Write it right: Learning how to write an essay about literature through technology

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WRITE IT RIGHT: LEARNING HOW TO WRITE AN ESSAY ABOUT LITERATURE THROUGH TECHNOLOGY

A Project
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Faculty of
California State University,
San Bernardino

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by
David Harvey Braxton
June 1995
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ABSTRACT
This project was undertaken to counteract the effects that teachers of writing face when dealing with large class sizes. It involved the creation of a computer-based interactive software writing program that could be used to assist the teacher in the instruction of writing essays about literature. It was designed to provide instruction to college-bound junior and senior high school students and to release the teacher from tedious, repetitious, whole group instructional tasks, thus allowing the teacher to spend more time to work in small groups or individually with students.
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CHAPTER ONE

Introduction

The dominant role that writing holds in the educational curriculum stems from its natural integration into human communication schemes. "From the creation of the first picture signed with a name or the first handwritten valentine, students begin the discovery of how important writing is to their sense of themselves and their need to communicate with others" (English Language Arts Framework, 1987, p. 9). With increasing importance, this continues through elementary, middle, junior high, high school, and into higher education. Its significance as a communication and learning medium was noted when California State Department of Education adopted the English Language Arts Framework in 1987:

The usefulness of writing extends beyond the creative act of composing and expressing one's thoughts to the exploration of learning itself. Written passages are the greatest system yet devised for the storage and retrieval of information. They open to young learners the worlds of history and science, arts and vocations, psychology and philosophy, and mathematics and geography. The relationship between writing and human thought, basic to all disciplines, becomes the province of all teachers, who become helpers in the teaching of writing across the disciplines. As students develop, pen
and pencil and computer enable them to integrate
whatever they are learning into what they already know
and to make it their own. English-language arts
teachers, supported by teachers in other disciplines who
understand the importance of writing to learning, thus
prepare students to use writing effectively to
understand themselves and their world and to enter a
society where understanding language and communicating
are essential to work and leisure. (English Language
Arts Framework, 1987, p. 11)

Having professed this expressed importance, one would think
that California and other states would create a learning
environment which would allow teachers the opportunity to
"become helpers in the teaching of writing." (p. 11) Yet, even
in the face of recent definitive studies, arguably the single
most crucial factor, class size, in producing a successful
writing environment at the high school level has been
neglected. These studies become extremely important and
worthy of further consideration for this project since they
have implications about the role of technology in reducing
the effective class size and in increasing frequency and
length of contact time between the student and the teacher.

While findings of earlier studies of class size such as
one done by Harlan in 1915 indicated that there were no
differences in achievement between small and large class,
more recent studies support the position that educators have
been expressing for many years - smaller class sizes are
better. For the front line educators one of the most
important and telling factors in determining student academic success and acceptable behavior is the ratio of the number of students to each teacher. Hollingsworth's 1992 review in Education cites McKenna's 1957 work on Institute of Administration Research study which "concluded that small classes have special value because more educational creativity exists when classes are small, and promising new procedures are adopted in small classes" (p. 415). This served to confirm that teachers' instincts are right. It is easy for teachers to assume that as the ratio increases great teachers are turned into good teachers; good teachers are turned into fair teachers; fair teachers are turned into mediocre teachers; and mediocre teachers are turned into terrible teachers. The concomitant effect on students is unmistakable; they receive a more inferior education than they would otherwise have received. The Hollingsworth's 1992 review of McKenna's (1957) work also confirms that "In small classes, there was more group work, more informality, and more opportunity for interactions of all kinds. In most small classes, many enrichment materials were used, while three-fourths of the larger classes were totally 'textbook classes'" (p. 414). The "striking" and conclusive findings that Helen Pate-Bain, C. M. Achilles, Jayne Boyd-Zaharias, and Bernard McKenna (1992) report in their evaluation of the Tennessee's Student/Teacher Achievement Ratio (STAR) Project were that instruction was quicker and better, supplemental materials and learning centers were used more, teaching was more in depth and student participation increased. However,
even this latest and extremely well-documented longitudinal study has not been persuasive enough to dispel the entrenched notion that small classes do not perform that much better than large classes to justify the additional expenditure. Their findings, while acknowledged as significant, appear to carry too little weight to effect a strong movement to expend the resources to decrease class size.

Accordingly, it is becoming increasingly apparent that states such as California are unwilling or unable to commit the resources that would be necessary to divert this disturbing trend to higher class sizes. With the current clamor for tax relief emanating from every corner, educational needs are enervated by the weakening political will of the legislatures and the weakening resolve of an electorate that claims to be financially overburdened. When this is coupled with attacks on educational institutions for the perceived failure to adequately educate students at current expenditure levels, the effect is devastating and apparent. Schools receive less money and class sizes increase. Nevertheless, whether it is anger at the failure of educational institutions, a lack of desire and concern, misplaced political will or simply sparse resources which prevents schools from confronting the issue of reducing this already outrageously high student/teacher ratio, the rising tide of class size continues to erode the foundation of students' education.

This acute problem proves to be especially critical in classes which focus on preparing students for college level
writing, arguably the most important skill for the college-bound student. Unfortunately, the ratio of students to teacher has become so intolerably disproportionate that recovery from typical real class ratios of forty to one is financially impractical if not impossible. The accompanying direct effect on the teaching of writing to students is to turn good teaching methodology and techniques into inappropriate, futile efforts that garner only partial, transitory effects.

As a result, as the class sizes increase, the teacher is forced more and more to teach to the middle, thereby going too slowly or too rapidly for an ever expanding number of students. The outcome is obvious; there will be an exponentially increasing group of students who do not understand the writing instruction and a parallel group who never receive enough writing instruction to challenge them. In either case they will not receive the necessary preparation to survive, let alone excel in a college atmosphere. Even with the improvements that student collaboration and cooperative grouping bring, the task of effectively and successfully teaching writing is nearly impossible because the single factor which provides the greatest success is absent - the direct contact, input and influence of the teacher on-a-one to one basis with the student. This means that educators must look to other instructional strategies for relief from the impossible task of teaching a skill which requires individual attention in an environment which permits only cursory instruction to be
given for a few seconds to the huge numbers of students that teachers of writing instruct daily. Yet, something must be done because students going to college increasingly display a lack of training in writing the specific types of formal papers that are required in college.

There is a partial, possible solution, however, through the use of technology and, more specifically, the computer. Certainly, the use of computer software to aid in the teaching process is not a new idea; however, in the field of writing the kind of traditional, formal essays that are required in college, there are almost no software programs available. And, for the college-bound student there are virtually no programs available to teach students about how to write an essay on a piece of literature, one of the primary forms of writing in both high school and college. Developing a program that would do this would be an immense aid for both students and teachers.

For a computer software-based writing program on literature to be effective for both group use in an educational environment and for individual use in the student's home environment, it must satisfy a number of teacher and student criteria for both group use and individual use. (A more detailed discussion of these criteria and how they are met will be undertaken in the "Goals and Objectives" section and the "Design and Development" section of this paper.) In general, for use with classes, the program needs to complement and augment the teacher's instruction, be easily incorporated into the curriculum, need very little
training to use. A successful program would enable the instructor to spend more time with each student. For the individual student’s use it needs to be self contained, to be as free from computer and educational jargon as possible, and to be operated in the absence of outside assistance or instruction. This is, indeed, a daunting task.

Whether it is this rather difficult task or other reasons that are beyond the investigative scope of this paper, there seem to have been very few software companies who have attempted the challenge of producing an instructional writing program that deals with one particular, specific arena of writing. While there are some creative writing programs on the market and some programs that are tailored for a generic approach to a wide range of writing types, to this point there is a near void of computer programs which are directed toward instruction on the traditional types of writing that are required in many college English courses. The reason for this remains a mystery, especially when one considers the extremely large and motivated clientele that a program such as this project would target. Regardless of the lack of interest by software companies, the advantages of such a program for potential users are numerous. With the proper software design and educational approach there are several issues that a software program created to meet this writing need would confront and alleviate.

First of all, it would allow teachers more opportunities and more time to spend with each student because instead of
spending a great deal of time in front of the class giving general whole class instruction of which half is usually either too quickly forgotten or to which students pay too little attention, teachers can spend that time doing one of the following:

1. They can walk around the computer lab helping students with their writing problems on an individual basis.

2. They can form small groups of students with whom to work as the remainder of the class works through the computer program.

3. They can form cooperative groups that team on a computer to help each other while the teacher helps the groups as their needs arise.

4. They can more closely observe and help those students who tend to need more help.

5. They can assign students who move more rapidly through the program to students who need more help, thus, leaving more time for the teacher to help those students who have the most pressing needs.

6. If the computers are set up on a network that permits computer monitoring and feedback, the teacher could respond through the student's computer with suggestions, comments and compliments on their work. This could be done as the students worked or between the students' sessions working on the essay.

7. If the essay was imported into another word processing program that had a grammar and spelling checker, it would alleviate a great deal of the tedious burden of the
Second, the students would benefit from other strengths that essay instruction through an interactive software computer program would provide in the following ways:

1. They would be able to move through the writing process at a pace dictated by their learning rather than one dictated by the instructor.

2. Regardless of what period that students had their writing class, they would get more nearly the same instruction. Teacher fatigue which occurs later in the day would have less of an effect and teacher absence would not hamper the progress of the writing process as severely.

3. Student absences would not be as damaging to learning the writing process because they could make up the work on the computer on their own time, or if they have the right kind of computer at home, they could take the software home and work on their writing at home; thus, they would not fall as far behind.

4. Students who did not have enough time to sufficiently understand or finish their work could come into the computer lab and work on the paper on their own time, and / or if they had the right kind of computer at home, they could take a copy of the program home to do their work.

5. Instead of being greeted by the instructor responding, "We've gone over that repeatedly. I can't stop the whole class. Why don't you see me after school or talk to one of your neighbors," they would be able to return to the infinitely patient computer instruction over and over again.
until they felt comfortable with it.

6. Because the program requires active involvement, the student is forced to interact with the process. The more passive process of listening to the teacher's direct instruction is replaced by the more active process of the interactive program. This shifts responsibility for understanding the process to the student as they will be required to attend to the process in order to complete the program.

Third, if the program were adopted by an entire English staff the following benefits would be achieved:

1. There would be more consistent instruction among the department members.

2. If the program were used in subsequent years, there would be reinforcement of the writing process.

3. When students transfer from one class to another they would be able to adjust more easily to the writing process.

4. It would require more interaction among teachers because there would be a common element that they had in common.

With these important advantages lurking just beyond the horizon, it seemed beneficial to embark on the task of creating a software program that would aid in the instruction of writing essays on literature for college-bound juniors and seniors. If designed properly, it possesses the power to ease the stress that both teachers and students encounter as they face ever increasing class sizes. If the program is used properly, it could go a long way to increasing teacher and
student contact which is disappearing under current financial constraints. Thus, it would counteract to some degree the lack of individual attention that students need if they are to understand and to develop a successful approach to the writing process and to the specific task of writing essays about literature.
CHAPTER TWO
Review of Related Literature

Computer-Assisted Instruction

The use of computer-assisted instruction (CAI) as a major tool in education is relatively new. However, the vision for its use "has a long history of optimism associated with it" (Saettler, 1990, p. 404) that has been punctuated with failure. Some twenty to thirty years after the glorious predictions of its ability to change the face of education, the public still awaits the revolution. That revolution might well have happened were it not for the financial constraints which schools have faced for many years. That factor alone has prohibited the purchase of sufficient computers to truly incorporate the use of CAI programs in the curriculum. In addition, the constant need to upgrade and to train educators in its use (Saettler, 1990, p. 538) has added another element of pressure to which educational institutions are expected but unable to respond adequately.

Advantages of Computers

While the financial elements have made it difficult to make full use of computers, Robert Heinich, Michael Molenda, and James Russell (1993) point out that computers do offer significant benefits which make them inherently advantageous and worthy of consideration even when the investment that they entail is substantial.

Specific advantages are the following:

Simply allowing students to learn at their own pace produces significant time savings over conventional
classroom instruction. Computer-based instruction allows students some control over the rate and sequence of their learning (individualization). High speed personalized responses to learner actions yield a high rate of reinforcement.

The patient, personal manner that can be programmed provides a more positive effective climate, especially for slower learners. Mistakes, which are inevitable, are not exposed to peers and therefore are not embarrassing.

Computer-assisted instruction is effective with special learners - at-risk students, students with diverse ethnic backgrounds, and disabled students - because their special needs can be accommodated and instruction proceeds at an appropriate pace.

Color, music, and animated graphics can add realism and appeal to drill exercises, laboratory activities, simulations, and so on.

The record keeping ability of the computer makes individualized instruction feasible; individual prescriptions can be prepared for all students (particularly mainstreamed special students), and their progress can be monitored.

Computers can provide coverage of a growing
knowledge base associated with the information explosion. They can manage all types of information: graphic, text, audio, and video. More information is put easily at the instructor's disposal. Computers also provide a broad diversity of learning experiences. These learning experiences can utilize a variety of instructional methods and can be at the level of basic instruction, remedial, or enrichment.

The computer provides reliable and consistent instruction from learner to learner, regardless of the teacher or trainer, the time of the day, or the location.

Computer-based instruction can improve efficiency and effectiveness. Effectiveness refers to improved learner achievement, whereas efficiency means achieving objectives in less time or at lower cost. Efficiency is very important in business and industrial application and is becoming increasingly important in educational settings.

One serendipitous effect of working with computers is that they literally force us to communicate with them in an orderly and logical way. The computer user must learn to communicate with explicit, exact instructions and responses. Any departure from
precision is rejected by the computer.

Computer users learn keyboarding or typing skills. Now very young children as well as adults are developing these skills in order to communicate with computers.

With the advent of easy-to-use authoring systems, some instructors can develop their own customized computer-based learning programs.

Summaries of research with students at various levels - elementary, secondary, college, and adult education - show that computer-based instruction generally has positive effects on student achievement. One set of summaries by James Kulik and colleagues concluded that, on the average, computer-based instruction assisted students in raising their achievement test scores by 10 to 18 percentage points compared with conventional instruction. (p. 222)

Limitations of Computers

While computers do offer great advantages, Heinich et al (1993) also point to some limitations.

As we have seen with all the other media and technological innovations, there are always tradeoffs to be made and limitations to be considered. Some of the major limitations of computers in instruction are as follows:
Careful consideration must be given to the costs and benefits of computers in education and training. Computers, software, and maintenance are major cost factors, especially if equipment is subject to heavy use.

Compatibility is a problem. Software developed for one computer system usually cannot be used with another. The ease with which software can be duplicated without permission has inhibited some commercial publishers and private entrepreneurs from producing and marketing high-quality instructional software.

Users, both learners and teachers, may have unrealistic expectations for computer-based instruction. They view computers as magical and expect learning to happen with little or no effort. Learners and teachers derive benefits proportional to their investments.

A limited range of objectives can be taught by computers. Most computer-based instruction does not teach effectively in the affective, motor, or interpersonal skills domain. Even in the cognitive domain, programs tend to teach at the lower levels of knowledge and comprehension.
Design of instructional materials for use with computers can be a laborious task, which often requires a high level of expertise by the developer. Consequently, quality computer-based instruction is expensive.

Creativity may be stifled in computerized instruction. The computer is slavish in its adherence to its program. Creative or original learner responses will be ignored or even rebuked if the program’s designer has not anticipated such possibilities.

Computer-based instruction often lacks social interaction. Learners tend to work on their own at a computer, and there is little if any face to face interaction with teachers or other learners.

Some learners, especially adult learners, may resist the linear, lock step control of the learning process typical of computerized instruction. Adult learners may feel they can skim or read pages of a book faster than the computer presents the information.

The novelty associated with CAI in its earlier days seems to be decreasing. As learners become more
familiar with computers in the home and the workplace, the newness of the stimulus wears off and has less motivational value. (p.224)

Nonetheless, with recent indications that "CAI applications report consistently positive and generally high achievement gains at all educational levels" (Saettler, 1990, p. 535), the prospects for a renewed interest may be well founded this time around. Computers do offer sufficient advantages to make them a necessity in education, and there are very few areas of instruction where the advantages of the computer has not led to the development of CAI programs that are designed to affect a major aspect of that instructional area. Because writing is, arguably one of the most necessary skills in society, it is one of those areas that has received attention from software designers. An examination of their efforts, past and present, reveals a great deal about the effectiveness, focus, and direction of the programs, and also reveals an important audience and area of writing that has been poorly represented.

Computer Writing Programs

"It requires at least the 3B2 computer which, although it is a desk-top model, is designed for 6 to 10 users at terminals. While the 3B2 can include as little as 512K and one 10 megabyte hard disk, it can be expanded to 2000K and 432 megabytes of storage. Hence it is hard to classify it as simply a PC" (Bump, 1987, p. 122). Jerome Bump's statement in his 1987 article clearly indicates how far technology has
traveled in eight short years. The notion that 2000K of memory and 432 megabytes of storage is beyond the capacity of a personal computer is mildly ludicrous by today's standards and will seem absolutely ludicrous by standards ten years from now; however, it is very informative when considering the software that could now be available for use by schools and the general public. In some software areas there certainly has been an explosion of very sophisticated programs; however, in other areas the progress has been slow to stagnant. For the most part, market forces drive the advancement; thus, while competition has driven the areas of word processors, data bases, spreadsheets, games, and authorware to make great strides, the same cannot be said for some educational programs, especially programs on the more sophisticated higher level writing and writing process that college-bound high school students encounter. Looking at these programs will show the comparative distance that has been traveled by educational writing programs in just eight years. This area of study is so sparse that older articles had to be used to glean any information about CAI writing programs for college and college-bound high school students. Since there is limited information available on many of the programs and since it would be beneficial to examine the broad spectrum of writing programs, this section is not intended to be a critical look at only the programs related to the focus of this project; rather, it will be a cursory look at the short history of software programs on many types and levels of writing.
Some of the more important software programs were mentioned in Jerome Bump’s account of the software on writing that was available in 1987; they are the following:

**Writer's Workbench**: This program from AT&T Technologies, originally available in the nine-track tape version, had been released for mainframes at the time that Bump’s article was written in 1987. The initial quote at the beginning of this section was in reference to the use of this program, and at the time that the article was written, it was considered only practical for labs with mini or mainframe computers. Its strongest asset is its power to analyze writing style and grammar. It was modified by Colorado State University to include **ORGANIZATION**, which prints out the first and last sentence of each paragraph to test cohesiveness; **DEVELOPMENT**, which checks the average number of words per paragraph to test for underdeveloped paragraphs, **FINDBE**, which locates all forms of "to be" so that the student can check for passive constructions, **DICTION**, which "points out any of five hundred word choices that are potentially inflated, overused, sexist, or simply incorrect," **SUGGEST**, which "proposes words and phrases" that are "flagged" by **DICTION**, **VAGUENESS INDEX**, which looks for 140 "general, imprecise words" (p. 124), and **SPELL**, **PUNCTUATION**, **GRAMMAR** and **STYLE** whose purposes should be obvious. Programs similar to Writing Workbench include Westinghouse's **Writing Aids System** and Donald Ross's **Eyeball**.

**Plato**: This program focuses on remediation in spelling, grammar, punctuation, and other mechanical writing skills but does not have the students actually write.
Writing Competency Program: Educational Activities designed their software for letter writing, report organization, and persuasion.

PAL series: McGraw-Hill focuses their programs in logic, analogy, paragraph construction, and understanding poetry.

Review of English and Spelling: Edward Cline has written fifty-seven lessons in grammar and usage problems for developmental writers.

Gallaudet English Language Program: J. Douglas Miller has written ninety lessons in grammar and usage problems for developmental writers.

MacProof: This program is available for highlighting problems in spelling, usage, grammar, and structure.

Grammar Correction Program: Michael Huhn's program can correct about thirty grammatical errors in declarative sentences.

HBJ Writer: This program is an integrated package that combines a word processor with invention, editing, and stylistic analysis. It "provides three categories of revision aids: Organizational Review, Stylistic Review, and Mechanical Review" (p. 126). The Organizational Review contains a program called Nutshell which queries for title, purpose, audience and a brief summary of the paper to start the student in the right direction. It also possesses split screen capability to allow input from the instructor for such things as pre-writing questions.

Writer's Helper: William Wresch's program, marketed by Conduit, is an integrated package that combines a word
processor with invention, editing, and stylistic analysis. It can create an outline of the essay by printing the first sentence of every paragraph and allows the instructor to adapt the program to some extent to the classes purpose. It can also compute the Fogg Index readability level, "check a word frequency, check commonly confused homonyms" (p. 126), to be verbs and "common usage errors" (p. 126).

**English Composition Software:** William Marling's program permits the teacher to mark for sixteen errors. It then keeps track of the types of errors and graphs those errors. Its main purpose is to help evaluate, respond and grade students' papers.

**Grader/Reader/Writer:** William and Cynthia Marling program is a three part package that corrects student electronic papers, allows students to make their own corrections, and has text editor for revision.

**Alps Writing Lab:** This program is designed for creating, analyzing, revising, and printing documents.

**Quintilian Analysis:** It reads, counts, calculates, and interprets various stylistic features in the student's essay and compares them with the norms found in famous twentieth century British and American essays and then provides a two- to three-page commentary on the student's style.

**Grammatik II:** The program check for various stylistic weaknesses and for some common mechanical errors. It also checks for word frequency, redundancy, and monotonous diction. In addition, it has a 900 phrase dictionary of wordy and trite phrases. The program then concludes with a
There are also programs that develop mainly "intuitive models of inquiry" (p. 127) which are intended to help students through the thought process stages of pre-writing, writing and revising. These are described as invention programs because they help the students invent their ideas to a point that they can write, or revise their essay. They often provide problem solving tutorials and examples which are accompanied by instruction. With these kinds of programs, the hope is that the students will be prompted as Bump quotes Hugh Burn's 1979 suggestion to make "better rhetorical connections, better accounting for content and audience" (p. 128) and that they will be better able to compare and contrast, and examine both sides of an issue. Below is a list of some of the programs in this vein which Bump mentioned briefly:

1. **Wordsworth** by Cynthia Selfe
2. **Draft** by Christine Neuwirth
3. **Brainstorm** by Michael Spitzer
4. **Composition Strategy** from Behavioral Engineering
5. **Free** by James Strickland
6. **Writing is Thinking** from Kapstrom, Inc.
7. **Writeaid** from VAX

Another area of the invention program is literature appreciation through creative writing. In this area Bump (1987) found the following to be of interest:

1. **Creativity Toolbox** (author not given)
2. **Compupoem** by Stephen Marcus
3. Poetry Express by Carole Kidder
4. Word-Weaver from Ebensen
5. The Software Teacher (author not given)

More recently there have been other approaches to developing writing and thinking skills such as SCRIPTWRITER (Watson, 1990), a computer-assisted learning package. It is an interactive reading and writing package designed for English classes that enables students in the READER section to move through a story as they consider passages and determine their course of action. They are given clues and suggestions which they must divine from the text and it is designed much as an adventure game would be. In the WRITER section students write their own stories or alter stories that already exist. Imagination and creativity are encouraged and logical rule making is fostered as students decide on which options to take. Discussion is also encouraged and was determined to be one of the strong assets because the acts of "Reading and writing stories on the computer in class is very much an overt activity not a covert activity, lending itself to group work and collaborative discourse" (Watson, 1990, p. 68). Other assets of the package were: "teachers when using framework software, must intervene appropriately at key stages of discussions during the work; a mastery of the rules and logic makes it attractive for use in Technology as well as English classes; designing frameworks and using software tools for their inherent interface takes software development into new dimensions of complexity" (Watson, 1990, p. 68). Still, with these rather substantial advantages and the
simplification of the program to working with frames instead
of computer language, the programs massive documentation and
the use of "If" "Then" logic caused problems. The requirement
to learn the program added to the complexity of the writing
and dampened the interest of the teachers and the students.

Many of the complex issues have recently been left
behind with the newest programs on writing which combine the
ease of use with other segments of technology that are
expanding rapidly. The most exciting of these are the online
services and the Internet. This is the main tool of a new
curriculum program called ScrapBookUSA (Roth, 1992) which
offers a built-in incentive, the ability to electronically
exchange essays and other writing with someone thousands of
miles away.

The general goals of ScrapBook USA are to:
1. Motivate quality student writing by providing a real-
time responsive audience.
2. Permit students to learn about the similarities and
differences of people across the country.
3. Foster writing in all curriculum areas.
4. Provide a real-life project through which students
may be introduced to computer-based technologies for
communication.
5. Provide an interdisciplinary environment for teachers
to share their curricula. (p. 34)

While not a true CAI writing software program it does point
the direction that a combination of telecommunications and
CAI programs can head in the future. The sometimes
unavoidable drudgery of working through the writing process becomes for most students less tedious when the prospects of telecommunications are added. The build-up of student writings in an electronic data bank could do much to increase student interest in writing.

In a more traditional vein The Learning Company has produced a Macintosh version of their Children’s Writing and Publishing Center called The Writing Center. In a 1992 review Jean Bengfort examines this simplified program which is designed to allow a wide range of students to publish their own stories, reports, and newsletters. It is accompanied by a seventy page student book, Getting It All Together, which gives guidelines for writing the reports. It offers the user a selection among Letter, Newsletter and Custom. The layout is preset so that the student can simply write in the text in the format prescribed. There is a built in spell checker and thesaurus and the ability to incorporate graphics into the text. The program does not seek to teach any writing skills but, instead, offers a way to present the writings of students with a more professional look. This, obviously, is intended to provide incentive to students to produce collaborative projects with more attention to the quality of their writing. For the teacher the only burden that is lessened is the need to create final draft of quality.

A later version for Windows, reviewed by Carol S. Holzberg in 1994, was released with the title Student Writing Center for Windows and included “several new features of particular interest to junior high and high school students”
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(p. 10). While basically the same as the earlier Macintosh version, these include an expanded thesaurus and "an automatic bibliography maker with 20 reference formats, a title page maker, and extensive online grammar and process writing tips" (p. 11). The sophistication of the templates for journals, reports, letters and signs are more impressive and if the teacher is facing a younger or less sophisticated group of computer users, they can simplify the menus with a "short menus" option.

Another form of the CAI writing program deals with the writing of fiction and takes a more active role in the initiation and development of the piece of writing by having the student create an original story which includes color illustrations. MECC's Storybook Weaver, reviewed by Marilyn Nicholson in 1993, is a good example of this approach to writing. The emphasis of the program is to provide a tool to "motivate and facilitate writing" (p. 31) by systematically allowing the students in grades one through five to create a story and choose graphics about which they will write. After creating a title page, the students move from page to page picking from a list of scenic backgrounds, a plentiful supply of characters and finally the text which tells the story of that which they have created. Music can be added and then sounds for some of the graphics. As a finished product the stories can be edited, altered and shared with other students. This program's ability to capture the student's attention through its ease of use and its creative nature caused Nichols to proclaim, "If you don't already have this
program, go buy it," and to further state that "All teachers will be able to use this colorful and creative tool on those new Mac LCs!" (p. 33). As an early writing development tool this program probably has the correct approach to young writers. It attracts their attention, provides a point of focus, allows them to use their creativity, and makes the writing process more palatable.

Another program along the same vein is William K. Bradford Publishing's Explore-a-Story, containing Lima Bean Dream and Rosie the Counting Rabbit as part of the main program. Susan Shapiro's review of this program focuses mainly on her concern that programs be integrated. She feels that they should "combine both reading and writing, allow for cooperative learning, and involve the integration of visual, auditory, and kinesthetic models of thinking...and will motivate my students to become observant readers, critical thinkers, and experienced writers" (p. 43). Shapiro feels that The Lima Bean Dream meets these rather rigid requirements. Writing and reading are integrated through the students' creativity and imagination. As students read the original story they react to the characters, edit the story or write their own version using the pictures of the original story. Choosing among the three sections of Story Teller, Story Maker, and Activities, in their first incursion into the program, students interact with the story by moving objects and text to match objects as the story progresses. There are also segments that increase vocabulary through interaction to the story and some that involve problem
solving. More advanced writing features help the student create their own stories by using the writing process. First, the pre-writing activity is accomplished when the students compose pictures. Then they practice "editing by altering the original story or their own creation" (p. 38). By bringing their own experiences and perceptions to the creation of the stories the students develop their reading and writing abilities. To further enhance the effectiveness of the program there is additional documentation containing activities for use in the classroom. Like most of the programs which have been written more recently, this program targets young writers who are just beginning to learn to write.

Yet another in the expanding pool of creative writing programs for young students is Microsoft's Creative Writer. Susan McLester's 1994 short review of this program which won "The 1994-95 Technology and Learning Software Award" uses a number of creative approaches that act as catalysts for students in the third through ninth grades. With a "visual library of sample projects, and an idea studio with story starters such as the Slot machine which generates random three-part sentences to ignite creative sparks" (p. 24), the program seeks to create interest and to separate it from the other programs in the market by using "Unique tools, such as an encoder for scrambling your writing, and sparkle and fade type effects" (p. 24). Through these innovative techniques, it is hoped that the incentive to write will be strengthened.

McLester's second review, also an award winner, is
Chickadee Software’s EasyBook, another children’s publishing program which is intended for students in grades kindergarten through sixth. Its unique feature is the ability to print on both sides of the page, which gives the screen a real book display. The individual pages can also be customized to enhance its appearance. There is also the added benefit of a full-featured paint program to encourage more advanced students’ artistic inclinations. A school version was produced with the help of Tom Snyder Productions which developed lessons, off-line activities and reproducible worksheets.

The final award winner that McLester reviewed was another storybook program, Sanctuary Woods’ Sitting on the Farm. Again focusing on the younger students, fourth through sixth grades, this program’s added dimension is its multi-lingual capability which includes listening, reading, singing and writing modes for both English and French. The screens in the stories use hot spots to introduce and define three hundred words which are sometimes animated. The creative writing element uses graphics to help the students get started on stories that they create. The stories are designed to reinforce spelling and keyboarding skills and students can even record their own voices as they read or sing along with the stories and songs.

There are some CAI writing programs that are currently selling for which there were no reviews but which are offered by various educational software distributors. Among those which National School Products reported as award winners were
several more creative writing programs. **Writer Rabbit** is a
game oriented program that builds writing skills for second
through fifth graders through events like the sentence party.
In this program they put sentences together by combining
words and phrases. It also includes "Silly Story Maker" which
allows the students to write stories and letters. **That's My
Story** uses short story starters to initiate and motivate
second through eighth graders with the writing process and
then adds a "what if?" branch to help students develop their
own story. **Writer's Helper Stage II**, one of the few college
level CAI writing programs, uses a set of activities to help
students improve their writing. Through the Pre-writing
Activities students find and explore topics and then organize
the information about their topic. **Junior High Writing Series**
is a five segment program of ten lessons each that focuses on
writing letters, writing for fun, writing to explain,
capitalization and punctuation, and sentences and paragraphs.
The **Senior High Writing Series** is also a five segment program
of ten lessons each which focuses on the writing process, a
writer's basic tools: grammar and punctuation, writing
descriptively, expository writing, and news writing.

There are also several CAI programs offered through the
same National School Products which claim an extremely wide
audience range of third or fourth grades through twelfth
grade and even adult. **Sports Reporter** is a word processor
with sports illustrations which is intended to motivate
students through writing about and illustrating sports
reports, newsletters and articles for school newspapers and
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claims to be appropriate for a wide range of grade levels, four through twelve. *Ace Reporter*, again claiming a wide target audience of third grade through adult, motivates students by recreating a newsroom atmosphere complete with teletypes and telephone interviews which are used to gather facts and which then leads them to select main ideas by using headlines. *Story Sketcher* uses four methods, outlines, story starters, free writing, and graphics, to help stimulate writing. It also claims to encourage thought and planning.

What is noticeable about these current programs, especially the ones developed in the early nineties, is the target audience and the design approach of the software. Except for the few programs which claim to be able to serve the wide range from third grade through adult, most are for elementary, middle school, or junior high school. They also have a generic approach to writing which either focuses on creating a simplified and "glitzy" word processor or a story book or a combination of the two. This observation is neither a condemnation of the software companies' choice of audience nor of their design approach which many feel is very successful. However wholly unsuited the programs may be for an older segment of students, they may perfectly suit the audience for which they are intended. They are excellent motivational tools, and they do offer some incursion into the advanced cognitive functions. However excellent these CAI writing programs may be, the preponderance of companies focusing their efforts almost completely on these areas does point out the neglect and abandonment that has befallen one
segment of the CAI writing software market - the advanced high school writer and the university bound student. In this area there is a definite void, and there seems to be little current interest in broaching that area even though the target audience for such a program would be highly motivated to purchase software that would be effective. The few programs that ventured into the upper end of the educational market, college and college-bound high school students, were written in the mid-eighties, and for several reasons the results of these kinds of programs are, at best, either inconclusive or disappointing.

When it comes to measuring the effectiveness of CAI writing programs for college and college-bound high school students, one of those disappointments is simply getting faculty members to use the programs extensively enough to determine if they are efficacious. This is especially true for the programs that Bump (1987) reviewed; Writer's Helper, HBJ Writer, and Writer's Workbench. They exhibit some very helpful, sophisticated, advanced features that many writers could use; yet, one would also be hard pressed to find any of these programs in wide use now or even when they were new. Even in the schools where some of these programs were developed and/or tested, the programs were not used very often by the faculty. As Bump (1987) comments, "universities can move only as fast as their faculty can" (p. 131). Although computer-assisted writing offers "practicality and value," technologists have come to the painful conclusion that the "one or two-day workshops" (p. 131) or the series of
"short courses of, say, four to six one to two hour sessions at times convenient for the faculty and repeated on a regular basis at different times so that all faculty will have a chance to attend" (p. 131), really proved to gather in only a very few of the even most enthusiastic members. Since then a few more people have begun to use this type of software in education, but there are not nearly as many as those ardent supporters of computer-based training and computer-assisted instruction had anticipated. Bump's idealistic notion that educators, especially English teachers, would flock to the computer labs and even ask for release time to design their own CAI programs turns out to be very naive. A myriad of reasons, which will be discussed at the end of this section, have caused the expected explosion of computer use in core academic educational classes to fizzle at the fuse.

Another of the disappointing results for CAI writing programs was noted by Daiute (1985) and Hawisher (1987) when (as cited in Tone & Winchester, 1988) they determined that the studies which have focused particularly on revision do not support the notion that writing on computers should encourage a student to revise. Daiute (1985) found no difference either in quality or quantity of revision for junior high students writing with and without computers. In another study, Daiute (1986) found that students writing on computers revised less than those using pens and pencils. The computer writers, however, got higher scores on their finished products after getting lower scores on their first drafts,
suggesting that computers may have led to more effective revision.

Nor did the college students in Hawisher's study (1987) revise more than those not using computers; but, interestingly, this study found no positive relationship between revisions and quality of writing. (ERIC document)

Since revision is, obviously, a crucial issue for writing, these studies do not bode well for the continued use of the computer as a writing tool which can significantly improve students' papers. If this is the case, then to pressure reluctant teachers to use the computer for writing and revising under the guise that it will produce better results will cause resentment among the reluctant teachers when it fails to live up its billing and to their expectations. That failure will, in turn, validate their wariness of computers as instructional tools and further entrench their distrust of technologists' claims. In that case technology, especially the computer, will stand very little chance of becoming a tool to reduce the effective class size that the teacher faces, a task for which it may be extremely well suited.

However, Tone and Winchester (1988) also mentioned another significant element which may have skewed the results of the advantages of CAI writing programs - the short length of continuous time that students spend using the computer. In their study the reported time-on-task "over a six-month period" of "an hour a week" would certainly help explain some of the failure of the programs. While for those educators who
are not acquainted with the complexity of acquiring computer competence this may seem to be sufficient, the reality is that it is far from sufficient. The opportunity to develop the degree of skill necessary to become proficient enough to produce significant or, in many cases, even measurable results is not truly present. The chance to use the computer is neither frequent enough nor the time-on-task long enough. One would never expect much from a tennis novice whose average time practicing and playing amounted to one hour per week for a six month period; yet, for the more sophisticated and intricate cognitive task of mastering the computer while simultaneously learning both the writing process and the functions of the software program that teaches that process, significant measurable results are demanded to justify expenditures on hardware and software. And, while there has been an increase from the suggested more than two million that was reported by Tone and Winchester in 1988, a typical high school with one full lab of thirty-five computers and fifteen hundred students rolling through five periods a day of fifty minute periods equates to about one hour and ten minutes every two weeks if the lab is used constantly and equally by everyone. That is still not nearly enough time to measure the efficacy of the computer for use in the writing process, especially, when the writing that is demanded is the more sophisticated and complex process of writing about literature. In fact, even if the computer was used for a six day concentrated block of time the teacher would only be able to use the lab three times a year and the student would most
likely only experience the use of the lab in one academic subject. This significant problem of time on the computer was noted by Saettler (1992, p. 535) in his review of Carnoy's research: "They [Carnoy et al.] note that only a small portion of time is spent by the student with the computer in typical interventions and is extremely small in comparison with the total amount of time that a student is engaged in cognitive activity" (p. 535). Saettler also reinforces the one hour per week and thirty hours per year total usage time for all subjects. If divided equally among just three academic areas that would mean ten hours per year or one hour every three or four weeks. That is not nearly enough time for the writing process or for the CAI writing program, as they are currently designed, to have an effect. And, to expect the rest of the school to step aside so that the English department can use the computer lab so that it can be effective is not only ludicrous but also wholly unattainable.

Still, it may be that CAI writing programs can be effectively used to improve students' writing under the right conditions. Part of those right conditions, though, may not be attainable under the current political constraints and financial restrictions that were mentioned in the introduction to this paper. There may never be enough computers available for significantly continuous periods of time, but even before that can be determined to be the major limiting factor in its use, another condition must be examined and met. There must be a CAI writing program that is designed to truly incorporate the writing process properly.
Once that has been accomplished, more realistic assessments can be undertaken.

The single program mentioned by Bump in his 1987 article which relates to writing about literature, the topic of this project, is *Seen* by Helen Schwartz. It is described as an invention program which is “adapted to specific assignments” (p. 129). Schwartz designed the program to help students “generate, develop, and refine a thesis about literature” (p. 129). Its main focus is on character analysis and it makes “extensive use of the potential of computers for collaborative learning” (p. 129). Schwartz’s method is to have the student, by working through a tutorial, produce a hypothesis about a character. Through the use of the networked computers other students respond to the hypothesis with their own comments. In time a file is produced with all the comments and the students then produces their essay based on the feedback. This is the extent of programs which were discovered to deal with writing about literature for college-bound students.

To truly understand the limited scope of that program and others like it, it would be extremely beneficial to examine the complexity of the writing process and the direction that many writing programs, especially the one chosen by the California State Board of Education and the California State Department of Education, have decided to pursue and adopt as a standard.

The Writing Process

The most definitive experimentation, examination,
implementation, and study of the writing process was the Bay Area Writing Project which became the basis for the current writing programs throughout California and much of the United States. In the 1982 book edited by Gerald Camp titled *Teaching Writing: Essays from the Bay Area Project*, an article in this section focuses on an area of interest for this project. This section, "Sequences of Instruction, 9-12" contains Jean Jensen's article "The Evolution of a Writing Program." In her article she exhibits a diagram, Model of the Teaching and Writing Process (Camp, 1982, p.28), which was taken from the Gateway Writing Project in St. Louis and revised by the Bay Area Writing Project. It shows three major stages - pre-writing stage, composing stage, and the editing stage. Within each of those stages there are numerous proposed optional methods. The pre-writing stage contains free writing, expressive writing, questioning, improvisation, purpose and audience, goal setting, data gathering and peer writing, which offers a connection to the composing stage. In the composing stage is voice, predication, logic, analysis, organization, classification, patterns of reasoning, grammar and style, and peer response, which offers a connection to the editing stage. The editing stage contains error correction, dialect shift, revision, teacher feedback and publication. The three major stages, pre-writing, composing and editing, became the basic building blocks for the refinements that were to follow in subsequent years in other writing process programs and for the language arts segment of the educational reform movement that became the focus for
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California from the early eighties to the present.

In 1985 the California State Board of Education adopted and The California State Department of Education published the Model Curriculum Standards: Grades Nine Through Twelve. Within that much heralded model, it established in the English/Language Arts section Standard Number Eleven which stated, "All students will learn that writing is a process that includes stages called pre-writing, drafting, revising, and editing. These writing stages include higher level thinking processes such as convergent and divergent thinking, analysis and synthesis, and inferential and evaluative skills" (p. E-17). These stages were detailed in the following manner:

Stage 1 - Pre-writing
1. Students generate ideas as they engage in pre-writing activities.

Stage 2 - Drafting, Writing
1. Students develop fluency in writing as they write frequently on a variety of topics.
2. Students develop a sense of audience for their writing as they compose papers for a variety of groups or individuals.
3. Students identify a purpose for each piece of writing.

Stage 3 - Revising
1. By receiving responses from others regarding drafts of their writing, students learn to clarify and improve their writing.
2. Students revise their work as they "re-see" and "re-think" their pieces of writing.

Stage 4 - Editing
1. Students edit and proofread their writing in the light of the conventions of writing, accuracy of text, and proper manuscript form and in terms of appropriate diction and syntax.

Stage 5 - Post-Writing
1. Students realize the importance of writing through post writing activities. (p.E-17)

The emphasis is obvious and is unmistakable; writing is to be a long term process that incorporates a number of stages which are intended to instill in the student a sense that there is a fairly precise method and approach that is necessary when writing seriously.

Further evidence of the universal acceptance and the efficacy of this writing process method can be found in the numerous books on writing that use this approach or a modified version of it.

Joseph F. Trimmer and James M. McCrimmon (1988) in the ninth edition of the widely used Writing with a Purpose define the stages in the following manner:
1. Planning: "Planning is a series of strategies designed to organize and develop a sustained piece of writing" (p. 7).
2. Drafting: "Drafting is a series of strategies designed to organize and develop a sustained piece of writing" (p. 7).
3. Revising: "Revising is a series of strategies designed to reexamine and reevaluate the choices that have created a
piece of writing" (p. 7). In addition to those, another area called "Making Decisions in the Writing Process" (p. 9) is emphasized. It involves selecting the subject (p. 9), analyzing the audience (p. 12), and determining the purpose (p. 16).

P. Joseph Canavan and Lee E. Brandon in the fifth edition of *Paragraphs and Themes* (1990) break the stages of the process into the smaller sequential set of steps as follows:

1. Selecting a subject
2. Pre-writing
   a. Brain storming
   b. Listing
   c. Freewriting
3. Limiting the subject
4. Determining your purpose in relation to audience
5. Stating your purpose and thesis
6. Writing a title
7. Gathering material
8. Preparing the outline
9. Writing the first draft
10. Revising the first draft
11. Peer editing
12. Writing the final draft (p. 38)

Of course no examination of writing would be complete without the mention of the Warriner’s series of grammar and composition books. While for many years it was considered to be the traditionalist’s bible of writing and grammar, it has
also, through the years, transformed to keep pace with the changing face of writing. One of the more recent offerings is the 1992 Warriner’s High School Handbook. In chapter twenty-three, Writing and Thinking, the Warriner’s version of the writing process is defined in the following manner:

PREWRITING - Identifying your purpose and audience; choosing and limiting a subject; considering attitude and tone; gathering information; classifying and ordering information

WRITING A FIRST DRAFT - Expressing your ideas in sentences and paragraphs

EVALUATING - Judging the content, organization, and style of a draft

REVISING - Improving the content, organization, and style

PROOFREADING - Checking the revised version to correct errors in grammar, usage, and mechanics

WRITING THE FINAL VERSION - Preparing a final version and proofreading it (p. 349)

While the aforementioned references to the writing process focus on the general process of writing, the importance of literature in this process was also made especially clear in 1985 in the California State Department of Education’s Model Curriculum Standards: Grades Nine Through Twelve with its Standard Number Twelve. It states, “All students will learn to write cogent, clear, and concise prose connected to the literary works they are studying” (p. E-21). When Standard Number Eleven (p. E-17), the five stage
writing process, is added to this notion one of the major
directions and purposes of the writing process becomes even
more apparent. While other forms of writing will be explored,
literature is intended to be the major focus for much of the
writing process.

An examination of these sources should make it clear
that the writing process has become a well-established
principle for which there is wide agreement. With only a few,
minor refinements and alterations, instruction in the writing
process is the same. There is virtually no disagreement about
the major stages of the process, and the steps that make up
the stages, while varying slightly, are very similar for all
the sources cited. This means that well designed CAI writing
programs should mimic that same process as much as possible.
There will be some restrictions to any CAI writing program
which tries to meet this demand because there are some things
that only the instructor can do in the writing process.
Indeed, programs such as Writer's Helper, HBJ Writer, and
Writer's Workbench attempt to some degree to follow the
writing process but these programs were developed in the mid-
eighties and for the most part are rarely found in extensive
use today. In fact, Saettler (1990) pointed out in The
Evolution of American Educational Technology that "research
on writing has been relatively neglected in the past" (p.
482), and he further notes that even the resurgence of
research in the cognitive area is dampened by the knowledge
that "to date, there is no immediate prospect of a cognitive
synthesis of this research even though some cognitive
research is being done (p. 482) in the many areas. On the other hand, finding a recently developed CAI writing program that comes close to following the writing process for higher level users such as college-bound high school students is nearly impossible. Moreover, to find a currently and frequently used CAI writing program that attempts to use the writing process to develop an essay specifically about literature would lead even the most erudite researcher on a fruitless, merry chase through volumes of eclectic journals hidden in the most obscure corners. Yet, as proven with the adoption by California State Department of Education of Standard Number Twelve of the Model Curriculum Standards: Grades Nine Through Twelve, writing about literature is one of the most common forms of required writing in virtually every high school junior and senior English class in the state. It is also the central form of all high school Advanced Placement English courses across the country and is the particular focus of this project. Thus, regardless of the paucity of development of and research on CAI writing programs about literature that were designed for the college-bound student, the subject was worthy of another attempt. If a CAI writing program that focused on writing about literature could be developed the time and effort saving benefits for the student and teacher could be substantial.
CHAPTER THREE

Goals and Objectives

Interest in this project was fostered by a need to (a) discover a way, through the aid of technology, to alleviate some of the inherent problems of teaching writing about literature more effectively to large class sizes, and (b) increase the effectiveness of teaching writing about literature to college-bound high school juniors and seniors. If these two major goals could be met, teachers would find the difficult task of teaching writing about literature less burdensome and more productive, students would interact more with teachers, and thus, would write a better essay. In order to accomplish this, it was decided that the most suitable medium to achieve the maximum benefits was a computer-based instructional program.

After the medium of instructional delivery was chosen, the goals and objectives were determined based on the following factors: (a) the writing process as it relates to literature, (b) the benefits and limitations that instructors bring, (c) the benefits and limitations of a software program, (d) the benefits and limitations that a combination of teacher instruction and a CAI writing program offer, and (e) the relationship of all these factors to the target audience, college-bound high school juniors and seniors.

The goals and objectives of this project were then divided into the general major goals of the entire software program, and the more specific goals of the separate sections into which the program was organized.
Major Goals

1. This CAI writing program on essays about literature will supplement not supplant the instructor. The program will improve the teaching environment and will ease the burden of the instructor and the student and increase the frequency and time of contact between the instructor and the student.

2. Within the inherent restrictions of CAI software, the program will duplicate, as much as possible, the writing process that the student experiences in the classroom and with which teachers are most familiar. Because they will easily be able to recognize the steps of the writing process, teachers will feel more comfortable with the software design and, thereby, feel more encouraged to use the software. Feedback will be provided by the teacher as the students progress through the writing process.

3. Because instructors will be relieved of the burden of the tedious, time consuming portion of teaching the writing process stage by stage to the entire class, they will be able to redirect their time and effort to working with students individually and in small groups. The expertise of the writing instructor will be used more directly to effect the students writing. This is where teachers can truly benefit students the most.

4. More personalized instruction will be accompanied by a more personal association among teachers and students.

5. Students will be better prepared to write essays that are required in college English courses, especially courses in literature, which virtually all colleges and universities
require for graduation.

6. Students will be more cognizant of and able to use the higher thought processes of the cognitive domain - analysis, synthesis, and evaluation (Taken from Benjamin Bloom's condensed overview entitled, "The Classification of Educational Goals").

7. Many of the students for whom the program is designed will be able to complete an essay about literature just using the program without the instructor present. While this will be a more difficult task without an instructor, it will still be possible for the college-bound high school juniors and seniors who, by virtue of their desire for higher education, are more highly motivated than the average high school student.

8. The program will serve beginning, intermediate and advanced college-bound writers and will also be usable as a resource tool for reviewing writing processes and techniques that have been forgotten.

**Objectives of the Software Sections**

Since, for teachers of writing, the writing process plays such a dominant role in conceptualizing the objectives of their writing programs in the classroom, Write It Right attempted to follow the steps of that process as closely as possible. By using Write It Right, they will have used the traditional writing process to complete the first, second, and final draft of an essay about a literary work (See Figure 1). Each of the objectives of the writing process on which the software program focused are amplified below.
Figure 1. Writing process for Write It Right program.
Beginning User’s Section

The focus of the “Beginning User” section of the software program is acquisition of the writing process. The students will be able to accomplish general tasks associated with the overall completion of the “Beginning User” section and will also be able to accomplish more specific tasks associated with the segments into which the “Beginning User” section is divided.

When students have completed the “Beginning User” section of the program they will:
1. Be able to produce a cogent, well-organized essay on a piece of literature which they have read.
2. Understand and be able to duplicate the stages of the writing process.

Getting Ready to Write. Getting Ready to Write is the first segment in the “Beginning User” section of the writing program. As the title indicates, this section is intended to prepare students for writing an essay on literature. Its objective is to help students through the initial problems that most people encounter when they first realize that they have to write a paper about a piece of literature.

When students have completed this section they will be able to do the following:
1. Find a topic for their paper.
2. Understand the teacher’s essay assignment.
3. Know how students can use their imagination to get a clearer picture of the writing task
4. Use Bloom’s higher level thinking skills (i.e., analysis,
synthesis, and evaluation) that students will need to employ to write their essays.

Having a clear idea of what the task is for the assignment, and students will have a definite focus for their paper and will be able to discern which information is most appropriate for their topic.

Finding Ideas. The second segment of the "Beginning User" is to find the ideas around which they will develop their paper.

After working with this section, students will be able, in the piece of literature, to do the following:
1. Understand the ideas and concepts they should be looking for,
2. Know where they can find them,
3. Know when they have found them.

These skills will further enable students to do the following:
1. Identify elements of the character that point to important conflicts on which students should focus and find supporting quotes.
2. Identify some of the writing methods that authors use to point to important conflicts on which students should focus and find supporting quotes.

An important aspect of successfully writing about literature is understanding the crucial nature of conflict as a major force in literary works. Most authors will present to students the most revealing information about their writing through the use of conflict. Thus, when students can locate
those points or issues of conflict, they can find the most
telling and important information about the theme or topic.

These points will become more apparent to students
because they will be able to do the following:
1. Define conflict in terms of literature,
2. Recognize that there is both internal and external
   conflict,
3. Know that there are several areas or types of conflict.

Students will know where they can find these ideas
because when they are finished they will be able to do the
following:
1. Look at specific aspects of the characters to find the
   areas of conflict and find supporting quotes.
2. Look at specific aspects about the incidents (events) to
   find the areas of conflict and find supporting quotes.

After students have found the ideas, they will be able
to analyze those ideas. Because students have gone through a
three question process that is intended to help students find
ideas that students can use in their essay, they will be able
to locate the kind of ideas and information in the literature
that will allow students to prove, support, defend, explore,
examine, discuss, etc. the theme that students have chosen or
topic which students were assigned. They will be in a much
better position to analyze the information so that they can
understand more clearly the author’s purpose in writing the
literature.

Making a Plan. After the students have examined a piece
of literature, found the important quotes and incidents,
analyzed them and compiled a list of them, it will be time to begin to make some sense of this list.

At the conclusion of this segment of the program, students will be able to do the following:
1. Organize that list of ideas, quotes and incidents into a general plan.
2. Design that plan so that they can begin to see how they are related to each other and to the theme or topic.

When students have completed this section they will have produced a general plan for approaching the organization of their paper.

**Arranging Details.** After the students have completed the section on "Making a Plan," their general plan for their paper will have been determined, and they will be ready to take all the details that students discovered, gathered, and analyzed when they completed the section on "Finding Ideas" and arrange them in a logical order in preparation for writing their first draft.

When students are finished with the section on "Arranging Details" students will be able to do the following:
1. Organize the information that students gathered in a logical fashion.
2. Use the structure of the traditional outline to help organize their ideas.
3. Recognize the elements that make up a unified idea.
4. Take various types of literary information and analysis, see the relationships among the different types and then
combine that information and analysis into a unified idea and approach.

In the previous sections of "Getting Ready To Write," "Finding Ideas," and "Making a Plan," students analyzed the information and made a general plan. That is, students took the literature apart, examined it, discussed it, and figured out, in general, what it meant. Now, after looking at the literature thoroughly, they put the pieces back together and arrived at some decisions about the meaning of the piece, the purpose the author had in writing it and the methods that the author used to get the meaning across to the reader. This is the process of synthesis which is also the process of arranging the details into the form of an outline.

Developing Paragraphs. There is intent this software program to teach paragraph development. For the student who uses this program, that should be prior knowledge. This section is merely intended as a review of paragraph structure.

After students are finished with this section students will be able to do the following:
1. Recall that each paragraph should have a focus or topic sentence around which the paragraph is developed.
2. Recall that all the sentences should be logically linked to the topic of the paragraph, be about the topic, offer support and fit into the discussion.
3. Remember that each paragraph needs to be cohesive and unified around a topic.
4. Realize that proof, in the form of quotes, is essential.
5. Remember that paragraphs need to have a culminating thought, idea or end so that the paragraph can be seen as a unit.

Writing the Essay. After students have finished the outline, or have at least organized their ideas and information in a logical and systematic fashion, they will be ready to begin turning the outline into an organized system of paragraphs.

When students are finished with this section on "Writing The Essay" students will be able to do the following:
1. Write the first draft of an essay about a piece of literature that has an introduction, a supporting body of proof, and a conclusion.
2. Develop an effective introductory paragraph with a clear thesis statement.
3. Develop several well unified paragraphs that support the thesis statement.
4. Develop a concluding paragraph that arrives at a decision about the thesis statement and then states it persuasively and clearly.

At the completion of this segment of the program, the student will have completed the first draft of their essay. They will also have a schematic outline and a traditional detailed outline to accompany the essay.

Intermediate User’s Section

Students will choose the “Intermediate User” section of the program either because they consider themselves to be a more experienced writer and capable of skipping the
"Beginning User" section or because they will have finished the "Beginning User" section and will be ready to take their first draft and begin improving it. In either case this section will help students understand what elements good writers use to make their papers more effective.

When students are finished with this section, they will improve their essay by being able to do the following:
1. Make their introductory paragraphs catch their reader's attention.
2. Discuss the literary methods the author uses to show a knowledge of literary critique.
3. Use precise, descriptive vocabulary to add clarity and emphasis to students' explanations and descriptions of their concepts.
4. Use sentence variety to improve the structure, readability, flow, and effectiveness of their writing.
5. Make their concluding paragraph have more impact and, thereby, help convince their reader that their concepts are well founded.
6. Understand the difference between a plot summary and an essay about literature or literary critique and then to know that when they are assigned to write an essay about literature or a literary critique, they do not write a plot summary.

The "Intermediate User" segment of the program will work as a revision tool in the writing process. It will help students alter their essays by showing them how to add effective writing elements and how to improve their writing
style.

Advanced User’s Section

Students will choose the "Advanced User" section of the program because they have finished the "Beginning User" section, the "Intermediate User" section or both sections of the program and are trying to improve their paper, or because the students consider themselves to be experienced writers who have written many essays on literature but still want to explore some techniques that they can use to improve their essays.

When students are finished with this section of the program their writing will be more interesting and effective because students will be able to do the following:

1. Show some style in their writing through the use of outside literary references and by structuring groups of sentences in a more effective and creative manner.
2. Use more creative approaches by developing similes and metaphors, a running analogy, and a more powerful vocabulary that will support and enhance them.
3. Use sentence variety to improve the structure, readability, flow, and effectiveness of their writing.
4. Integrate the above elements into their essay on literature.
5. Understand the difference between a plot summary and an essay about literature or literary critique and then to know that when they are assigned to write an essay about literature or a literary critique, they do not write a plot summary.
Like the "Intermediate User" segment of the program, the "Advanced User" segment will work as an advanced revision tool in the writing process. Students will be able to alter their essays by adding effective writing elements that are modeled for the student. They will also be able to improve their writing style by observing and comparing other effective writing styles.

These goals and objectives are an attempt to combine the best of both worlds without losing the distinct advantages that each has over the other. The computer should be used for the less personal functions that fit its inherent nature. The teachers should be utilized for the personalization of the instruction which they are far more suited than the computer. The rote, tedious, repetitive information distribution should be left to the computer so that the teacher can affect change on a personalized level.
CHAPTER FOUR

Design and Development

Several factors need to be considered when designing and developing a program that will meet the above objectives. Of concern were learning theories and processes, navigational design, and graphical interface design. While the major substance of the program, the content, would determine whether or not the user would be able to learn to write an essay about literature or be able to improve on an essay that had been previously written, the way these three were treated while creating the software would determine to a great degree the comfort level of the user and, therefore, the acceptance of the content contained in the program.

Foundational Learning Theories and Processes

Chief among these factors are the learning theories and processes that will be employed in the instructional design of the program. One of the stated goals is to have the student’s writing reflect a focus on the three higher levels (analysis, synthesis and evaluation) of Bloom’s taxonomy because they are crucial in the any writing of a substantial nature. They are also equally important in writing about literature. It is getting the student to those levels that is the real challenge. In designing a program that will do that, an examination of Gagne’s five categories of learning outcomes -- intellectual skills, cognitive strategies, verbal information, motor skills, and attitudes (Gagne, Briggs, & Wager, 1992, p. 43) -- can be of considerable aid. If the
design of the program suits the appropriate capabilities, it should successfully assist the student in writing an essay about literature.

The more difficult sections of the software program which deal with the actual composing and revising of the essay are based on intellectual skills and cognitive strategies. The most prevalent intellectual skill is induction or inferencing. It was chosen because both teachers and students rely on this skill more than any other intellectual skill. Teachers exemplification of model works is a common and very practical method. It is also, as Gagne says, a capability that "develops over fairly long periods of time" (Gagne, 1992, p. 45). More importantly, it is a skill that students have been developing since infancy in the form of imitation, and is the basic learning method of every child. Thus, the basic learning nature of students is well-suited for induction because that has been the skill with which they have been acquainted and one which college-bound students have learned to employ quite successfully. As a cognitive strategy this skill is transformed into a combination of elaboration technique (Gagne, 1992, p. 66) and comprehensive monitoring strategies (i.e., metacognitive strategies) (Gagne, 1992, p. 67). From the induction skill the student learns to "deliberately" associate "the item to be learned with other readily accessible material" (Gagne, 1992, p. 66), and then through the metacognitive strategy the student monitors and controls (Gagne, 1992, p. 71) the elaboration strategy and inductive skill which they have
developed. Through the constant internal metacognitive strategy problems are confronted and "learners are able to select and regulate the employment of relevant intellectual skills and bring to bear task-oriented cognitive strategies" (Gagne, 1992, p. 71). This template for learning becomes the major strategy which the student uses to understand the examples of the outline and all the parts of the essay and the revision examples. This is an extremely powerful learning strategy and was used as the major strategy in designing virtually all segments of the software program for this project. It became especially crucial for the most difficult elements of the writing process – the actual writing and revising of the essays.

To accomplish this, students are led through the development of an actual essay from the very earliest stages of preparation called "Getting Ready to Write" through five more stages until the first draft of the essay was completed. At each of these stages the student would be presented with an example of that stage using William Faulkner's short story "A Rose for Emily" as an example of that stage. At each stage of the writing process, the student could see a real essay being developed, and they would also be provided with detailed explanations of how each stage was accomplished. Once the first draft was finished, the opportunity was presented to reenter the program at the intermediate level and revise their first essay. Another opportunity was then presented to reenter once more at the advanced level and to revise their previously revised essay. Each level was more
demanding and complex and required students to add additional elements to improve the content and style of their writing. Again, an example of an essay on Faulkner’s short story was used.

To make the acquisition of this huge volume of information possible, another supportive cognitive strategy called chunking (Gagne, 1992, p. 68) was designed into the program. Since the writing process is an extremely complex issue, it had to be broken down into digestible chunks. First, the overall program was divided into a beginner level, an intermediate level, and an advanced level. They were explained in the program as follows:

1. A "Beginning User" is a person who has either never written a serious, legitimate essay or critique on literature or has written so few or has written them so long ago that a step by step detailed explanation of how to write one would be immensely helpful.

2. An "Intermediate User" is a person who has written several serious essays on literature; thus, if you are an "Intermediate User" you know how to gather proof from the literature, develop a thesis statement or main idea, organize that proof in a logical manner, write with clarity and unity, and develop a consistent argument throughout the entire essay.

3. An "Advanced User" is a person who has written many serious, thorough and interesting essays on literature; thus, if you are an "Advanced User," you know all the things that the beginning and intermediate user knows;
plus, you know how to use some forms of sentence variety, and appropriate, evocative vocabulary that moves your reader emotionally. As an "Advanced User," you also feel comfortable discussing how the author uses literary devices as a way of supporting the theme.

The beginning level was then further broken into six segments: getting ready to write, finding ideas, making a plan, arranging details, developing paragraphs, and writing the essay (See Figure 2). Then within each of these areas the information was further chunked into bite-sized portions which were presented in either a linear fashion like a slide show or in an interactive fashion where the students could choose whether or not they wanted certain information and could choose the order in which the information was accessed. In the first two stages, "getting ready to write" and "finding ideas," the information was presented in a linear fashion. In the "making a plan," "arranging details," "developing paragraphs," and "writing the essay" stages, the information was presented hierarchically (interactive branching) which allowed the student to control the order and the type of information that was accessed. That same interactive, hierarchical approach was also used with the intermediate level and the advanced level.

One of the major necessities in learning is feedback, and as a stand-alone product, that is of the software's major weakness. However, within the structure of the class there is a built-in mechanism which possesses unparalleled feedback capabilities - the teacher. Thus, for maximum efficiency it
Figure 2. Main navigational flow chart for Write It Right.
is essential that the instructor become an integral part of the use of this program. Teachers should be doing one or more of the following:

1. They should monitor the progress and help students with their writing problems on an individual basis.
2. They should form small groups of students with whom to work as the remainder of the class works through the computer program.
3. They should form cooperative groups that team on a computer to help each other while the teacher helps the groups as their needs arise.
4. They should closely observe and help those students who tend to need more help.
5. They should assign students who move more rapidly through the program to students who need more help, thus, leaving more time for the teacher to help those students who have the most pressing needs.
6. If the computers are set up on a network that permits computer monitoring and feedback, the teacher should respond through the student’s computer with suggestions, comments and compliments on their work. This could be accomplished as the students worked or between the students’ sessions working on the essay.

Navigational System

In order to access the information in a manner which would be most appropriate for the user, the navigational system that was used needed, at particular times, to be
linear and at other times to be controlled by the students. Students needed to be able to skip areas with which they were already familiar and to be able to move to the area of interest quickly when they reentered the program. Students also needed to be able to use the program as a reference tool; thus, they needed to be able to "jump" from one section to another without having to work back to the main menu or to section menus. To accomplish this a "Jump Menu" was designed. It allows the student to access almost any major section of the program from almost any other screen. This allows the students to build their own writing process sequence. In the program it is explained as follows:

The "JUMP MENU" is a unique feature which permits you to progress through the writing process more quickly by allowing you to "jump" ahead in the writing process or to "jump" around through the different parts of the writing process in a manner that suits your needs. If you are already knowledgeable of or accomplished at writing essays, OR you know exactly in what area of writing you need help, OR you feel that you don't need as much detailed guided help, OR you have been working on the program and now feel comfortable with moving at a faster pace with less guidance OR, (as is the case for you procrastinators) you are in a hurry because you have put off your writing assignment to the last minute and have resigned yourselves to "just getting it done," then the Jump Menu is probably the direction that you want to take.
It works like this. If you are at the Main Menu, simply click on the Jump Menu button which represents the area about which you are interested. They are easily found on the menu at the top of the screen. They have small pictures that represent the part of the process they deal with.

In addition, the "Jump Menu" can be accessed from many of the screens so that when you feel you are ready to jump ahead, you can do so. Just look for the "Jump Menu" button and click the mouse pointer on it. When the "Jump Menu" button is accessed, the JUMP MENU will appear. You can then "jump" ahead or back for explanations of that portion of the writing process, and for generalized examples and specific examples of actual work for that stage of the writing process.

Interface Design

...the Human-Computer Interface (HCI) is an important design aspect that should be the primary focus in the design of any instructional multimedia software.

(McFarland, 1995, p. 69)

The final element in developing an effective piece of software was the graphical design of the interface screens. To make sure that the screens were easy to use, it was determined that there would be no hidden menus, except for the "Jump Menu." All of the buttons would be be visible on the screen so that the user would not have to search through layers of menus for the right information. That meant that
the screen design became even more crucial. Chunking the information served to facilitate this demand extremely well. The tendency to read left to right and from top to bottom was also of important consideration in the design. Finally, the screens needed to be designed so that they were very similar to each other and familiar to the user's educational experience.

In determining how to approach the design problems, recommendations and insights from the few sources available on screen design were very valuable.

In "Making Multimedia Usable: User Interface Design" Marcus (1995) notes that the design should be "appealing and familiar" (p. 98) to the user. Thus, the graphics were designed to show depth and shadowing and the button text was, in many cases but not all, embossed. One very helpful suggestion in the article is the use of metaphors in designing the interface. They feel that "you can transfer the user's real-world knowledge and experience to the tasks, procedures and interactions of your application" (p.99). They also emphasize this by pointing out that the "best are well-defined, consistent metaphors that refer to people's knowledge of the world - especially their work environment - to convey concepts and features of your product" (p. 99). Thus, the screen should contain elements or objects that would normally be found in the classroom setting since these areas are most familiar to students and teachers. In this program a chalkboard and a pull down screen, two elements commonly found in all schools, were used.
Another area of focus in the article is the "Mental Model." "A mental (cognitive) model represents the way the user will encounter your multimedia product’s functions and data. It determines how the user cooperates with the computer, engages in effective work flow, and increases productivity or enjoyment" (p. 99). This is easily the most difficult area of designing the interface because the program has many layers and attempts to consider the fairly wide range of prior experience of the students who will use the program. For the beginning user little variance should be allowed; however, for the advanced user or for the user who is using the program merely to refresh or augment skills that are fairly well refined, there must be a great deal more control given to the user. The user must be able to get to that part of the program in which they are interested and not be burdened with scampering through endless menus. Through the use of the Jump Menu that was explained above, a method is provided.

Another article which was equally helpful was McFarland’s (1995) "Ten Design Points for Human Interface to Instructional Multimedia." His contribution was a valuable critique of some of the problems encountered in other professionally written commercial programs and then a list of ten commandments for interface design. Because of the cluster of text frames, "brightly colored images; noises that blasted, popped and whirred; plus the myriad icons and buttons" (p. 67) McFarland relates that "Initially I was impressed" (p. 67) when he encountered his first multimedia
package However, it was not long until he realized that these initially entertaining ingredients became annoying.

What may initially catch the users' attention and entertain them later, unless the program is to be used only a very few times, turns into a hindrance. A program that will have regular use over a longer period of time can not be hampered with superfluous elements that slow down the use of the program or annoy the user. If it does, the user will soon abandon the program or at the very least pay less attention to it. A good example of this annoyance is America Online. The first and second time that you have to wait for the artwork to load it is rather entertaining because the artwork is attractive; however, for the frequent user it is merely a time consumer which bogs down the gathering of information and increases the online costs. Real users need to get where they want to go as quickly as they can. Bells and whistles may seem to be entertaining at first; however, their cuteness wears off quickly.

In order to prevent some of the above problems, Ronald McFarland has come up with "Ten Ways to Build a Better Interface." They are the following:

1. "Test that delivery of material relates to the knowledge of the user" (McFarland, 1995, p.67). By focusing on the theory of "information mapping" the designer can use prior experiences and link them to current material. This means that the graphics and text must be such that the student can relate to them relatively easily.

2. "For each screen presentation, determine if words,
illustrations or icons are most appropriate" (McFarland, 1995, p.67). While the design icons can be visually pleasing, it is more important to assure that the icon is easily recognizable. While an object may look very familiar to the programmer, it may not be something that users are familiar enough with to allow them to know what to do with the icon. Text, when used should also reflect the users' knowledge of the arena of the program. More common language is preferable for the average user, while for a highly knowledgeable user, technical terms that they are very familiar with is more effective.

3. “Determine the attention value vs. learning and recall for each screen presentation” (McFarland, 1995, p.67). Too much interaction with the program can be as debilitating as too little. If the user is forced to continually respond by moving from one screen to another by making rapid choices, there may not be enough time for absorption of the material. There should be a mix of time when users are in a passive role and when users are actively engaged and these times should mimic as much as possible the way the subject normally learns. Visuals must conform to content and context to be effective.

4. “Verify that the packaging of information does not overpower the intended message” (McFarland, 1995, p.68). Barraging the learner with more information than can be learned at one time is non-productive. The information should be limited to a few items per screen. Fewer steps on more screens are preferable to many steps on a single screen.
5. "Check that the inclusion of visuals and text truly augments the learning process" (McFarland, 1995, p.68). The illustrations should match the text. Needless graphics used to spice up the screen only detract from the screen's purpose.


7. "Test the effect of how people process certain illustrations" (McFarland, 1995, p.68). Select the illustrations with the audience in mind. Pick things with which they are familiar.


9. "When text and visuals are used, insure that the messages are not redundant" (McFarland, 1995, p.68). Words and graphics must support each other. If the words and the visuals present the same message in a redundant fashion, it may confuse or bore the users.

10. "Verify that the visuals and icons are culturally sensitive" (McFarland, 1995, p.69). Stay away from icons that would be offensive to a diverse audience.

The design of the Write It Right took these elements into consideration in the design concept of the interface. It was decided early in the design phase to use a the standard sixteen color system palette because the memory requirements for the 256 color palette would be restrictive. It was also decided to make the light blue the background color for all
screens and the light gray for the base color of the menus. Both of these colors are unobtrusive; thus, they would not distract the user. To make the buttons easily recognizable and visually pleasing they were designed using shadows and lines giving a raised appearance. In addition, to enhance the appearance, much of the text for the buttons and the menus was embossed.

The menus are arranged in various patterns depending on the use of the menu, but the basic scheme of left to right and top to bottom was used because that is the pattern of reading. In other words, the top of the screen, the left side of the screen and the bottom of the screen became the dominant positions for the button menus. Of those three positions the left side of the screen was used most often for major navigation buttons. The center of the screen was, thus, reserved for gathering information and in the sections where writing was necessary, for the user to enter the text of the essay. This "C" shape, across the top, down the left side, and across the bottom, was the major menu design. Other screens became variations of that design theme.

Teacher and Student Trial

In evaluating the effectiveness of the software, a set of identifiable, appropriate considerations which were expounded by Begona Gros and J. Michael Spector in their 1994 article "Evaluating Automated Instructional Design Systems: A Complex Problem" was used. Their considerations were the following:
1. Final use: formal/non-formal education.

An AID (Automated Instruction Design) tool for the primary and secondary schools will be quite different from industry or military training due to differences in users, developers, and subject matter. Therefore, the context in which the tool will be used is an important criterion for a product-oriented evaluation which might be used to guide selection or purchase of an AID system.

2. Learner control: directed/open.

Another element to consider is the way knowledge is organized and how the user will access that knowledge. The freedom of the user to move through the system introduces important differences in the design, production, and implementation of courseware. It is arguably appropriate in some training and educational situations to use a directed approach, and, as a consequence, tools and systems which support the creation of directed learning environments would be appropriate to that context. A likely product consideration is selecting tools appropriate for the purpose at hand.


Different ability levels among users are a function of previous experience, cognitive development, prerequisite knowledge, and so on. These are all relevant to evaluation of an AID product, again because they directly relate to the product's purpose and, thus, its expected capability to fulfill that purpose.
4. Typical students: adolescent/adult/literate/etc.

The process of automating instructional design will also depend a great deal on the type of students being supported by an AID system. For example, if learners are children, and designers are not expected to be educational psychologists, then a highly relevant consideration is whether (and how effectively) a particular product provides online pedagogical guidance appropriate for developers of courseware for early learners.

5. Strategies and media supported.

Instructional strategies and media supported vary from system to system. While there is some disagreement about the relative effectiveness of various strategy and media combinations, strategies and media remain a relevant consideration for evaluation ... whether and how well a system provides support for the creation of interactive simulations becomes a relevant consideration.

6. User interface.

We think that the user interface is very important for two very different kinds of reasons. First, it is likely that an interface can enhance or interfere with the productivity associated with a particular tool. Second, an excellent AID tool (one with very sophisticated and reliable strategies) might fail to achieve its goals if the interface is difficult or inappropriate. (p. 44)
The people reviewing the software were told to read the above criteria to determine whether or not the interface was designed correctly and to help them determine whether or not the program, in general, was designed and executed so that it would both benefit teachers in the manner described and then actually be used by teachers. They then responded to ten statements about the program (See APPENDIX) and gave a score from one, the lowest, to ten, the highest (See Figure 3).

Teacher’s Response

The reviewer, an excellent and very successful teacher with over twenty years of experience in teaching writing and with ten years of experience in preparing students for college writing and the English Advanced Placement Test, was chosen because she was very skeptical prior to reviewing the program. She had experience with previous writing programs and had found them to be sorely lacking in the areas with which the writing process and an advanced placement writing program must deal in order to be successful. At the beginning of the session when explaining the program and how it was to be used, she leaned back and sat quietly with her arms folded. Within the first ten minutes she was leaning forward, and asking questions about the program. Unsolicited, she began making comments about how she could use the program. She was very complimentary, which will be shown in the statements below. She is a very critical, insightful and intelligent individual which can be noted by her scoring. Her comments, which were made to each of the areas, were as follows:
<table>
<thead>
<tr>
<th>Evaluation Questions</th>
<th>Teacher's Score</th>
<th>Student 1 Score</th>
<th>Student 2 Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Supplemental tool for teaching the writing process with the teacher acting as a facilitator of the program in the early preparation stages and as writing conferee in the latter writing stages.</td>
<td>9</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>2. Supplemental tool for teaching the writing process with the teacher acting as a facilitator of the program through the entire writing process.</td>
<td>8</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>3. Supplemental tool for teaching the writing process with the teacher acting as writing conferee through the entire writing process.</td>
<td>9</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>4. Revision tool with the teacher acting as writing conferee through the entire writing process using the Intermediate User section after the first draft has been written.</td>
<td>8</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>5. Revision tool with the teacher acting as writing conferee through the entire writing process using the Advanced User section after the second draft has been written using the Intermediate User section.</td>
<td>8</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>6. Class reference tool on the writing of essays on literature for both teacher and the student.</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>7. Class reference tool for only the teacher on the writing of essays on literature.</td>
<td>8</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>8. Class reference tool for only the student on the writing of essays on literature.</td>
<td>8</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>9. Stand alone program for students to use at home to learn the entire writing process without aid from an instructor.</td>
<td>7</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>10. Stand alone program for experienced writers to use at home as a refresher tool or a reference tool or both.</td>
<td>9</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

**Figure 3.** Teacher and student evaluation responses.
1. Supplemental tool for teaching the writing process with the teacher acting as a facilitator of the program in the early writing stages. "The modeling of good examples makes this a powerful tool that should be enough for students to evaluate well."

2. Supplemental tool for teaching the writing process with the teacher acting as a facilitator of the program through the entire writing process. "The program is heavily laden with content - it teaches students to think and organize very well. Literary concepts are well presented. The editing stage is not covered in this and could be accomplished well in peer groups and teacher conferences. The 8 means that the program does not meet these editing needs."

3. Supplemental tool for teaching the writing process with the teacher acting as writing conferee through the entire writing process. "This is especially valuable in that all students have a project to work on while the teacher can interact on at a time. It really makes a lot of sense in operating an effective writing workshop."

4. Revision tool with the teacher acting as writing conferee through the entire writing process using the Intermediate User section after the first draft has been written. (Four and five were answered with a single statement. See number 5 below.)

5. Revision tool with the teacher acting as writing conferee through the entire writing process using the Advanced User section after the second draft has been written using the Intermediate User section. "In both these cases I see the
next higher level as being nearly a whole different paper, with more in depth thinking, application, and analysis as you move toward the advanced stage. I would use these levels as the semester progressed, writing a new paper each time rather than a revision."

6. Class reference tool on the writing of essays on literature for both teacher and the student. "It's more than that, however."

7. Class reference tool for only the teacher on the writing of essays on literature. "I thought the program taught 'style' 'tone' and diction more clearly than other materials I've seen. Again modeling was especially good."

8. Class reference tool for only the student on the writing of essays on literature. "I know of nothing as good as this is in print form, but I think the teacher / coach is crucial."

9. Stand alone program for students to use at home to learn the entire writing process without aid from an instructor. "Writing has too much 'Art' to be done in isolation. It's crucial that students interact with each other and are challenged by the teacher."

10. Stand alone program for experienced writers to use at home as a refresher tool or a reference tool or both. (No response.)

Her final comment was, "I am really impressed. This does coach students and teachers about good writing as in depth thinking."
Students’ Response

In addition, two students from the Advanced Placement 12 English class also were assigned to preview the program and provide feedback. The first student provided the following written response:

After working with this program for about one hour, my overall analysis is that it is a work of genius which could revolutionize high school essay writing. I toured through the "Beginning User" section. I found the ideas to be presented clearly and creatively, particularly the fantasy and play section. The ideas seemed fun yet extremely helpful and thought provoking.

I found the program to be easy to learn about. My computer knowledge is minimal, however I was able to maneuver into all the steps necessary. An important observation is that after working with the program briefly, I was able to transfer instructions to another student with ease. He immediately began using the program with no problems. This portrays that the program is on the student level, and that the students would be able to help one another.

The best aspect of this program is that the screen, buttons, and directions are clear and self-explanatory. I feel that the program really has the potential to help. After pressing hard to find an area of improvement, my only suggestion would be to explain the significance of the raised and depressed arrows, and the red and green arrows in the program.
The other respondent, a male high school senior, provided an oral response. He said that he especially thought that breaking down the example essay into paragraphs made it easier to understand how to write about literature. He also said that it was extremely easy to use the program and that it was very clear. He also said that the teacher would be needed for the program to be effective, and he expressed some concerns that the average student would not be able to use the program alone unless the teacher was present to help. When he was told that the program was not intended for the average student, but rather, for college-bound students and advanced placement students, he felt that most of them would be able to use the program without teacher aid; however, he also felt that the teacher was still a very crucial element if the program was to be really successful.

The results of the review are very gratifying. The program appears to do what it was designed to do. Although only a few people participated in the informative evaluation, it is noteworthy that they were all very skeptical at the beginning; therefore, the program had the added burden of changing their minds before they could be convinced that the program was a valuable tool for the teacher. It is also important to note that everyone agreed that the teacher needed to be an integral part of the process. Thus, the success of the program will be heavily dependent on the teacher's ability to construct activities and to arrange the writing sessions so that the contact with the students becomes the major purpose of using the program. Setting up
and organizing the class in the context of a writing lab would appear to be the most successful approach when using the program.

Conclusion

The use of the computer as a glorified typewriter, or glitzy document producer or even as an editing or revising machine is using only an infinitesimal portion of its real capabilities. If CAI writing programs do not make the instructor's task much easier, increase the amount of attention and instruction that teachers are able to give to students' writing, and ultimately, improve the students writing, then they are inappropriately designed or used, and teachers will not employ them. They must be able to incorporate systems that are familiar to the teacher while at the same time enable the teacher to see a different way and a better way to teach writing.

A CAI writing program needs to be designed to replace the tedious and repetitive portions of writing instruction which distances the teacher from the students. It should be able to dispense with the endless hours of droning lectures and mind numbing instruction, much of which goes unheeded, unheard and often misunderstood. It should replace much of what the teacher traditionally does in a whole class oriented instruction and lecture format with an interactive format which commands the students' attention and involvement. It should be able to mimic the writing process as much as possible. It should allow the students to move at a pace
which is more conducive to their particular learning. It should be designed so that the student can navigate through the program easily. It should allow the teacher the opportunity to work one on one with students or small groups of students. It should be student-centered. However, it should not be technology for technology’s sake. This program, Write it Right, shows some promise of being able to go beyond technology for technology’s sake and to satisfy the needs mentioned above.

However, to verify this early, preliminary, and very small response, a larger group needs to be studied for a prolonged period of time. Nevertheless, even though the study has not been extensive enough, the initial response to the program has exceeded the author’s expectations. The early indications are that it may be possible that this CAI program on writing, Write It Right could be used to decrease the stress on both teachers and students and to increase the frequency and length of contact between the teacher and the student. However, further intensive studies with a larger, more diverse group of students and with more teachers needs to be accomplished. The true test of its effectiveness will be to use the program with an entire class of advanced placement English students for an entire year. That, however, was beyond the scope of this project, but will be accomplished next year.
APPENDIX

Write It Right program evaluation form.

From a scale of 1 to 10 evaluate the program as a:

1. Supplemental tool for teaching the writing process with the teacher acting as a facilitator of the program in the early preparation stages and as writing conferee in the latter writing stages.

   Score ________

2. Supplemental tool for teaching the writing process with the teacher acting as a facilitator of the program through the entire writing process.

   Score ________

3. Supplemental tool for teaching the writing process with the teacher acting as writing conferee through the entire writing process.

   Score ________

4. Revision tool with the teacher acting as writing conferee through the entire writing process using the Intermediate User section after the first draft has been written.

   Score ________

5. Revision tool with the teacher acting as writing conferee through the entire writing process using the Advanced User section after the second draft has been written using the Intermediate User section.

   Score ________

6. Class reference tool on the writing of essays on literature for both teacher and the student.

   Score ________

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7. Class reference tool for only the teacher on the writing of essays on literature.

   **Score [_____]**

8. Class reference tool for only the student on the writing of essays on literature.

   **Score [_____]**

9. Stand alone program for students to use at home to learn the entire writing process without aid from an instructor.

   **Score [_____]**

10. Stand alone program for experienced writers to use at home as a refresher tool or a reference tool or both.

    **Score [_____]**
REFERENCES


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