

DOCUMENT RESUME

ED 295 180

CS 211 274

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TITLE What Are They Really Doing? Observations of Basic and Professional Writers Using Word Processors.
PUB DATE Mar 88
NOTE 19p.; Paper presented at the Annual Meeting of the Conference on College Composition and Communication (39th, St. Louis, MO, March 17-19, 1988).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Business Skills; *Computer Assisted Instruction; English (Second Language); Higher Education; Insurance Companies; Teacher Role; Technical Writing; *Word Processing; *Writing Instruction; Writing Research
IDENTIFIERS Basic Writers; *Basic Writing; Computer Users; Software Development; User Characteristics; Writing Attitudes; Writing Habits

ABSTRACT

To test the argument that writing instructors should not teach word processing skills in computer-assisted composition classes, two qualitative studies were conducted. In the first study, three basic writers, two native speakers and one non-native speaker in a word processing/composition class at The Ohio State University were each extensively observed completing an assigned essay. Data included all drafts of each assigned essay; as well as observations of students writing in their classroom, dormitories, and computer lab, and taped and written interviews with the subjects and their instructors. Results showed that the students, who were given little guidance in integrating the computer into their composing processes, overlooked almost half of the important word processing options available. The fact that basic writers do little prewriting or rewriting and may have limited short term memories probably interfered with their fuller use of the word processor. Yet, results of a five-month participant-observation in industry also show a counterproductive ignorance of word processing options. In order to instill and evaluate the important benefits of computer-assisted composition classes, teachers may need to give "hands-on" instruction throughout the term. In industry, user groups may greatly improve writing efficiency. (One table is included and 10 references are attached.) (ARH)

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What Are They Really Doing?

Observations of Basic and Professional Writers

Using Word Processors

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Abstract

Several critics have argued that writing instructors should not teach word processing skills in the computer-assisted composition class. I test this thesis against the findings of two qualitative studies I have conducted. In the first study, three basic writers in a word processing/composition class were each extensively observed completing an assigned essay. Students were given little guidance in integrating the computer into their composing processes, and they overlooked almost half of the important word processing options available. Results of my five-month participant-observation in industry also show a counterproductive ignorance of options. In order to instill and evaluate the important benefits of computer-assisted composition classes, teachers may need to give "hands-on" instruction throughout the term. In industry, user groups may greatly improve writing efficiency.

What Are They Really Doing?

Observations of Basic and Professional Writers

Using Word Processors

Computer literacy has come under substantial attack over the last few years in articles and presentations by researchers including Charlie Euchner, John Hollifield, and Aeleen Frisch. This instruction is seen as counterproductive because, as Hank Levin and Russell Rumberger argue, "When automation is first initiated, higher job skills are needed. But as the degree of mechanization increases, the skill requirements of jobs decrease sharply" (Hollifield, p. 203).

The implications for the use of the computer in the composition class would seem clear: "The heart of the matter," Elizabeth Sommers and Jim Collins argued in 1985, "is to teach writing, not word processing.... Not a single bit of research tells us yet that writing quality improves when word processing is used for instruction purposes" (pp. 27, 34).

The word "yet," nevertheless, is all-important, I believe, for no study has yet conclusively tested the results of a process-intervention curriculum in which both word processing skills as well as composing skills are taught separately throughout the term. The results of Dawn Rodriguez' (1985)

experiment with simultaneously teaching basic writers word processing and writing support Sommers and Collins' statement: Students' writing quality was not significantly higher than that of previous years' students (339). But Rodriguez argues that word processing still needs to be taught because it is inseparable from writing in a computer-assisted composition classroom. Moreover, Rodriguez taught word processing concepts and writing concepts together. But it is not surprising that any student would have difficulty assimilating simultaneously a mixture of writing strategies and computer commands, given the limitations of what many call short-term memory. At Ohio State, all instructors teaching the eight sections of our new computer-assisted freshman composition course during its first two quarters reported that teaching word processing and writing concepts together (e.g. entering text combined with freewriting) had been unsuccessful. Word processing skills are now taught separately, although still in the same class.

Gail Hawisher's important study, "The Effects of Word Processing on the Revision Strategies of College Freshmen," found that students who were presented both word processing and

revising techniques throughout a term revised no better with the word processor than with pen and typewriter. The study took into account the relationship of computer literacy to computer-assisted writing improvement, heeding John Pufahl's criticism of an early study which did not provide specific suggestions for students to revise with the computer. Hawisher's study focused, however, on the students' completed written drafts and not on the processes of their revising sessions. No observations of in-session revisions were presented in her study. Thus it was not determined whether students had adopted the instruction adequately and used the word processing functions that they had been taught.

In a 1986 study that also considered the relationship between computer literacy and computer-assisted writing improvement, Collette Daiute found that junior high school students who had received both typing and word processing instruction performed better on essays than students who did not work with computers. One reason Daiute's study is very important is that its subjects, unlike the subjects of many word processing studies, worked on typing tutorials, at least during the early part of the study. My observations of the use of the computer in

both a basic writing classroom in 1984 and in a department of corporate communications in 1987 have led me to question whether we can indeed justly avoid emphasizing typing and word processing in computer-assisted composition classes.

Basic Writers Using Word Processors

To gather data for my M.A. thesis, during the winter quarter of 1984, I observed three students using word processors in a basic writing class at The Ohio State University. Two of the informants, Ann and Fred, were native speakers. The third informant, Karnak, was a male non-native speaker. My research role was what Lee Odell and Stephen Doheny-Farina identify as a "participant-as-observer," a researcher who interacts with subjects only enough to establish himself or herself as an acceptable presence and to be able to clarify any information received. During the quarter, I observed each student complete an essay. During the word processing sessions I attended, I handcopied all that was written on the computer screen so that I would have a record of in-session revisions. I attended eight of the students' ten word processing sessions and many other composing sessions, along with 29 of 31 class sessions. Data included all drafts of each assigned essay; my observations of students writing in their classroom, dormitories, and computer

lab, and taped and written interviews of the subjects and their instructors.

The class met three times a week; the instructor gave essay assignments requiring several drafts. Class sessions were often workshops featuring both instructor-student and peer editing. After two word processing concept sessions, one in the classroom and one in the computer lab, students were given no formal guidance and little informal guidance in integrating the computer into their composing processes. Thus their largely "natural" approaches to the machine were recorded.

I found that the subjects did not integrate word processing concepts into their writing processes with great success. My table shows the participants' use of the computer in different phases of their writing procedures. A plus sign(+) means either "yes" or that the writer made significant use of the machine. A blank means either "no" or that the writer did not make such use of the machine. "N.A.," not applicable, indicates that the writer did not have the opportunity to use the computer for that function.

Table 1

Word Processing Performance of Basic Writers

	Fred	Karnak	Ann
Used w.p. in prewriting	n.a.		
Used w.p. in writing	n.a.		
Used w.p. in revising			somewhat
Revised on printouts	+	+	+
Used UNERASE to consider change			
Used MOVE to move word strings			
Used MOVEBACK to consider change			
Stored text instead of retyping			
Used w.p. in proofreading	+	+	+
Used FIND spelling function		+	
Used REPLACE spelling function		+	
Used DRAFT print mode	+		+
Used FINAL print mode	+	+	+
Formatted to erase disc		+	
Familiar with Apple 2e before course		+	
Typed text easily	fair		+
Adjusted quickly to word wrap		+	

While all of the basic writers might have improved their writing processes by using more word processing options, in fact, barely half of the options provided by the 1982 Bankstreet Writer word processing software were used. For the most part, the computer was used for proofreading (correcting surface errors), rather than for invention, drafting, or content revision. Even when the machines were used for proofreading, only two thirds of the available proofreading options were used. This result leads me to wonder if our intermittently monitoring students' word processing and writing processes could enhance both skills significantly.

Of the three subjects, Ann was convinced that she benefited greatly from revising on the screen. She had had two years' typing instruction in high school and said that her typing skills allowed her record of thoughts to keep up with her thinking. In fact, she believed that the rhythmic typing encouraged her "idea flow." If Ann's convictions about the generative superiority of typing are true for her, then she would have greatly benefited from using the word processor for prewriting, when thoughts, even ones generated in the process of writing, can often evade our slow recording.

Fred, who had the most difficulty learning computer functions, did not rework his extant draft on the disc but rather

erased the old draft and recopied a handwritten revision on the screen. Fred's penchant for recopying was not limited to the computer, however. In one instance he recopied a draft twice, once in handwriting, once in computer script. By using a triple-space option to make his short text look longer and by recopying instead of revising, Fred chiefly used the computer to avoid writing. Someone monitoring Fred's writing process might have shown him that he did not need to recopy.

Unlike Ann, Karnak was a "hunt-and-peck" typist, avoiding writing at the computer because typing slowed the recording of his thoughts. Karnak also wasted much time revising because he never looked at a previous draft when writing another draft. "Once he writes something, it's like it's carved in stone," his instructor complained. Probably because he did not look at previous drafts, he often repeated the same mistakes. By revising on the screen (after improving his typing) or by revising on printout and then carefully entering those adjustments on the disc, Karnak could have done more actual revision. Like a handwritten draft, the computer text would have provided a point of reference. But the graphic presentability and plasticity of the printout and diskette texts respectively could have encouraged much more revision.

Two traits of basic writers probably interfered with their fuller use of the word processor. Sondra Perl states that basic writers normally do little formal prewriting or rewriting (p. 22). While the participants made global revisions in response to the instructor's guidance, it is not a surprise that they did little independent revision on the screen. In addition, Mina Shaughnessy asserts in Errors and Expectations that basic writers have trouble remembering what they have written (p. 173). Revision on the computer consequently becomes more difficult because writers cannot see as much text as is on a written page. Thus, unless they interrupt their concentration by continually scrolling, they have to hold more text in their short-term memories than they would otherwise. Several studies have suggested that on-screen revision creates significant problems for any writer (Haas and Hayes, 1986, Harris, 1985; Holdstein and Redman, 1987; Marling, 1984). This research suggests that due to the limitations of short-term memory, revising clean printouts is superior to revising on the computer screen. Be that as it may, all the basic writers might have benefitted from using the word processor for prewriting and drafting. And a monitoring instructor could have suggested printout and on-screen revising strategies.

One may be tempted to think that ignorance of word processing options may be limited to basic writers with memory problems. My five-month participant-observation in a corporate communication division of an insurance company suggested quite the opposite.

"Real-World" Writing

My first assigned task as a writing intern at the corporate headquarters of Auldouest Insurance (pseudonym) was to learn to use the tool with which I was to do all of my writing: the IBM Distributed Office Support Facility (DOSF) word processing software for the IBM 8100 minicomputer with IBM 8775 terminals. I was given a twenty-lesson instruction manual that had come with the hardware and software when they had been purchased in 1981. But because the software had been updated, the manual was rather frequently misleading. Its supplementary exercise book had disappeared long ago. The secretaries did the best they could to answer my questions, but I finally learned that neither had used either my manual or an updated instruction manual to any great extent.

"I try to avoid working on these," grimaced an employee from Auldouest's Information Center, who had been asked by the secretary to help. The head secretary finally relocated me right

next to the updated manual and another computer specialist's office at a free terminal in the Information Center.

Spoiled as I was by my IBM PC Portable and menu-driven WordPerfect 4.1 software, I was ill-prepared for the mnemonic feats necessary for such a seemingly simple task as pagination, for which DSOF required five cryptic commands--Tf(return, return, Tc(return, Tpn return, Tc)return, Tf)return. After several days of harassment, the second consultant showed me a command (Immediate Command: TC) that produced a menu from which I could choose limited options without having to remember a cryptic combination.

I finished the twenty lessons after three weeks' slogging, two hours a day. Returning to the division of corporate communications, I was chagrined to learn that I had quickly forgotten most of the commands, including the precious "TC," which brought up the menu. When I asked the second consultant again for the menu-producing command, she replied that she had forgotten it herself. Returning to corporate communications, I asked an editor how to paginate. She didn't know how, she replied. She'd never had time to look at the instruction manual. When I told the division supervisor that I'd finished the twenty lessons, she smiled and replied, "That's terrific. I don't think anybody in this division got past lesson four."

Later, upon learning that Auldouest was getting new word processing software, I exclaimed to an editor, "Won't that be great?"

"If we ever learn how to use it," she replied.

Auldouest's Vice President of Information Systems identified the employees' underuse of computers as a problem, but he was unaware of its extent. He felt that those who occasionally used the computers often forgot what they had learned, but he mistakenly believed that "heads-down" typists or other professionals who routinely used computers did not have problems. While the secretaries and writers who routinely used computers in the communications division were able to function knowing less than half of the word processing options available to them, their efficiency probably would have increased if they had not had to waste time on manual pagination or similar tasks.

One may say that the versions of the word processing programs I have mentioned are digital dinosaurs and that today's word processing programs are user friendly. But that is not what several authorities on ergonomics say, including Linda H. Fleit, president of EDUTECH International, a higher-education computer consulting company. In a recent article in the Chronicle of Higher Educatio Fleit said

My idea of a user-friendly system is one that requires a manual of fewer than five pages written in English with a list of at least 25 things to try before you call for service. In fact, user-friendly computing does not exist, not by a longshot. (p. 9b)

Indeed, one of the more useful word processing programs, WordPerfect 4.1, has a 450-page manual.

To meet the immediate needs of computing students, a growing shift in focus from programming to applications is occurring in computer literacy classes on campus, as a 1987 article in The Chronicle of Higher Education documents (Turner, 1987). The meaning of "computer literacy" has changed, asserts Daniel R. Denicola, vice-president for academic affairs at Rollins College, who was quoted in this article:

We've gone from the idea that every student should be able to program in BASIC to a more complex notion that every student should be familiar with the technology and be able to use the standard software to assist them in their college work. (p. 9)

Marvin Marcus, associate vice-chancellor for academic development and research at the University of California at Santa Barbara, states that the sophistication of today's software should not be underestimated:

The new generation of software packages are really like higher-order programming languages. It is necessary to understand what the software can do, how it is organized to do its job, and how to get it to do what you want. (p. 12)

While more and more colleges oppose Marcus' contention that an understanding of programming is necessary to be able to use these application packages well, as my observations suggest, it is a mistake to underestimate the importance of word processing and typing skills.

"When all else fails, follow directions." As researchers, we need to continue to consider and test this adage in our studies. It may be that students using word processors in our studies and classes have produced mixed results not because of too much direction, but rather not enough.

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