of the Whole Group.....	48
2. t-Test For the Difference Between the Means of the Whole Group to Measure Attitude towards Editing.....	49
3. t-Test For the Difference Between the Means of the Whole Group to Measure Willingness towards Editing.....	51
4. t-Test For the Difference Between the Means of the Males to Measure Attitude towards Editing.....	52
5. t-Test For the Difference Between the Means of the Females Attitude towards Editing.....	53
6. t-Test For the Difference Between the Means of the Males to Measure Willingness towards Editing....	55
7. t-Test For the Difference Between the Means of the Females to Measure Willingness towards Editing...	56
8. t-Test For the Difference Between the Means of the Whole Group's Printed Copies for Revision.....	57

# Writing Process and Telecommunications

## Chapter 1

### The Problem

Could it be that students will be more involved in form, style, and mechanics when telecommuting written compositions? Could students be more motivated to compose for a distant peer audience?

### Significance of the Study

Writing is a process, and the process continues as long as one works on the writing (Shuman, 1993). Traditional writing instruction included assigning a topic and a specific amount of time to develop and complete the composition. This traditional type of instruction demphasized conceptual learning and focused on learning skills. Students turned in a finished product that was graded for mechanical proficiency (Lucas, 1993). According to Lucas (1993), evaluation, by the National Assessment of Educational Progress, found that no more than half of U.S. students could write adequately to inform, persuade or narrate.

## Writing Process and Telecommunications

Graves (1994) suggests contemporary teachers should be teaching writing so that it is a tool for learning. By using writing to describe, explain, and apply new ideas, students can and should be learning in other areas of the curriculum. He states that students should be able to organize their new ideas and blend and integrate them with prior knowledge.

Lucas (1993) states that researchers have discovered that document writing is a complicated and recursive process. This understanding has brought about the "Process Writing Approach". Contemporary writing instruction views writing as a process composed of five stages: prewriting, drafting, revising, proofreading, and publishing (Graves, 1993, Weber, 1993 and Lucas, 1993). All five stages will be briefly described. However, the fifth stage, publishing is of particular interest to this study.

The first stage in the writing process is prewriting where the writer chooses a topic, explores ideas, gathers information, and organizes his or her material before drafting. Drafting is the act of capturing ideas on paper. Revision helps to improve a draft by adding or taking out

## Writing Process and Telecommunications

information, combining and reordering sentences, adding information, or changing word choice according to the purpose and audience. Proofreading is when the writer reviews text in order to correct errors in punctuation, capitalization, spelling, and grammar. According to Graves (1983), this stage can be done by self editing, peer editing, and adult editing. Publishing is sharing written work with an audience. This approach is also called the whole language approach.

Contemporary writing instruction utilizes the word processor as an ally to the writing process approach of teaching whole language. Koehl (1992) suggests, among other attributes, that the word processor makes revision of written material easier and on going. With the use of a word processor, students can capture ideas, save them, make revisions and augmentations easier. Revision and additions are more manageable, with editing tasks such as adding or deleting words in context, moving text from one paragraph to another, or the rewriting of an entire composition.

Students' writing is better with the use of the word processor, instructional time is more productive, and best

## Writing Process and Telecommunications

of all students actually seem to enjoy the work in their writing classes, writes McGrahey (1986). Research suggests students use of word processors results in increased writing production and interest in writing (Daute, 1986; Hawisher and Selfe, 1989; Moore, 1987, 1989, 1991; Rosenbluth and Reed, in press).

Telecommunications is the exchange of information between computers - computerized conversations. The computers access and send information/signal files across the telephone lines. In order to engage in these tasks, users need the following equipment; a modem, telecommunications software, and a telephone line. Telecommunications is a high tech way to "publish" written composition. Since, the author has an audience to read his written composition students may realize the impact and importance of their composition.

Casella (1987) suggests that we are moving rapidly into the electronic information age. Transmitting information is the foundation of the information age. The word processor linked with the whole language approach may greatly enhance the writing process and learning experiences of students.

## Writing Process and Telecommunications

If the word processor makes revision and editing easier, will telecommuting students' written compositions make students more involved in form, style, and mechanics? If telecommunications becomes part of the writing program will students be more motivated to compose for a distant peer audience?

### Purpose of the Study

It is the purpose of this study to determine if the use of a word processor, with the writing process and telecommunications, increases fourth grade students' revision and proofreading in written compositions.

With the increase in information and data in students' contemporary learning environment, it is important for educators to equip students with a process to organize and communicate effectively.

Word processing can make organization and revisions easier according to Schwartz (1982). With the use of a word processor students can examine text, reflect on it, and revise it. Revision mixes with initial composition, and the

## Writing Process and Telecommunications

process becomes even more recursive as students write, rewrite, add, and delete text. Spell checkers free poor spellers of their dependency on proofreaders. And with no more crossed-out words or asterisks and pasted cutouts for reorganization, our text always looks great (Edinger, 1994).

While word processors can empower writers, eliminating the physical frustrations of writing, telecommunications can provide a high tech way of "publishing" written composition. Can this "Computer Mediated Publishing" provide students with an opportunity to improve form, style, and mechanics? Will students become more motivated to write for a distant peer audience?

### Statement of The Hypotheses

The following hypotheses were developed for use in this study:

There will be no significant difference in the attitudes of fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written composition with a final publication using the word processor and

## Writing Process and Telecommunications

telecommunications as measured by Registered Holistic scoring.

There will be no significant difference in the willingness of fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written composition with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring.

There will be no significant difference in the attitude between male and female fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written composition with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring.

There will be no significant difference in the willingness of male and female fourth grade students to revise and proofread written composition who are exposed to



## Writing Process and Telecommunications

process writing with the use of a word processor in writing a final publication than with fourth grade written composition with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring.

### Methods and Procedures

Literature pertinent to this study was reviewed and analyzed.

Two comparison elementary schools selected encompass suburban elementary schools within one district. Three heterogeneous fourth graded classes within the Voorhees Township public schools were selected to be part of this study. Each randomly selected group included twenty students per class.

In January of 1995, ten students from one fourth grade heterogeneous class were assigned a descriptive writing composition. The writing process was followed; prewriting, drafting, revising, proofreading, and publishing. All activities involved pencil and paper and the word processor. The compositions were published using the word processor and

## Writing Process and Telecommunications

were graded by the district's language supervisor and reading specialist using a holistic scoring scale.

In February of 1995, ten students from another fourth grade heterogeneous class were assigned a descriptive writing composition. The writing process was followed; prewriting, drafting, revising, proofreading, and publishing. The finished product was published using the word processor and telecommunicated to the other suburban school via New Jersey Link. The computer results were graded by the district's language supervisor and the reading specialist using a holistic scoring scale.

Writing samples from both the word processor and those using the word processor with telecommunications were compared. Evaluation of attitudes and willingness to make revision and proofread by male and female students were determined.

### Limitations of the Study

The restricted use of fourth grade students only, provides a limitation. Varying keyboarding abilities of subjects studied presented limitations. The study was

## Writing Process and Telecommunications

further limited by the availability of computer use time. Comparisons of only suburban schools within the study provided further restrictions.

### Definition of Terms

Writing Process - the recursive stages involved in writing, which include prewriting, drafting, peer review, revising, editing, and publishing.

Descriptive writing composition - a piece of writing that creates a clear and vivid picture of a person, place, or thing.

Holistic Scoring - a method of scoring a written composition that into account the whole composition. This system is based on the assumption that the overall quality of the writing is more important than the sum of its parts.

## Writing Process and Telecommunications

Prewriting - the stage in the writing process in which the writer chooses a topic, explores ideas, gathers information, and organizes his or her material before drafting.

Drafting - the act of capturing ideas on paper; a stage in the recursive process of writing during which the writer gets his or her basic ideas down on paper.

Proofreading - to review writing in order to correct errors in punctuation, capitalization, spelling, and grammar.

Revising - to improve a draft by adding or taking out information, combining and reordering sentences, adding information, or changing word choice according to the purpose and audience.

Publishing - to share written work with an audience, for example, by reading it aloud, contributing it to a school paper, or posting it on a bulletin board.

## Writing Process and Telecommunications

Telecommunications - the exchange of any kind of data over a telephone line or through any other means of communication (satellite, laser, fiber optics) provided by a phone company with the used of a modem.

Modem - (MODulator-DEModulator) device used to change the digital signals generated by the computer into analog signals or tones that can be transmitted over a telephone line and vice versa.

List of items you need to get on-line:

- 1 Computer
- 1 Monitor
- 1 Disk drive
- 1 Printer
- 1 Communications software program
- 1 Phone line
- 1 modem (2400 baud rate)

## Writing Process and Telecommunications

### Organization of The Study

This study is divided into five chapters. Each chapter of this study is intended to present an understanding of factors that encourage the writing process and telecommunications. Chapter 1 includes the significance of the study, the purpose of the study, a statement of specific hypothesis, method of the study, design and instrumentation of the methodology, limitations of the study, definitions of the terms used and the organization of the study.

Chapter 2 reviews the literature pertinent to the study and significance of the study. It discusses the writing process, the use of journals as a communication tool, the use of the computer as a word processor in the writing process, and the use of telecommunicating written compositions.

Chapter 3 outlines the design of the study, including the setting, description of the population utilized in the study, instruments used to evaluate, method of analyzing the data, the relationship of the evaluation to the null hypothesis, and the time period involved in the study.

## Writing Process and Telecommunications

Chapter 4 analyzes the data and presents a summary of the findings. Statistical measures are presented, data is recorded and analyzed.

Chapter 5 presents a summary of the problem, summary of the method of investigation, and conclusions and implications of the study. Recommendations for future study conclude the thesis. The biography of documents and books reference literature examined for the purpose of the study.

## Writing Process and Telecommunications

### END NOTES

Casella, V. (Sept. 1987). Writing Skills Right Off the Bat.  
Instructor, 116.

Daiute, C. (1986). Physical and Cognitive Factors in  
Revising: Insights from Students with Computers.  
Research in the Teaching of English, 20, 141-159.

Edinger, M. (Apr. 1994). Empowering Young Writers with  
Technology. Educational Leadership, 51, 58-59.

Graves, D. (1983). Writing: Teachers and Children at Work.  
Portsmouth, NH: Heinemann.

Graves, D. (Nov. 1994). Be a Better Writing Teacher.  
Instructor, 43-45.

Hawisher, G., & Selfec C. (1989). Critical Perspectives on  
Computers and Composition Instruction. New York:  
Teachers College Press.

Lucas, J. (Jan. 1993) Teaching Writing: Emphasis Swings to  
Process, Writing as Tool for Learning. Association for  
Supervison and Curriculum Development, 1-7.

Koehl, J. (May 1992). Turned On To Reading and Writing.  
Electronic Learning, 14.

McGravey, J. (Oct. 1986). Word Processors Let Our Kids  
Relish Writing Class. The American School Board  
Journal.



## Writing Process and Telecommunications

Moore, M. (1987). The Effects of Word Processing Technology in a Developmental Writing Program on Writing Quality, Attitude Towards Composing, and Revision Strategies of Fourth and Fifth Grade Students. Dissertation Abstracts International, 48, 636A.

Moore, M. (1989). Computers Can Enhance Transactions Between Readers and Writers. The Reading Teacher, 42, 608-611.

Rosenbluth, G., & Reed, M. (1991). The Effects of Writing Process-Based Instruction and Word Processing on Remedial and Accelerated 11th Graders. Journal of Computers and Human Behavior.

Shuman, R. B. (Dec. 1993) Write, Reflect, and Write Some More. Educational Leadership, 51, 88.

Weber, A. (Feb. 1990) Linking ITIP and the Writing Process. Educational Leadership, 35-39.

# Writing Process and Telecommunications

## Chapter 2

### Introduction

The research and literature for this study was divided into six areas: traditional writing instruction, contemporary writing instruction, the writing process, word processor linked with whole language instruction, telecommunications, and the use of the writing process with telecommunications with elementary students (fourth graders).

### Traditional Teaching of Writing

Traditional writing instruction involved teaching writing as an isolated skill. The writing that was done was almost always assigned by the teacher and the student had no choice in what they would write about. Students' writings were evaluated based on whether or not it contained the information the teacher expected. While there was often feedback regarding the mechanics of writing, such as spelling or headings, feedback regarding the process of writing (organizing) was absent (Gaskins 1988).

## Writing Process and Telecommunications

Goodman (1992) suggests students need to organize their thinking when writing. Writing should make connections between reading and thinking. Students need to write about things they are knowledgeable about and have prior experiences with. Gaskins (1988) states that the initial emphasis in writing instruction should be the recording of content. The first draft should be done with clear expectations and if the content is worthy, the piece can be revised for organization (form), clarity of expression (style), and mechanics.

### Contemporary Teaching of Writing

Contemporary teachers are focusing on the process their students use to create their ideas, formulate their thoughts, and transfer them to paper, rather than focusing on isolated skills and the final copy (Miller-Jacobs, 1987).

In recent years, researchers have begun to suggest that writing is a complicated, cognitively demanding, multifaceted task, and recursive process. Writers must deal with issues such as assessing topical knowledge, organizing knowledge, taking audience and purpose into account, paying attention to linguistic features of writing text, and managing the motor skills required to put words on paper

## Writing Process and Telecommunications

(Farnan, Lapp, and Flood, 1992). Students are more likely to choose their own topics, define their purpose and audience, draft and redraft stories based on feedback from other students, and publish the piece in some form.

Contemporary teachers instruct with a whole language approach. Teaching from a whole language perspective means teaching children to use the tools of communications (reading, writing, speaking, and listening) in a purposeful, meaningful, and integrated manner (Linek, 1991).

Whole language instruction teaches students to value themselves as writers, value others as writers, and value their literary products (Goodman, 1992). Students read, listen, speak, and write to learn about writing (Linek, 1991). It is the purpose of this study to determine if students' final drafts will increase those values and build on the strengths of revision and proofreading when the writing activity has been planned for a distance audience?

This whole language instruction involves teaching students that there is an important process to writing. Process writing acknowledges that students have something to say through writing (Karnowski, 1989).

## Writing Process and Telecommunications

### The Process Writing Approach

Process instruction to writing has attempted to teach students relationships between and among the components of writing. Graves and others explain the process of writing as a set of stages writers use as they develop their finished piece of writing (Graves, 1983).

First students determine the audience for their piece of writing and their reason for writing. They then begin prewriting activities which include brainstorming, listing and researching (Karnowski, 1989). Next they draft their compositions, putting the whole idea and specific details for support down on paper. Karnowski (1989) refers to this as a time when writers hastily write, paying little attention to spelling, grammar, or handwriting.

The revision process begins. This stage has two separate parts. Initially, students work at viewing the whole piece, paying particular attention to tone, audience awareness and purpose of the paper. From the information they get, students revised their first draft until ideas are clear and meaningful. That is to say, the act of writing any set of words in a composition requires a review of what has already been written (Hillocks, 1987).

## Writing Process and Telecommunications

For the second part of the revision process, students work at surface level revisions such as effective sentence structure, active verbs and pronoun agreement. The final step is readying the piece for publication. The process culminates in a completed assignment (Adams, 1993).

### Assessing the Process Writing Approach

The grading of finished drafts in the "Process Writing Approach" for this study was done using the New Jersey Holistic Scoring Rubric. This rubric is a checklist for assessing students' writings (Bloom, 1985). It provides teachers with a consistent means of assessing children's writings over a period of time.

The rubric scores content, organization, usage, sentence construction, and mechanics. This addresses the problem cited in this study. The following components describe each area scored:

- A. Content/Organization
  - 1. Communicates intended message to intended audience
  - 2. Relates to topic
  - 3. Opening and closing
  - 4. Focused and logical
  - 5. Transitions
  - 6. Appropriate details and information

## Writing Process and Telecommunications

- B. Usage
  - 1. Tense formation
  - 2. Subject-verb agreement
  - 3. Pronouns-use agreement
  - 4. Word choice/meaning
  - 5. Proper modifiers
- C. Sentence construction
  - 1. Variety of formation
  - 2. Correct construction
- D. Mechanics
  - 1. Spelling
  - 2. Punctuation
  - 3. Capitalization

The rubric evaluates students' writing on a scale from one to six with the following terms (See Appendix):

- A. Superior command - six points
- B. Strong command - five points
- C. Adequate command - four points
- D. Partial command - three points
- E. Limited command - two points
- F. Inadequate command - one point

### Word Processor Linked with Whole Language Instruction

The role of computers in the whole language class is an important issue for the 1990's and on into the twenty-first century (Morgan, 1991). Balajthy (1988) describes how computers can be a tool for whole language instruction based on the principles of holistic language instruction.

## Writing Process and Telecommunications

Balajthy (1988) cites computer-based revision and editing programs. These programs allow students to get feedback on grammar, usage, style, and organization. Other programs include desktop publishing software that develop a sense of authorship in young writers. It is this revising, editing, and publishing, with the word processor, that this study attempts to address.

Peck (1994) suggests technology can foster students abilities. He gives reasons for using technology. Students learn and develop at different rates. Peck suggests students using technology can write at an individual pace.

Features of the word processor can reduce the phobia often associated with writing. These phobias include grammatical errors, spelling errors, and usage errors. Peck (1994) suggests writing on the computer makes it easier to take creative and grammatical risks.

Difficulty with fine motor skills required by handwriting usually does not transfer to the keyboard. The word processor can reduce this frustration according to Peck.



## Writing Process and Telecommunications

Technology may also create an opportunity for students to do meaningful work. According to Peck (1994), Hansen (1987), and Graves (1983), students need to see connections, get feedback, have an authentic audience and purpose, and receive the rewards of publication. Technology, through telecommunications may provide a widespread audience for students' writings. Computers may provide a new source of feedback on mechanical corrections and creative processes.

Peck (1994) and McGravey (1986) write that editing and revising can occur almost as quickly as one thinks. He also suggests that printed products from a word processor have a professional quality. Students can feel a sense of accomplishment with the finished product.

### Telecommunications

Telecommunications is the exchange of information between computers. The computers accesses and sends information or signals files across the telephone lines. In order to exchange this communication between computers, users need a modem, telecommunications software, and a telephone line (Dodge, 1989). The major purpose of this

## Writing Process and Telecommunications

study is to further investigate and clarify the value of transferring student composition and discover if this activity contributes to the development of whole language process writing.

Colbourn (1989) suggests students perform best when they are sending the results of a written composition to someone else. Will telecommunications provide a real audience and a real purpose to motivate writing and editing? Will recursive writing occur? Will students be motivated to edit and proofread for style, form, and mechanics?

The computer is a tool for aiding the writing process. Is telecommunications one more tool in which the computer can be a more effective tool for teachers and learners? Will this online tool be a forum for sharing problems and solutions? Will critical thinking be applied to the writing process? Does peer distant commentaries provide a tool for the editing process?

### Why Use Telecommunications with Process Writing

Mageau (1990) suggests telecommunications motivates children to learn more because it provides students with an

## Writing Process and Telecommunications

audience and reason to write. She cites four classroom experiences with telecommunications. These classrooms experienced infectious enthusiasm to participate in projects. She further suggests that students are motivated when writing to other students.

Anxillary to the major purpose of this study are investigations which may reevaluate if students will students pay more attention to mechanics, form, and style if they know they will receive feedback from a distant peer audience? Also does gender play a role in their willingness and attitudes towards revisions and proofreading?

## Writing Process and Telecommunications

### END NOTES

Adams, J. (Dec. 1993). Competency Gauged Writing Activities for Middle Grade Students Prompted by Needs of Technology Education. Annual Conference of the American Vocational Association, 5-23.

Colburn, C. (May 1989). All Schools: Telecommunications. Teaching and Computers, 21-25.

Farman, N., Lapp, D., and Flood, J. (1992) Changing Perspectives in Writing instruction. The Reading Teacher, 35, 550-556.

Gaskins, R.W. (Apr. 1988). The Missing Ingredients: Time on Task, Direct Instruction, and Writing. The Reading Teacher, 41, 750-755.

Goodman, K. S. (Nov. 1992). I Didn't Found Whole Language. The Reading Teacher, 46, 188-199.

Graves, D. (1983). Writing: Teachers and Children at Work. Portsmouth, NH: Heinemann.

Hansen, J. (1987). When Writers Read. Portsmouth, NH: Heinemann.

Hillocks Jr., G. (May 1987). Synthesis of Research on Teaching Writing. Educational Leadership, 44, 21-82.

Karnowski, L. (Mar. 1989). Ussing LEA with Process Writing. The Reading Teacher, 462-465.

Linek, W.M. (1991). Grading and Evaluation Techniques for Whole Language Teachers. Language Arts, 125-132.

## Writing Process and Telecommunications

Mageau, T. (May 1990). Telecommunications in the Classroom: Four Teachers Stories. Teaching and Computers, 18-24.

McGravey, J. (Oct. 1986). Word Processors Let Our Kids Relish Writing Class. The American School Board Journal.

Miller-Jacobs, S. (1987). A Process Approach to Writing with a Computer. EIRC Document, 1-6.

Morgan, M. (Jan. 1991). Using Computers in the Language Arts. Language Arts, 68, 74-77.

Peck, K.L. & Dorricott, D. (Apr. 1994). Why Use Technology? Educational Leadership. 11-14.

# Writing Process and Telecommunications

## Chapter 3

### Design of the Study

#### Introduction

It is the major purpose of this study to determine if fourth grade students will become better writers producing clearer style, form, and mechanics when using the word processor in the writing process. It will also determine if the use of telecommunications will cause students to edit and proofread more frequently. A discussion of the design of the study will include information on the setting, the subjects and a description of the assessment method, the relationship of the assessment method to the null hypothesis, procedure, and methods of analyzing data is also given.

#### Setting

The district used in this study is Voorhees township school located in Camden County. There are four elementary schools. Two of these schools will be used for the study; Hamilton and Osage. One fourth graded class from Osage and Hamilton will be used for telecommunicating finished written products. One fourth grade class from Hamilton School will be used for journal writing compositions.

## Writing Process and Telecommunications

### Description of The Population

For this study three fourth grade classes from Voorhees Township, containing twenty students, participated. One Hamilton class had seven girls and thirteen boys. The other Hamilton class has girls eight girls and thirteen boys. The Osage fourth grade class had ten girls and nine boys.

### Description of The Instruments

The instrument used to evaluate the written composition of the students was registered holistic scoring. The registered holistic scoring method judges students' writing proficiency by the use of predetermined essay features that readers attribute to the success or lack of success of a given writing sample. The feature of Registered Holistic scoring are:

Organization/Content  
Usage  
Sentence construction  
Mechanics

## Writing Process and Telecommunications

The scoring procedure involves the rating of compositions using the predetermined, registered features of written communication, independent of topics and mode. The Registered Holistic scoring process requires that readers focus their attention on the set of predetermined, described composition characteristics and assign a score on the writer's level of facility to command with applying these features. The method is considered holistic in that a single score is assigned the essay based on the writer's overall success at communicating his or her intended message using the "registered" features considered necessary to good writing. The series of questions below can be used to help analyze the students' writings.

### Content/Organization

- \* What logical patterns or sequence is used by the writer?  
Is the topic clearly stated?



## Writing Process and Telecommunications

Do the details relate to the topic?

Is there a clear opening and closing?

Do the paragraphs present a logical transition?

Are there irrelevant details that should be removed?

Are vivid details presented?

### Usage

\* Is grammar used correctly?

Are the proper tenses of verbs, pronoun agreement, subject-verb agreement, and word choice and meaning used?

### Sentence Construction

\* Are sentences constructed correctly?

Is there variation in the types of sentences used?

### Mechanics

What is the impact of the mechanical errors in the paper? Is there a pattern of spelling, punctuation, and capitalization errors?

## Writing Process and Telecommunications

The following defines the scores used in Registered Holistic Scoring:

### Superior Command - Score Scale Point 6

#### Content and Organization

Has opening and closing  
Single, distinct focus  
Unified and coherent  
Well-developed  
Logical progression of ideas

#### Usage

Fluent, cohesive  
Compositional risks are successful  
Details effective, vivid, explicit, and pertinent

#### Sentence

Very few, if any errors  
Controls various complex structures

#### Mechanics

Very few, if any errors

### Strong Command - Score Scale Point 5

#### Organization/Content

Has opening and closing  
Single focus  
Sense of unity and coherent  
Key ideas developed  
Logical progression of ideas

#### Usage

Moderately fluent  
Attempts compositional risks  
Details appropriate and varied

#### Sentence

Few errors  
Variety of formation that are appropriate and effective  
Few errors

## Writing Process and Telecommunications

### Adequate Command - Score Scale Point 4

#### Organization/Content

Generally has opening and closing

Single focus

Ideas loosely connected

Transitions evident

Uneven development of details

#### Usage

Some errors that do not interfere with meaning

#### Sentence

Some variety in structures

#### Mechanics

Generally correct

No consistent pattern of errors

Some errors that do not interfere with meaning

### Partial Command - Score Scale Point 3

#### Organization/Content

May lack opening and/or closing

Usually has single focus

Some lapses or flaws in organization

May lack some transitions between ideas

Repetitious details

Several unelaborated details

#### Usage

Errors/patterns of errors may be evident

#### Sentence

Little variety in syntax

#### Mechanics

Some errors

Patterns of errors evident

## Writing Process and Telecommunications

### Limited Command - Score Scale Point 2

#### Organization/Content

May lack opening and/or closing  
Attempts to focus  
May drift or shift focus  
Attempts organization  
Few, if any, transitions between ideas  
Details lack elaboration, ie., highlight paper  
Numerous errors  
Excessive monotony/same structure  
Numerous errors  
Numerous serious errors

#### Usage

#### Sentence

#### Mechanics

### Inadequate Command - Score Scale 1

#### Organization/Content

May lack opening and/or closing  
Minimal response to topic; uncertain focus  
No planning evident; disorganized  
Details random, inappropriate barely apparent

#### Usage

#### Sentence

#### Mechanics

No apparent control  
Severe/numerous errors  
Assortment of incomplete and/or incorrect sentences  
Errors so severe they detract from meaning

\* Refer to Appendix A for sample student essays that have been scored using the above scales.

## Writing Process and Telecommunications

The instrument used to evaluate willingness and attitude towards revising and proofreading in this study was an "Editing Chart" (See Appendix B).

As the role of the word processor increases in the classroom, students might utilize this tool for revision and proofreading more frequently. It is the purpose of this editing chart to log willingness and attitudes towards revisions and proofreading.

The editing chart was divided into two parts: revising and proofreading. The revision section listed ten components: planning, writing, introduction/opening, paragraphs relating to topic, sequence, subject-verb agreement, fluency, pronouns, meaning of words, and closing. The proofreading section listed three components: spelling, punctuation, and capitalization. A column for dates activity occurred was provided on both parts to account for repeated willingness.

Symbolic representation made it easy for fourth grade students to enter data. Data was entered for three categories: willingness, attitude, and skill identification.

## Writing Process and Telecommunications

The following symbols were utilized:

- X = Activity completed
- # = Degree to which activity was needed
  - 3 - Strongly needed
  - 2 - Needed
  - 1 - Not needed
- W = Writer
- E = Editor

This instrument was shown to and discussed with the following professionals within the Voorhees township school district to test for validity.

- A. Language/Reading Specialist
  - 1. Principal/Language Specialist
  - 2. District Language Supervisor
  - 3. Reading Specialist
  - 4. Fourth Grade Teachers
- B. Computer Specialist
  - 1. District Supervisor
  - 2. Three Computer Specialists

Content, criterion-relation, or construction validation was discussed. Appropriateness to fourth grade easy of use and comprehension were also considered. Language and computer curriculum were accounted for.

In January of 1995, students were introduced to the "Editing Chart". Discussion included relationships between the language curriculum, the word processor as a tool for

## Writing Process and Telecommunications

editing, and the definitions of the components of the chart itself.

Students utilized cooperative learning strategies to reinforce how to use the chart. Subsequently, students were asked to individually write descriptive definitions of each component as a quiz. Students used a sample of an editing chart with a previous unit to compare reliability scores.

Both students using the word processor and those students using the word processor and telecommunications used the "Editing Chart" when writing their compositions.

### Relationship of The Instrument to the Null Hypothesis

The general hypothesis states that there will be no significant difference in attitude and willingness of fourth grade students to revise and proofread written composition who are exposed to process writing using a word processor alone as a final publication than with fourth grade written composition with a final publication using the word processor and telecommunications as measured by registered holistic scoring. The results were compared and similarities and differences were noted.

## Writing Process and Telecommunications

Scores were compared to determine if individual students showed any significant difference in the quality of form, style, and mechanics as compared to the group who composed without purpose of writing for a peer audience. Anxillary to this purpose was the comparisons of willingness and attitude of male and females to edit for form, style, and content.

### Procedures

The week of January twenty-third of 1995 was the beginning of this study. Students in both groups were introduced to the topic and style of the composition. The style involved writing a composition with sentence combining (a unit of *Writing to Write*). The topic included either "How Sound Works" or "How Sound Effects Me". This topic correlates with Voorhees township Science curriculum.

Students write using a whole language process writing approach with a computer software program called "*Writing to Write*". The writing process in this software package includes:



## Writing Process and Telecommunications

1. Prewriting
2. Drafting
3. Proofreading
4. Revising
5. Publishing

Students in Voorhees township are very familiar with this approach to writing and word processing. Each school is equipped with a computer lab and each classroom is equipped with six computers. Students grade second through fourth have been using *"Writing to Write"* for Language instruction for the past three years.

At the end of January, Hamilton elementary students were introduced on how to save their *"Writing to Write"* compositions as a text file to be transferred to Microsoft Works. Students have some experience with this procedure from transferring files from *"Writing to Write"* to a program called *"Children's Publishing Center"*.

This step of saving as a text file is necessary to link their work to other computers. This study telecommunicated files from one school to another using *NJ Link* and a telecommunications component called *"Microsoft Works"*.

## Writing Process and Telecommunications

*NJ Link*, provided jointly by New Jersey Network and NJ State Department of Education, is a computer-based information network that brings educational resources to K-12 schools. One of these resources is the electronic mail component. With this component, students can electronically mail written text from one computer to another.

For this electronic mail transfer to occur, a personal computer must be equipped with communications software. The communications software used by this study was "*Microsoft Works*".

Towards the beginning of February, students were asked to review revising and proofreading strategies utilized throughout their Language curriculum. Revision helps to improve a draft by adding or taking out information, combining and reordering sentences, adding information, or changing word choice according to purpose and audience. During the proofreading section, the writer reviews text in order to correct errors in punctuation, capitalization, spelling and grammar.

## Writing Process and Telecommunications

Mid February, ten students at Hamilton elementary school, were told the audience of their writings would be at a distance location, Osage elementary. Students were told their final drafts would be read by two students. This peer audience would provide feedback on content and give suggestions for future writings on the given topic. The feedback would be written on "*Children Publishing's Publishing Center*" and transferred to "*Microsoft Works*". It then would be telecommunicated via *NJ Link* to Hamilton students. Each student written feedback would be personally addressed to the author (students from Hamilton's fourth grade).

Towards the end of February, students were instructed on how to telecommunicate their final drafts from "*Writing to Write*" to "*Microsoft*" to *NJ Link*. A flow chart was utilized for instructions (see Appendix C) on telecommunications. Students were also taught how to complete surveys for willingness and attitude towards editing (see Appendix B).

During the month of January, the fourth grade class at Osage school were introduced to the concept of

## Writing Process and Telecommunications

telecommunications. Telecommunications was explained using a flow chart of the hardware and software necessary (See Appendix C). Osage's fourth graders are familiar with the software used; *"Writing to Write"*, *"Children's Publishing Center"*, and *"Microsoft Works"*. They have been using *"Writing to Write"* and *"Children's Publishing Center"* for two years.

Students were told how the students at Hamilton school would save their written compositions of "How Sound Affects Me" or "How Sound Works" as a text file in *"Children's Publishing Center"*. From *"Children's Publishing Center"* students from Hamilton would then locate their files in *"Microsoft Works"*.

*"Microsoft Works"* is a software package that reads text files. From *"Microsoft Works"*, students then telcommunicate their published compositions to Osage via *NJ Link*.

During the month of March 1995, ten students from Hamilton school sent two copies each of their final draft to the Osage school. Osage students would receive Hamilton students' compositions via a phone line, modem, and *"Microsoft Works"* at Osage's computer lab. Hamilton's

## Writing Process and Telecommunications

students' files were printed at Osage's lab by the computer specialist and distributed to the fourth grade class. Each students' composition was read by two students. Feedback was typed on *Microsoft Works* and telecommunicated via *NJ Link* back to Hamilton.

The Language Supervisor and Reading Specialist of Voorhees township scored the compositions using the Registered Holistic scoring procedures.

Scores were compared to determine if individual students who telecommunicated showed any significant difference in the quality of form, style, and mechanics as compared to the group who composed without purpose of writing for a peer audience. Anxillary to this purpose was the comparisons of willingness and attitude of male and females to edit for form, style, and content in both the group that telecommunicated and those who only used the word processor.

### Scoring Procedure

When the students completed their written compositions that followed the writing process, the results were

## Writing Process and Telecommunications

holistically scored using the Registered Holistic Scoring procedure (See Appendix D - for details). A comparison was made to compare the holistic scores of the compositions that were written using the word processor alone with no peer audience responding and those that were written using the word processor and the telecommunicating to a peer audience.

# Writing Process and Telecommunications

## Chapter 4

### Description and Analysis of the Data

#### Introduction

The purpose of this study was to determine if fourth grade students will become better writers producing clearer style, form, and mechanics when using the word processor in the writing process. It will also determine if the use of telecommunications will cause students to edit and proofread more frequently.

The sample of this study was restricted to twenty fourth grade students in Voorhees Township. Ten of the twenty students used the word processor alone. The other ten students used the word processor and telecommunicated their final draft to twenty other students to a distant elementary school within the Voorhees Township school district.

The time involved in this study was ten weeks. The students produced a final draft following the writing process.

Registered Holistic Scoring was the instrument used to grade the students' compositions. The scoring was performed by Mrs. Lillian Howard, the Reading Specialist of Hamilton

## Writing Process and Telecommunications

School and Mrs. Sharon Stallings, the district Language Supervisor. When the final drafts were scored, comparisons were made to determine if students who telecommunicated demonstrated a difference in quality and productivity of their written compositions as compared to those who used the word processor alone. It was also determined if revising and proofreading occurred more frequently.

Using a computer analysis program, the t-test for the differences between the means of two populations was applied. Differences were considered significant at the 0.05 level of confidence.

### Presentation and Statistical Analysis of the Data Related to the Null Hypothesis

All subjects involved in this study completed a composition following the five steps of the writing process. Sample one are the compositions in which students used the word processor with telecommunications to a peer distance audience. Sample two are the compositions in which students used the word processor alone.



## Writing Process and Telecommunications

Table 1  
t-Test For the Difference Between the Means  
of the Whole Group

Word Processor and Telecommunications

vs

Word Processor

Student #	Sample 1	Sample 2	Difference
1	5.0	5.0	0.0
2	4.0	3.0	1.0
3	5.0	3.0	2.0
4	5.0	5.0	0.0
5	3.0	4.0	-1.0
6	4.0	4.0	0.0
7	4.0	3.0	1.0
8	4.0	5.0	-1.0
9	4.0	2.0	2.0
10	4.0	5.0	-1.0

<u>Mean</u>	4.20000	3.90000	0.30000
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t-Statistics = 0.818182

0.05 Level of Significance = 2.262

# Writing Process and Telecommunications

**Table 2**  
**t-Test For the Difference Between the Means**  
**of the Whole Group to Measure**  
**Attitude towards Editing**

**Word Processor and Telecommunications**  
**vs**  
**Word Processor**

Student #	Sample 1	Sample 2	Difference
1	0.0	3.0	-3.0
2	27.0	1.0	26.0
3	2.0	24.0	-22.0
4	4.0	28.0	-24.0
5	5.0	8.0	-3.0
6	3.0	0.0	3.0
7	0.0	0.0	0.0
8	0.0	0.0	0.0
9	7.0	3.0	4.0
10	23.0	1.0	22.0
<u>Mean</u>	7.10000	6.80000	0.30000

t-Statistics = 0.059839

0.05 Level of Significance = 2.262

## Writing Process and Telecommunications

Students scores were calculated and listed according to the scoring specialist. Table one compares the results of the samples scored by Mrs. Lillian Howard, Reading Specialist and Mrs. Sharon Stallings, Language Specialist using Holistic Scoring. Table two demonstrates the attitude towards revising and proofreading as measured by the "Editing Chart". At 0.05 level of significance, the results clearly show that the use of the word processor with telecommunications made little significance in the quality and productivity of fourth grade students' creative writing.

It is wondered if the editing chart being used by both groups, the group that used only the word processor and the group that used the word processor and telecommunications, made editing occur more frequently.

The study involved twenty students. The ten students asked to telecommunicate their final drafts demonstrated more enthusiasm and more interest in revising and proofreading. Those students who used the word processor only, worked at a slower pace than with previous units.

## Writing Process and Telecommunications

Table 3  
t-Test For the Difference Between the Means  
of the Whole Group to Measure  
Willingness towards Editing  
Word Processor and Telecommunications  
vs  
Word Processor

Student #	Sample 1	Sample 2	Difference
1	0.0	6.0	-6.0
2	23.0	1.0	22.0
3	0.0	0.0	0.0
4	1.0	0.0	1.0
5	13.0	5.0	8.0
6	1.0	0.0	1.0
7	11.0	0.0	11.0
8	0.0	1.0	-1.0
9	3.0	0.0	3.0
10	12.0	1.0	11.0
<u>Mean</u>	6.40000	1.40000	5.00000

t-Statistics = 1.956152

0.05 Level of Significance = 2.262

Table three demonstrates the willingness towards revising and proofreading. The results show acceptance of the second hypothesis.

# Writing Process and Telecommunications

Table 4  
t-Test For the Difference Between the Means  
of Males to Measure  
Attitude towards Editing

Word Processor and Telecommunications  
vs  
Word Processor

Student #	Sample 1	Sample 2	Difference
1	2.0	3.0	-1.0
2	5.0	0.0	5.0
3	3.0	24.0	-21.0
4	0.0	8.0	-8.0
5	23.0	0.0	23.0
<u>Mean</u>	6.6000	7.0000	-0.4000

t-Statistics = -0.054965

0.05 Level of Significance = -2.262

# Writing Process and Telecommunications

Table 5  
t-Test For the Difference Between the Means  
of Females to Measure  
Attitude towards Editing

Word Processor and Telecommunications  
vs  
Word Processor

Student #	Sample 1	Sample 2	Difference
1	0.0	28.0	-28.0
2	27.0	0.0	27.0
3	4.0	0.0	4.0
4	0.0	3.0	-3.0
5	7.0	1.0	6.0
<u>Mean</u>	7.6000	6.4000	1.2000

t-Statistics = 0.135578

0.05 Level of Significance = 2.262

## Writing Process and Telecommunications

Table four compares males' attitude towards revising and proofreading. Sample one represents the males who used the word processor and telecommunications. Sample two represents the males who used the word processor alone. The results show an acceptance of the third hypothesis.

Table five compares females' attitude towards revising and proofreading. Sample one represents the females who used the word processor and telecommunications. Sample two represents the females who used the word processor alone. The results show an acceptance of the third hypothesis.

# Writing Process and Telecommunications

Table 6  
t-Test For the Difference Between the Means  
of Males to Measure  
Willingness towards Editing

Word Processor and Telecommunications  
vs  
Word Processor

Student #	Sample 1	Sample 2	Difference
1	0.0	6.0	-6.0
2	13.0	1.0	12.0
3	1.0	0.0	1.0
4	11.0	5.0	6.0
5	12.0	0.0	12.0
<u>Mean</u>	7.4000	2.4000	5.0000

t-Statistics = 1.455556

0.05 Level of Significance = 2.262



## Writing Process and Telecommunications

Table 7  
t-Test For the Difference Between the Means  
of Females to Measure  
Willingness towards Editing

Word Processor and Telecommunications  
vs  
Word Processor

Student #	Sample 1	Sample 2	Difference
1	0.0	0.0	0.0
2	23.0	0.0	23.0
3	1.0	1.0	0.0
4	0.0	0.0	0.0
5	3.0	1.0	2.0
Mean	5.4000	0.4000	5.0000

t-Statistics = 1.107019

0.05 Level of Significance = 2.262

# Writing Process and Telecommunications

Table 8  
t-Test For the Difference Between the Means  
of the Whole Group's Printed  
Copies for Revision

Word Processor and Telecommunications

vs

Word Processor

Student #	Sample 1	Sample 2	Difference
1	3.0	3.0	0.0
2	6.0	3.0	3.0
3	4.0	7.0	-3.0
4	4.0	3.0	1.0
5	4.0	3.0	1.0
6	8.0	3.0	5.0
7	8.0	5.0	3.0
8	6.0	3.0	3.0
9	5.0	5.0	0.0
10	7.0	3.0	4.0

Mean	5.50000	3.80000	1.70000
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t-Statistics = 2.279

0.05 Level of Significance = 2.262

## Writing Process and Telecommunications

The results of the willingness to revise and proofread is shown in Table six and seven. Table six compares males' willingness towards revising and proofreading. Sample one represents the males who used the word processor and telecommunications. Sample two represents the males who used the word processor alone. The results show an acceptance of the fourth hypothesis.

Table seven compares females' willingness towards revising and proofreading. Sample one represents the females who used the word processor and telecommunications. Sample two represents the females who used the word processor alone. The results show an acceptance of the fourth hypothesis.

Table eight shows the number of times students printed and reprinted their drafts to revise and proofread either independently or with the aid of another student. The results clearly show students' composing for a peer distant audience print more for revision and proofreading than those using the word processor alone.

## Writing Process and Telecommunications

### Hypothesis: Acceptance or Rejection

The first hypothesis states there will be no significant difference in the attitudes of fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written compositions with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring. The results of the scoring showed that there are no significant differences in the quality and productivity of writing for this group at the 0.05 level of significance. Based on the data, the first hypothesis was accepted.

The second hypothesis states there will be no significant difference in the willingness of fourth grade students to revise and proofread written compositions who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written composition with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring. Based on the data, the second hypothesis was accepted.

## Writing Process and Telecommunications

The third hypothesis states there will be no significant difference in the attitude between male and female fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written compositions with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring. Based on the data, the third hypothesis was accepted.

The fourth hypothesis states there will be no significant difference in the willingness of male and female fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written compositions with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring. Based on the data, the fourth hypothesis was accepted.

# Writing Process and Telecommunications

## Chapter 5

### Summary, Conclusions, and Implications

#### Introduction

Research presented in the review of the literature has demonstrated that the use of the word processor, with process writing, is a vital tool for writing more productive and clearer compositions. This study has attempted to determine if fourth grade students will become better writers producing clearer style, form, and mechanics when using the word processor in the writing process. It will also determine if the use of telecommunications will cause students to edit and proofread more frequently.

#### Summary of the Problem

This study was done to determine if fourth grade students will become better writers producing clearer style, form, and mechanics when using the word processor in the writing process. It will also determine if the use of telecommunications will cause students to edit and proofread more frequently.

## Writing Process and Telecommunications

The writing process was followed for all compositions. A comparison was made of those compositions written using the word processor alone and those compositions written using the word processor and telecommunications. Both compositions were scored using Registered Holistic scoring and a comparison of students using the word processor alone to students' scores using the word processor and telecommunications were analyzed to determine if there was any significant difference.

### Summary of the Hypothesis

The following null hypothesis were formulated for this study:

1. The first hypothesis states there will be no significant difference in the attitudes of fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written compositions with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring.

## Writing Process and Telecommunications

2. The second hypothesis states there will be no significant difference in the willingness of fourth grade students to revise and proofread written compositions who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written composition with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring.
3. The third hypothesis states there will be no significant difference in the attitude between male and female fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written compositions with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring.
4. The fourth hypothesis states there will be no significant difference in the willingness of male and



## Writing Process and Telecommunications

female fourth grade students to revise and proofread written composition who are exposed to process writing with the use of a word processor in writing a final publication than with fourth grade written compositions with a final publication using the word processor and telecommunications as measured by Registered Holistic scoring.

### Summary of the Procedures

A review of previous literature pertinent to this study was made. Four specific hypothesis were formulated. The twenty fourth grade students involved in this study were selected from Hamilton School in Voorhees Township.

The students were assigned a composition to complete. The following writing process was followed; prewriting, drafting, revising, proofreading, and publishing. A topic was assigned, and ten fourth grade students wrote their final drafts using the word processor alone. The other ten students used the word processor and telecommunicated their final draft to twenty other students to a distant elementary school within the Voorhees Township school district.

## Writing Process and Telecommunications

All students were taught how to transfer files within software in preparation for telecommunications. The next step involved familiarizing the students with telecommunications and the process involved. The total process involved a ten week period.

Voorhees Township fourth grade students are very familiar with the word processor. They have used the word processor for three years.

In the last phase, students transferred files through three different pieces of software (see Appendix C) to prepare for telecommunications to a distant elementary school within the Voorhees Township School district.

Mrs. Lillian Howard, Reading Specialist and Mrs. Sharon Stallings, Language Supervisor scored all the compositions using the Registered Holistic scoring method. Students using the word processor alone were compared to students using the word processor and telecommunications to see if telecommuting to a peer distance audience made a difference in attitude towards producing clearer style, form and mechanics.

## Writing Process and Telecommunications

This comparison was also used to determine if the use of telecommunications caused students to edit and proofread more frequently. Differences were considered significant at the 0.05 level of confidence. Based on the analysis of the data, the first hypothesis was accepted.

Other comparisons were made to determine the differences in willingness to revise and proofread written compositions. A t-test was used to compare willingness of the whole group to revise and proofread written compositions when using the word processor alone versus using the word processor and telecommunications. Males and females were compared for attitude and willingness towards revising and proofreading using the t-test. Differences were considered significant at 0.05 level of confidence. Based on the analysis of the data, the second, third, and fourth hypothesis was accepted.

On the basis of the findings, a number of conclusions, trends and recommendations were formulated regarding the use of the word processor and telecommunications when fourth grade students followed the writing process in composing, revising, and proofreading compositions.

## Writing Process and Telecommunications

### Conclusions, Implications, and Recommendations

After comparing the results of the test of fourth grade writing compositions, findings show little significant differences when using the word processor as compared to the word processor and telecommunications.

All hypothesis were accepted, but trends were noted. Although it could not be statistically proven, students became more involved in the editing process as shown by the numbers of copies printed for editing (See Table 8).

The second trend noted was students became more involved in the processes of transferring files from one piece of software to another and learning the process of how to telecommunicate. The group of students who were ask to use the word processor and telecommunicate seem more motivated to return to their writing and editing.

Although not statically proven, following a sequential writing process made students more comfortable with leaving their writing and returning. The word processor made revisions and proofreading easier and clearer.

## Writing Process and Telecommunications

Another trend noted was students of high ability levels saw no need to edit their own compositions, but saw a high need to edit others final compositions. Students of low levels of achievement tended to write longer text with using the word processor and telecommunications than those using the word processor alone.

This study included the use of an editing chart (see Appendix B). It is wondered if writers possessing a self evaluation chart may have altered the results of the comparisons.

The results of this study demonstrates both the word processor and editing chart as vital tools for using the writing process to writing compositions. The spell checker and easy editing features of the word processor allowed students to express thoughts easily and revise quickly. The editing chart reminded the writer of what to look for in the revision and proofreading process.

### Recommendations for the Future

1. A study to be conducted using the same method of presentation, but the sample size should be larger.

### Writing Process and Telecommunications

2. A similar study should be conducted with an increased population over a longer period of time.
3. A similar study should be conducted with an increased population using more than one writing unit and topic.
4. A similar study should be conducted using the same general method of presentation, but increased population and more grade levels and a middle school or high school population.
5. A similar study should be conducted using the same general method of presentation, but a comparison made between grade levels.
6. A similar study should be conducted using the same general method of presentation, but with a longer comparing one year to another year.
7. A similar study should be conducted using the same general method of presentation, but using a pre and post writing sample.

## Writing Process and Telecommunications

### BIBLIOGRAPHY

Adams, J. (Dec. 1993). Competency Gauged Writing Activities for Middle Grade Students Prompted by Needs of Technology Education. Annual Conference of the American Vocational Association, 5-23.

Casella, V. (Sept. 1987). Writing Skills Right Off the Bat. Instructor, 116.

Colburn, C. (May 1989). All Schools: Telecommunications. Teaching and Computers, 21-25.

Daiute, C. (1986). Physical and Cognitive Factors in Revising: Insights from Students with Computers. Research in the Teaching of English, 20, 141-159.

Edinger, M. (Apr. 1994). Empowering Young Writers with Technology. Educational Leadership, 51, 58-59.

Farnan, N., Lapp, D., and Flood, J. (1992) Changing Perspectives in Writing instruction. The Reading Teacher, 35, 550-556.

Gaskins, R.W. (Apr. 1988). The Missing Ingredients: Time on Task, Direct Instruction, and Writing. The Reading Teacher, 41, 750-755.

Goodman, K. S. (Nov. 1992). I Didn't Found Whole Language. The Reading Teacher, 46, 188-199.

Graves, D. (1983). Writing: Teachers and Children at Work. Portsmouth, NH: Heinemann.

## Writing Process and Telecommunications

- Graves, D. (Nov. 1994). Be a Better Writing Teacher. Instructor, 43-45.
- Hansen, J. (1987). When Writers Read. Portsmouth, NH: Heinemann.
- Hansen, J. (Oct. 1992). Students' Evaluations Bring Reading and Writing Together. The Reading Teacher, 46, 100-105.
- Hawisher, G., & Selfec C. (1989). Critical Perspectives on Computers and Composition Instruction. New York: Teachers College Press.
- Hillocks Jr., G. (May 1987). Synthesis of Research on Teaching Writing. Educational Leadership, 44, 21-82.
- Karnowski, L. (Mar. 1989). Ussing LEA with Process Writing. The Reading Teacher, 462-465.
- Koehl, J. (May 1992). Turned On To Reading and Writing. Electronic Learning, 14.
- Lapp, D., & Flood, J. Writing: Teachers Reading to Every Child. NY: Macmillan.
- Lapp, D. & Flood, J. (Nov. 1993.) Are there "real" writers living in your classroom? Implementing a Writer-centered Classroom. The Reading Teacher, 48, 254-258.
- Linek, W.M. (1991). Grading and Evaluation Techniques for Whole Language Teachers. Language Arts, 125-132.
- Lucas, J. (Jan. 1993) Teaching Writing: Emphasis Swings to Process, Writing as Tool for Learning. Association for Supervison and Curriculum Development, 1-7.



## Writing Process and Telecommunications

Mageau, T. (May 1990). Telecommunications in the Classroom: Four Teachers Stories. Teaching and Computers, 18-24.

McGravey, J. (Oct. 1986). Word Processors Let Our Kids Relish Writing Class. The American School Board Journal.

Miller-Jacobs, S. (1987). A Process Approach to Writing with a Computer. EIRC Document, 1-6.

Morgan, M. (Jan. 1991). Using Computers in the Language Arts. Language Arts, 68, 74-77.

Moore, M. (1987). The Effects of Word Processing Technology in a Developmental Writing Program on Writing Quality, Attitude Towards Composing, and Revision Strategies of Fourth and Fifth Grade Students. Dissertation Abstracts International, 48, 636A.

Moore, M. (1989). Computers Can Enhance Transactions Between Readers and Writers. The Reading Teacher, 42, 608-611.

Moore, M. A. (Dec. 1991) Electronic Dialoguing: An Avenue to Literacy. The Reading Teacher, 45, 280-286.

Peck, K.L. & Dorricott, D. (Apr. 1994). Why Use Technology? Educational Leadership. 11-14.

Rosenbluth, G., & Reed, M. (1991). The Effects of Writing Process-Based Instruction and Word Processing on Remedial and Accelerated 11th Graders. Journal of Computers and Human Behavior.

Shuman, R. B. (Dec. 1993) Write, Reflect, and Write Some More. Educational Leadership, 51, 88.

Weber, A. (Feb. 1990) Linking ITIP and the Writing Process. Educational Leadership, 35-39.

## Appendix A

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 6 Word Processor and Telecommunicated

#### A Campbells Factory

This paper will explain a Campbells Soup Factory and all of the sounds that you here when you are there.

The first part of my explanation is about the canning machines, soup, and shiny cans. When you first walk into the factory you can see huge canning machines. You can hear the large canning machines dropping soup neatly into the shiny cans.

Employees are yelling to each other over the loud machines and the cans are making a loud clanking sound. You can see this happening in the middle wing.

Many gears and chains are creaking loudly while you can hear the employees' boots stepping on the floor. This is going on in the back of the factory in the very big packing room.

The Campbells Soup Factory can be a very exciting place if you observe everything carefully.

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 5 Word Processor and Telecommunicated

#### Sound In Philadelphia

How does sound affect you? It affects me in many ways. Sound has many properties. I picked a place called Philadelphia. Philadelphia has many sounds. The particular sounds I picked are a train and a car.

Sound can be loud or soft, high pitched or low pitched. Sound can be loud and quiet at the same time. How can that be? It depends on how far away your are from the sound source. If you are a mile away from a train while it is running, it will appear to be soft to you. If you are close to a car while it honks it's horn, you will probobaly jump after the horn honks. This is because you are close to the sound source.

Philadelphia is a loud place.. So, it is almost impossible to be in a quiet place. How does sound affect you in a place?

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 4

#### Word Processor and Telecommunicated

##### How Sound Affects Me

This is my work on how sound affects me.

Here in my school I will describe the things that go on in my house and how sound made them. One night I was playing my saxophone while my brother was bugging me he was bugging me with his voice. When he used his voice he was vibrating his vocal cords. Sound is caused by vibrations. Did you know that? Well now you do?

My dad was watching T.V. while my mom was making steak. When my dad was watching the tube sound entertaining him by showing shows with voices and sounds. When my mom was making steak there was a sizzling sound and sound is caused by vibrations that means the steak was moving.

I was working on my marble machine and the phone rang. When I was working on my marble machine the marble was rolling and vibrating. When the phone rang a little bell went off in the phone and that was vibrating.

That's how sound affects me. That's also sound. If you want to find out more about sound get a book out.

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 3 Word Processor and Telecommunicated

#### How Sound Effects Me

Did you ever wonder how sound effects you? Well, if you ever did, I will tell you about it.

First, I am going to tell you about the oceans and boats. You can hear the ocean crashing on the sand while the boats are riding smoothly on the ocean.

Second, I will explain about the icecream man and kids. The icecream man rings his bell loudly, and the kids are shouting ice-cream.

The lifeguards are blowing there wistles, while the adults are snoring roarly while there sleeping.

I have now completed my paper about sound. Did you learn anything? Well if you didn't, I'm sure it was a great review for you. Did you like my paper? I sure did.

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 2

#### Word Processor and Telecommunicated

##### How Sound Effects Us

I am going to tell Kyle and Brett how sound can effect our lives. I hope that they will think my paper is very interesting about sound.

If you hear a siren will hurt our ears because it is a loud noise going into our eardrum and if you hear a train coming it will also hurt your eardrum. When you hear a bat hit a ball it will not make a loud noise. If you hear a ball hit the back wall it will not hurt cause you are so far away from the ball hitting the wall that ther noise is not as loud. If you hear a microwave beep it will not hurt cause it is not as loud as a train.

You will usaully hear thunder before you will see a lightning becaus sound can travel faster than light. Another example of that is a train you hear it before you will see the light on it. If you see a policed car or a firetruck with a siren going you ears will hurt cause a siren can make a loud noise.

I hope you think that my story was interasting about how sound can effects us. I also hope that you think you can tell more about sound and light.

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 1

#### Word Processor and Telecommunicated

##### How Sound Effects People

In my little story you will learn how sound effects people. My scene will be held at a concert.

Sound is very important to people. Sound is a very helpful science. If we all could not hear we would not know what to do and when to do it. Sound is very important to me because if I should not hear I could not learn at school and I would not be able to listen to music. It is also important to hear because you need to know what the weather is if you can drive in it. If you were at a concert you would need to hear what they are saying or singing. Sound is not only important to people but it is also important to animals. They need to be warned of danger or they might get eaten.

I have tried to tell you all about hearing if you want to know more I suggest you look it up in a public library.



## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 6

#### Word Processor

##### Sound and How It Effects Me

In this paper I will tell you about sound and how it effects me. I will tell you about the different things I will do if I hear a siren, if I hear a fire alarm, if I hear my mom calling me, if I hear the printer, or if I hear a gunshot.

I get out of the house after I hear the fire alarm. I have never heard what my smoke alarm sounds like because I have never been in a real fire.

I hear a police siren, and I look around to see if anybody got hurt or if there was a crash.

I look down the street if I hear a horn honk. I also know that somebody is mad at my parents or whoever is driving the car.

I hear my mom calling me, then I answer her. Usially she will come up to me and talk to me.

I hear our printer, and I look to see if the paper is comeing our all-right. If it is at home. If it is at school Mrs. Carroll will check.

When I hear a gunshot, I duck down quickly. I don't want to get shot.

Now that you know how certain sounds effect me, how does it effect you? Which part would you like to know more about?

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 5

#### Word Processor

#### How Sound Effects Me in My House

I am going to share with you about how sound effects me in my home. I will tell you how sound effects me when it comes to my brother and my parents and all of my other friends. Do you want to find out how sound effects me in my home?

Sound effects me when my mom asks me what I want for lunch and if turkey is O.K. for dinner. It also effects me when my mom is trying to contact me on the innercomb while my dad is quizing me on science question for my test the next day. It also effects me when I am talking to a friend on the phone while my brother is trying to interupt me by asking a question and pushing me back and forth. When my dad tells me that I have to stay home alone while my parents take my brother to a doctors apointment it effects me. The ladt and most important thing of all is when my mom asks me what kind of icecream she should buy!

Now you have heard my story on sound. Did you learn anything? Well, if you didn't, I'm sure it was a great review. If you want to know any more about sound, just call me at 1-800-555-4629. Please call at this toll free number to learn more about sound. I'll be glad to teach you about it!

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 4

#### Word Processor

##### The Cherry Hill Mall

I will explain when I can hear sound in the Cherry Hill Mall.

I will hear sound when the escalator is turned on , and I will hear sound in the Mall when the stores open. I can hear sound when the escalator is turned on because it makes a buzzing sound and I can hear sound when the stores open. Because people start to come in to shop in stores. I may hear sound when the food shops open before I hear sound when the cash register rings. I can hear sound when the food shops open because workers sometimes talk to each other. I can hear the cash register ring because it rings when they open shut it.

I can also hear sound when the stores close because you can hear the managers close the cage or gates in front of the store. I can hear the gates or the cages close because they shake and make a rattling noise. I can also hear the janitors talk because they talk to each other and they talk on thier monitors.

I hope you learned something about the sounds I may hear in the Cherry Mall in the day and closing time.

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 3

#### Word Processor

#### Sound

this story will be about sound and how it effects people.

When you hear different sounds you are effected in different ways. For an example when you hear a siren go off you are startled. When a sink runs you are virteraly nor effected.

I hoped you liked my explanation of how sound effects people. Wich sound mostly effects you?

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 2

#### Word Processor

##### How Sound Affectes Me

How does sound affect you? Well you will learn. Just listen.

Sound can be loud or soft. At a train station. An example is when the train is far away it will be soft to you and the passengers. Another example is when the car is in back while they are honkny the horn at you it will be very loud.

Well I hope you learned something. Well I did when i read a paper so read and learn.

## Writing Process and Telecommunications

### Registered Holistic Scoring-Score Scale Point 1

#### Word Processor

##### My House

Have you ever been in my house ? Well. I will explain when you can hear sounds in my house.

I can hear the phone ring, before I can answer the phone. I may hear the wind blow, and when the door bell rings. I hear the T.V. go on, after the radio goes off. The radio is always loud, while people talk on the phone. I play the clarinet, after somebody gets off the phone so I don't disturb them.

I was telling you all about my house and its properties.



## Appendix B

## Appendix C

## Writing Process and Telecommunications

PLACE AN X, NUMBER AND LETTER  
(W OR E) in the boxes used

3 = Strongly needed  
2 = Needed  
1 = Not needed

W = Writer  
E = Editor

# Writing Process and Telecommunications

## PROOFREADING

DATES      SPELLING      PUNCTUATION      CAPITALIZATION


PLACE AN X, NUMBER AND LETTER  
(W OR E) in the boxes used

Place an X in the column when  
doing activity.  
Write date when action occurs.  
Write number on how strongly you  
thought action was needed.  
3 = Strongly needed  
2 = Needed  
1 = Not needed

Are you a writer or an editor?  
Place a W or an E in the box.

W = Writer  
E = Editor

**HAMILTON COMPUTER LAB**  
10 Hamilton students

*Writing to Write*

*Children's Publishing Center*

*Microsoft Works*

Modem

phone line

NJ Link

**OSAGE SCHOOL LAB**

phone line

Modem

*Microsoft Works*

Osage students

(20 students respond to ten Hamilton students)  
(two Osage students read one Hamilton student's paper)

## Appendix D

In scoring, consider the grid of written language		Inadequate Command 1	Limited Command 2	Partial Command 3
Content  and  Organization	May lack opening and/or closing Minimal response to topic; uncertain focus No planning evident; disorganized Details random, inappropriate barely apparent	May lack opening and/or closing Attempts to focus May drift or shift focus Attempts organization Few, if any, transition between ideas Details lack elaboration, i.e., highlight paper	May lack opening and/or closing Usually has single focus Some lapses or flaws in Organization May lack some transitions between ideas Repetitious details Several unelaborated details	
Usage	No apparent control Severe/numerous errors	Numerous errors	Errors/patterns of errors may be evident	
Sentence	Assortment of incomplete and/or incorrect sentences	Excessive monotony/same structure Numerous errors	Little variety in syntax Some errors	
Mechanic	Errors so severe they detract from meaning	Numerous serious errors	Patterns of errors evident	

Adequate Command 4	Strong Command 5	Superior Command 6
Generally has opening and closing Single focus Ideas loosely connected Transitions evident Uneven development of details	Has opening and closing Single focus Sense of unity and coherent Key ideas developed Logical progression of ideas Moderately fluent Attempts compositional risks Details appropriate and varied	Has opening and closing Single, distinct focus Unified and coherent Well-developed Logical progression of ideas Fluent, cohesive Compositional risks are successful Details effective, vivid, explicit, and pertinent
Some errors that do not interfere with meaning	Few errors	Very few, if any errors
Some variety in structures Generally correct	Variety of formation that are appropriate and effective Few errors	Controls various complex structures Very few, if any errors
No consistent pattern of errors Some errors that do not interfere with meaning	Few errors	Very few, if any errors

Biographical Data

Name:	Andrea J. Carroll
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College:	Carlow College Pittsburgh, PA B.A. 1975
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