

# **An Analysis of the Quality of Text as Fifth-Grade Formerly Identified Title I Reading Students Write and Revise from Paper and Pencil to Word Processor**

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Research confirms that the use of a word processor by students (generally college and adult writers) for writing assignments increases the quantity of writing (Azarmsa, 1991; Sewell, 1990), improves writers' attitudes toward writing (Geisert & Futrell, 1990; Snyder, 1993), encourages the view of writing as a process (Dudley-Marling, 1985), and makes revising easier (MacArthur, 1988; Williams, 1992). However, only a small body of literature concentrates on elementary-age school writers (Cochran-Smith, 1991), and because of this it is too early to make broad generalizations about (1) word processing and writing quality of young children (Owston, Murphy & Wideman, 1992); and (2) the number and types of revisions made by elementary school children (Cochran-Smith, 1991). This study will describe fifth-grade formerly identified Title I reading students writing and revising behavior as they begin a writing assignment with paper and pencil, make revisions during a student-teacher conference, then proceed to the word processor, and their teachers' attitudes and perceptions about the use of word processing for writing instruction.

## **Method**

### **Setting**

The study takes place in the fifth-grade reading and writing center at an intermediate school, in a small town in Northwestern Pennsylvania, fifty miles north of Pittsburgh. The total district enrollment, as projected in the most recent Long Range Plan (1989) is 3,910 students. The school has been in operation since the 1988-89 school year, when a district-wide consolidation occurred resulting in grades four, five, and six combining to form the present intermediate school.

The reading and writing center, which contains thirty Macintosh computers, began operations in September of 1994. It was developed as a pilot-study by the district coordinator for all fifth-grade students in the school as an alternative to remedial education. Rather than fifth-grade students being "pulled-out" for remedial services, it was determined that the formerly identified Title I reading students would accompany their class twice a week, once with their language arts teacher, the other with their content area teacher, to the reading and writing center.

### **Subjects**

The students that participated in the study were all students from one fifth-grade class (in this instance seven)-in which the language arts teacher utilized the three stage writing process-prewriting, writing, and revising-who scored at the 40th percentile or below on Form M, the reading comprehension section of the Metropolitan Achievement Test (Prescott, et al., 1986) given by the Title I teachers at the end of the previous school year. The Title I teachers use the Metropolitan reading comprehension scores to identify students who are eligible to receive Title I services.

There were a total of fourteen teachers involved in the study, twelve classroom teachers and two Title I reading teachers. The gender break-down was seven males and seven females, all white. The average number of years teaching was twenty-five years.

### **Design**

The study reported here involved the use of two types of observational methodologies to collect data -- participant observation (Slavin, 1992) and content analysis used after writing samples were collected (Fraenkel & Wallen, 1990). The researcher in this study participated by acting as a resource person in the reading and writing

center and responding to students' questions and concerns. Content analysis was used to analyze students' text characteristics (across and within each writing task) and the revisions students made on the original paper and pencil draft (called here the "red ink" draft).

### **Procedure**

The research included all students who would qualify for Title I services from one classroom (7 students), a classroom case study. Data collected included each student's paper and pencil rough draft (also the "red ink" drafts—that indicated any changes {revisions} made between the pencil and paper draft and the word processing draft) and their final word processed draft. Writing assignments were collected over a four month period. These samples were analyzed using the holistic scoring rubric created for this study, and the revisions ("red ink" draft) were analyzed using Faigley & Witte's (1989) taxonomy of revisions.

### **Details of the Procedure**

Each student was observed for two sessions a week (40 minutes per session) over a period of four months. The introductory session (week 1) was devoted to observing students' skills on using the word processor, and to establish a collaborative working rapport with the students and teachers. Over the course of the next four months, students performed a number of activities for each writing assignment. These activities included first, composing a pencil and paper draft of all assignments. Next, the students worked with the language arts classroom teacher during a student-teacher conference. During this conference, the teacher questioned the student on such areas as punctuation or verb form, revisions were suggested and made on the paper and pencil draft. I have labeled this student-teacher conference draft the "red ink" draft, primarily because it is the teacher who probed the student and made the corrections on the paper and pencil draft with a red ink pen. The last step consisted of the students taking the paper and pencil ("red ink" draft) to the reading and writing center where they wrote the text again using a different writing instrument, the word processor.

### **Data Gathering Method**

Three areas were investigated by means of the procedure in this study. The first area was classroom observations. The class attended the reading and writing center twice a week, Monday and Friday. During the 40 minute class period, I collected field notes using the created protocol. The students were sporadically seated throughout the center, so the first five minutes (from 9:45-9:50) were spent observing students 1, 2, 3, & 4. The next five minutes (from 9:50-9:55) were focused on observing students 5, 6, & 7. The field notes form was coded accordingly and this process continued with myself acting as a participant observer for the entire forty minute class period, and attending to any of the students who needed additional assistance.

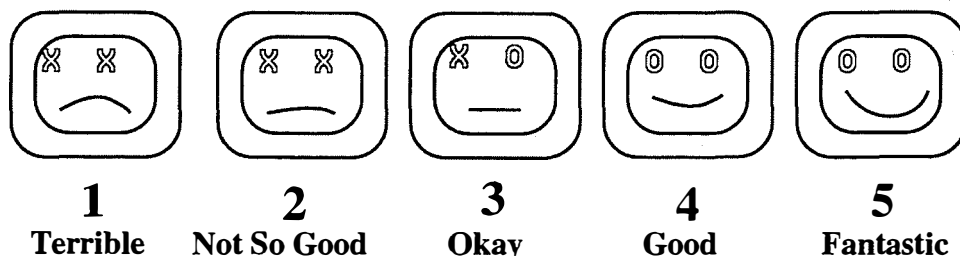
The second area I focused attention was the teachers, classroom teacher and the two Title I teachers. The same protocol was used. As I observed students 1, 2, 3, & 4, I also coded the actions of the classroom teacher (CT) and the Title I teachers (T1 & T2). The same when I observed students 5, 6, & 7.

Another area I focused attention was the collection of students' writing samples. The method used to collect and analyze data (students' writing samples) in this study was content analysis. Writing samples were collected from students as part of their school activities and not under experimental conditions. Thus, the samples were naturalistic as opposed to experimental data (Gundlach, 1981) of students' writing. A folder was kept for each student and included: the initial paper and pencil draft (also the "red ink" draft), and the final word processed draft.

A rubric was created using a holistic scoring strategy to assess the quality of the draft. The holistic levels of performance students are expected to attain are described in each block of the rubric corresponding with a numeric score. These descriptors tell the evaluator what characteristics or signs to look for in a student's work and then how to place the work on a predetermined rubric (Hart, 1994). When using holistic scoring, writing assignments are given a numerical score based on the piece of writing as a whole. The results, holistic scores for each student's writing samples, were reported in tables and graphs.

### **Instrumentation**

The final area was student interviews and teacher questionnaires. The seven students who participated in the study were asked questions in a one-on-one interview format, choosing the majority of their answers from a likert scale created for this project. Prior to asking students to choose a computer screen face, which corresponds with a number on the scale, a mini-survey was taken, using fifteen fifth-grade students. I wanted to ascertain how students perceive each screen/number in order to establish continuity, to make sure there was understanding of what each screen represented. The following responses occurred most often:



The teachers were issued a questionnaire that required them to analyze their perceptions of the reading and writing center and to focus on specific questions related to students and writing, and students and technology. The questionnaire was sent to all fifth-grade teachers involved in the reading and writing center. I wanted all teachers to participate because I believe that the attitudes teachers express towards the reading and writing center, the students formerly identified as Title I reading, writing and technologies (specifically, using word processors for writing) shape the degree to which they cooperate with the Title I teachers in the center and contribute to the amount of effort put into the assignments that they give to students.

### Results

The paper and pencil drafts produced in the classroom, reflected the original thoughts and reactions of the students during the prewriting and writing stages of the writing process. The holistic scores on the paper and pencil drafts varied for each student. As a group, the lowest score on the paper and pencil draft was 7 and the highest was 15. The average paper and pencil holistic score for all seven students (35 writing samples) was 12.1 out of a possible total score of 15.

The language arts teacher provided each student the opportunity to review his/her writing assignments during a teacher-student writing conference. The "red ink" draft was the first opportunity for revision-an important aspect of the writing process-for each writing assignment produced in the classroom. The discussion about the original paper and pencil draft (the "red ink" draft) provided an opportunity for students to revise, or go back to the original paper and pencil draft and add more text to improve the quality of their paper and pencil draft before it is taken to the reading and writing center.

The word processed draft represented the final stage in the writing process for the student. Up to this point, with each assignment, students progressed from the initial writing of the paper and pencil draft to a student-teacher conference where a "red ink" draft with revisions is created and taken to the reading and writing center where the student interacts with a word processor to create a final document. En route to this final document, a spell check may be conducted and a second opportunity for revision may occur here with either the classroom teacher (content or language arts) or a Title I teacher prior to the final printing. As a group, the lowest holistic score on the word processed draft was 13 and the highest score 15. The average holistic score for all seven students (35 writing samples) was 14.8, which is slightly higher than the 12.1 average for the paper and pencil draft, indicating that the quality of the word processed drafts are higher than the original paper and pencil drafts. The quality of writing appeared to increase as a function of word processor use (Montague, 1990).

Bickel (1985) found that remedial students tend to give equal weight to everything they read without understanding the relative importance of the ideas presented, and similarly, their writing often consists of a loosely related string of ideas (p. 41). I found this to be true when analyzing the original paper and pencil drafts. The teacher-student conference proved to be very beneficial to the students in this study, to tie together their thoughts and ideas and to increase the quality of writing as is seen in the scores of the final word processed documents.

The majority of revisions made were surface-level revisions, as confirmed by a number of researchers (Monahan, 1982; Scardamalia & Bereiter, 1986) who studied the revisions of inexperienced or poor writers. Students with limited ability may have the most difficulty learning to revise, primarily because revision requires reading, more specifically rereading of what one has written (Barker, 1987).

## Teachers

When asked on the teacher questionnaire whether or not they've noticed a change in students' writing skills, 7 out of the 13 respondents indicated yes, noting that students are more creative and able to express themselves more freely when using the word processor for writing. The teacher questionnaire also required teachers to respond to a number of excerpts from conclusions in various research studies. For example: When using the computer, students wanted to write, wrote more, and were more willing to work with their writing. This, in turn, carried over to their reading. They took a keen interest in reading what others had written and their own writing more critically (Bickel, 1985). The teachers' responses: 8% Strongly Agree, 54% Agree, and 38% Disagree. Although much of the research indicates that using a word processor increases the quantity of student writing, in this study as students proceeded from the paper and pencil draft to the teacher-student conference ("red ink" draft) to the word processed piece, the quantity (total number of words) decreased, which I believe resulted in an improvement in the quality of the students' writing.

## Conclusion

This study was descriptive in nature and based upon the findings this approach can be perceived as valuable. However, this study should be followed by a comparative study to draw conclusions regarding the efficacy of using a word processor versus other approaches to writing, e.g., paper and pencil. Research from previous studies on writing and word processing consisted primarily of junior high, high school, or college students. Cochran-Smith (1991), in her critical review of related literature found a relatively small body of literature that concentrates on elementary school writers. More research needs to be conducted with elementary students, primarily those who are of limited or low ability.

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