

COMPUTER-ASSISTED GRADING: THE ELECTRONIC HANDBOOK

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The most time-consuming and mentally exhausting activity for any instructor of writing is paper-grading. While the profession of composition teaching has many attractive features, few would say that grading papers is even remotely near the top of the list. Indeed, paper grading may be considered the *bête noir* of writing instruction and if somehow eliminated would greatly change the teaching activities in colleges and secondary schools. More professors might teach composition, and fewer teaching assistants would be needed for such work. More writing assignments would appear in syllabi from non-English departments as other teachers, no longer concerned with stacks of essays and research reports, would willingly make more writing assignments. The Writing Across the Curriculum movement would surge forward as students began writing in all their classes. Alas, such a scenario is yet before us, but we can continue striving towards methods of reducing this onerous activity.

Teachers have long searched for a method which would help them grade papers with less effort, yet still be effective in helping students learn how to write. One of the major functions of technology is to diminish tedious work by increasing our efficiency, and composition teachers have often used machines, from typewriters to cassette recorders, for such assistance. With the increasing availability of microcomputers in the classroom and the increasing numbers of teachers who own or have access to them, we should be considering ways computers can help us in the paper grading process. This essay describes how microcomputers can assist in grading the work of beginning writers, especially repetitive errors, and how students respond to this practice.

The grading process is principally composed of three time-absorbing tasks: (1) reading the student-generated material, (2) making judgments, and (3) writing comments. Speedreading might save a few minutes on each paper, but making judgments will always take a certain length of time. Traditionally, time saving methods have focused primarily on element #3, writing the comments, and to accomplish this, teachers and publishers have developed numerous systems of abbreviations and symbols which take less time to write in a paper's margins than the lengthier explanations they replace. Unfortunately, any system that is comprehensive is also complex.

The use of handbooks has become a standard practice in nearly all freshman composition classes, and this translates into major profits for publishers and authors of successful editions. Because the competition is high, book companies invest in developing elaborate apparatus for making their books easier to use. Last spring I received an advertisement from one of the major publishers of grammar handbooks; it listed numerous abbreviations and symbols corresponding to particular student writing errors. Many of these will be familiar, such as "Sp" for spelling, and "cs" for comma splice. Other abbreviations are less clear, such as "X" (obvious error), and "Log" (faculty logic). The grader jots these shorthand elements in the margins of papers, students match them with lists in a handbook's endpages or table of contents, then flip to the page of explanation by referring to page numbers, color coding, or matching the symbols, which also appear at the top of the handbook's pages. Publishers must be spending great amounts of time and money searching for new, improved methods of helping students locate descriptions of the errors they have made. Nevertheless, this is a time-consuming process that all students, even the most dedicated, must contemplate with disquietude. Most students are anxious to improve their writing, but like all humans they will search for the quickest method, and the abbreviation/handbook technique is not designed to streamline their participation in the learning process.

Instructors, of course, cannot write detailed explanations and examples on every essay, and thus they hope that the students will use the handbooks. But do they? I was unable to locate any survey that discussed how often such books were used by students in correcting essays outside of class. Many teachers require essays to be corrected or, if error-filled,

rewritten, but I doubt if many students rely heavily on these handbooks. Instead, they will probably ask a friend for an explanation, request that the teacher explain the error after class, or, if revision is not mandatory, disregard the symbols entirely, hoping that luck will prevent the error from appearing on their next completed assignment. Regardless of the publisher's multi-colored pages, index markers and other ingenious apparatus, the use of symbols is suspect.

Composition teachers who use handbook symbols generally hand-write their comments, and many students also have trouble with this technique. Some students prefer hand-written comments, but most find them difficult to decipher and insufficiently detailed. During the spring of 1983, I distributed an attitude survey to 96 college writing students, asking them to compare the traditional hand-written grading method to one using a typed sheet attached to their paper. Most students felt hand-written comments on papers were useful in helping them learn how to write, but they also found them difficult to use. Those who preferred this method usually mentioned the personal element, such as this student: "Hand-written comments look like the instructor put more personal effort into it. This gives the student the feeling that the teacher is really interested in what was written." The major complaint about traditional comments was about hand-writing: "For some reason, a great majority of the English teachers that I have had write like doctors — impossible to translate." Another complaint, which may be related, referred to the space available for comments: "I have noticed in the past with the hand-written method that teachers sometimes restrict the amount of comments made because they use . . . only that space left over on, say, the last page of an essay." The legibility of handwriting on a student paper often suffers because the teacher is under a time constraint, and as the teacher moves through the stack of papers, becoming more fatigued (writing by hand is a physically demanding activity), the clarity decreases even more.

A major function of technology is to diminish physical exertion and the time required to perform repetitious tasks. Certainly repetition occurs in grading essays, especially those produced in introductory classes and writing labs in which the errors are primarily mechanical. Repetitive acts include reminding the student of mnemonic spelling devices, explaining what is meant by paragraph development, and describing the proper use of punctuation. Specific assign-

ments sometimes generate particular student errors, and even when teachers spend class time to explain a particular point, students don't always understand until they have made the error in their written assignments and had it pointed out to them.

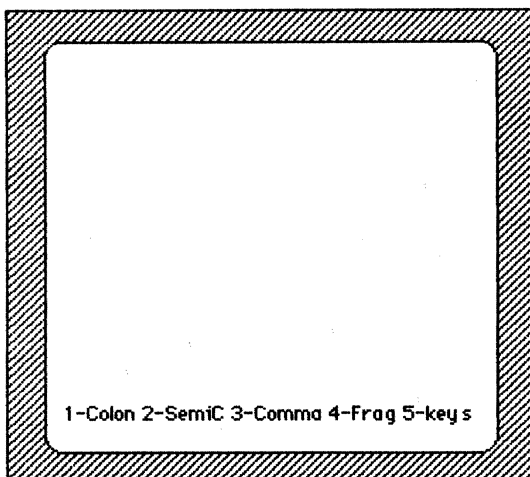
COMPUTER-ASSISTED GRADING

The effort expended on such repetitive acts can be diminished by using a computer, and I have written a computer program designed with this in mind. It consists of two major sections. The first is a simple word processor, which allows the grader to type individual grading comments. So that the student knows which comments go with which line in the essay, the grader precedes each comment with a line number that matches the numbers printed by the students in the margins of their essays. The second section of the program consists of several computer-stored commentaries on common problems of beginning writers, such as on different punctuation errors, unnecessary repetition, spelling and use of footnotes, among others. These commentaries are from a few sentences to several paragraphs long; they commonly contain examples and tips and, if the teacher wishes, short quizzes for the students to return and thus demonstrate that they now understand the particular point being made.

HOW THE PROGRAM WORKS

The program was written for an IBM Personal Computer, although most microcomputers with printers could run such a program. The IBM and certain other machines offer "special function keys," each of which, when pressed, displays a selected key word or phrase on the screen. A prompt line at the bottom of the screen identifies the keywords or phrases available from each special function key. Thus pressing key # 1 produces the phrase "Footnote Error," while another key offers "Semicolon Error" or "Choppy Sentences." The program uses no abbreviations, nor does it require the student to use a handbook; instead, explanations for each error are pre-written into the program's memory and can be brought forth with the touch of one or two keys. A computer program could print out the error explanation at the touch of only the special function key, but not all errors require explanations. Some mistakes, such as "Spelling," require nothing more than the single word or phrase identifying the error. Similarly, after an error has been explained once, there should be no need of repeating merely because the student has made the mistake again. Thus the program offers the grader a choice of whether

to print a detailed discussion or leave only a message identifying the error's occurrence.



Visual #1: The prompts appear at the bottom of the screen and tell the instructor which error messages or program functions are available.

To avoid the sense of comments generated by an impersonal machine, the longer commentaries contain the student's first name, and, occasionally, a specific reference to the incorrect word or phrase in the student's essay. For example, in the discussion of "Repetition" errors, the program asks the grader to supply the repeated word or phrase, which is then incorporated into the program's commentary. The discussion of possessives contains a table showing proper use of the apostrophe and letter s, along with examples. One of the examples for singular possessives is the student's name. That is, if a student named Joan makes a possessive error, and the grader decides to print an explanation of possessives for her, one of the program's examples for writing singular possessives will be "Joan's."

Certain special grading problems can be diminished by using a computer. Occasionally a teacher may begin grading an essay or report and discover so many errors that it must be returned to the student and rewritten. The teacher must write an explanatory paragraph detailing why the paper is being returned without a grade and what must be done to complete the assignment. Such explanations are nearly always the same, and thus only one needs to be written into the program's memory and recalled after pressing the special function key called "Stop."

The program also offers some simple bookkeeping features. Once the instructor has completed the commentary and pushes the function key marked "Summary," the program totals the errors and prints the appropriate page numbers from the class handbook for those students who wish further examples (and who use the handbook). The program then waits for the instructor to type in an original final comment for the student before the grade is assigned, and before the entire commentary is printed. The summary and grade are saved on a computer diskette for future reference,¹ and the teacher staples the printed sheet of commentary to the student's essay for return at the next class meeting. See the sample printout for an example of what the student receives. (Original comments for this hypothetical student occur on lines numbered 1, 34, and 95. The final paragraph [summary remarks] is also original. All other commentaries came from the program's memory at the touch of two or three keys.)

1 Good title, Joan. This is a clever play on words.

4 Spelling error

(Remember the mnemonic device for RECEIVE: 'i before e except after c.')

8 Spelling error

POSSESSIVES: This refers to ownership, Joan. When someone or something owns something else, an apostrophe usually indicates this (the exceptions are possessive pronouns: his, hers, mine, ours, its, etc.) Here is an easy chart that should help you remember where to place the apostrophe.

-----Guidelines for Possessive-----

o SINGULAR WORDS: add an apostrophe and S

o PLURAL WORDS: (1) Make sure the word is correctly spelled as a plural.

(2) Does it end in S?

'YES'--> add an apostrophe

'NO'----> add an apostrophe AND an S

EXAMPLES of Singular Possessive--a DOG'S bone/a MAN'S wife/Joan's essay

EXAMPLES of Plural Possessive--several DOGS' bones...two WOMEN'S husbands...

[Note: look at this last example. The word 'WOMAN' is first made plural, and we have 'WOMEN.' This word does not end in S, so we follow rule 2 and end up with WOMEN'S].

34 Good transition between paragraphs here. Another technique is to repeat a key word used in the last sentence of the previous paragraph.

42 Spelling error

IT'S=the contraction of 'it is,' while ITS=the possessive pronoun. Your mistake is one of the most common in our language because people identify an apostrophe with possessives, as in 'the dog's collar.' However, possessive pronouns (HIS, HERS, MINE, OURS, YOURS, and ITS) do not require apostrophes; they are already possessive.

Whenever you write IT'S, Joan, replace the word with IT IS and note if the line makes any sense. For example, we know that this sentence is spelled correctly: 'The dog chewed on ITS collar' because with the apostrophe it would become 'The dog chewed on IT IS collar.'

58 Repetition

This paragraph, Joan, contains excessive repetition of 'summer trip', Here are two suggestions for diminishing this repetition.

- > Replace the repeated element with a pronoun or similar phrase (for example, if the repeated word was 'dog' you could use 'animal' or 'pet')
- > Rearrange your sentence so the repeated word or phrase occurs at a different part of each sentence.

95 Good conclusion and summary of the main points in your essay.

-----//////// SUMMARY ////////-----

ERRORS MADE	*AVAILABLE HANDBOOK EXPLANATIONS*	
	(Handbook of TW)	(Corder, 6th ed.)
3 Spelling	p. 571	p. 196
Excessive Repetition	p. 513	p. 337

NOTE: Correct the mistakes mentioned in this commentary.
Then return the corrected paper to me.
(Unless stated otherwise above, do NOT retype.
Correct errors on your originals or photocopies.)

Overall, Joan, this essay demonstrates your ability to take a tired subject like summer vacations and make it interesting to read. Pay a little closer attention to your proofreading next time so we can justify a higher grade.

Grade: C+

End

Instructor: Jobst

01-24-1984

While the program serves a purpose in totaling the number of particular errors and supplying handbook pages, its major strength is the flexibility with which a teacher may write original comments or print pre-written commentary. A grader could use the program and type only original comments for the entire class, but a typewriter performs nearly as well and is considerably cheaper. The pre-written commentaries, however, offer detailed explanations of common errors, and few teachers would be willing or have the time to write them many times per grading period.

Yet computer-assisted grading should be more than an electronic handbook. In his article "Training New Teachers of Composition in the Writing of Comments on Themes,"

Richard Larson reminds us that some errors, such as problems in logic or ambiguity, cannot be understood with abbreviations, even if a handbook is readily available. "Instead assume that the student would not have made the error in logic or permitted the lack of clarity or tolerated the ambiguity if he had known it was present. Explain, in a phrase or two, precisely where the difficulty lies and why the passage is open to criticism."² With computer-assisted grading the teacher can use the word processor to identify exactly where the error occurs in the paragraph, then allow the program to supply a more extensive, general explanation.

STUDENT ATTITUDES TOWARDS COMPUTER-ASSISTED GRADING

The purpose of any grading method is not merely to assign a value to an essay or report but to motivate the writers and assist them in improving their skills. Most Americans are familiar with computer-printed junk mail that contains their names in the middle of paragraphs touting nation-wide raffles. Such ploys are normally greeted with disdain, and if students respond to computer-written comments on essays in a similar fashion, then this method has no place in the classroom. The majority of students whose papers have received computer-assisted grading, however, prefer it over the traditional method.

The same questionnaire mentioned earlier in my discussion of hand-written comments also asked opinions on computer-assisted grading. The questionnaire consisted of a sample student paper with a stapled computer printout of the errors and teacher's commentary, plus the same student paper marked identically by the traditional hand-written method. I distributed these questionnaires to five college level writing classes: two in freshman composition, one in journalism, one folklore class in which writing had a major role, and one senior level technical writing class. Two of these classes (one of the freshman classes, and the senior-level course) had been receiving computer-assisted comments on their papers throughout the semester.

Students accepted both the traditional and computer methods as helpful, but they felt that computer-assisted grading was more helpful. Of the 96 responses, seventy-one percent preferred the computer-assisted method, noting two features: the ease of reading a printed commentary and the helpfulness of detailed explanations. Twelve people preferred the computer printout because it left their original paper

undefiled, and rewriting, if necessary, was much easier since the commentary explicitly stated which line of their paper contained which error. Nearly everyone thought both methods were effective in helping students learn how to write, but only 12% "strongly agreed" that the traditional method would help them learn how to write, while 33% strongly agreed that the computer printout would help them. Over 35% strongly agreed that the computer printout would help them in revising, but only 8% strongly agreed that hand-written comments would perform the same function.

A surprising number of students (10) revealed their irritation when graders wrote on their papers. Teachers often forget that students spend several hours producing pages of neatly hand-written or typed prose in specifically prescribed formats, and the disappointment of a low grade is intensified when the papers are returned in a form so different from how they appeared when submitted. One student offered this comment: "I like the fact that this [computer] method implies a little respect for the students since it does not deface the actual report."

Finally, one student preferred this new method because "My father is a computer salesman."

LIMITATIONS

While a computer-assisted grading program allows users to write original comments, in its present form it cannot compete in ease of use and flexibility with a commercial word processing program.³ Thus it is less useful for upper level courses or other classes enrolling more advanced writers who generally make fewer mechanical errors. While the program's low level commentaries could be replaced with high level suggestions, the errors made by more advanced writers fit less easily into specific patterns. Such students usually require original comments that specifically identify problems in their writing. Only occasionally will these commentaries be useful for more than one or two students, and thus time is not saved by composing and inserting the material into the program. One student identified this limitation in his critique: "Computer-assisted is good for mechanical problems, but sometimes it does not do an adequate job in explaining poor structure. If a person has a problem with writing style and clarity the computer aided method is not as useful as hand-written comments or individual consultations." Nevertheless, both of my classes who directly experienced computer-assisted grading throughout the semester overwhelmingly

preferred it over the traditional method. In the freshman level class, only three students disliked the method. The upper level course totally supported its use, perhaps partially because their printouts consisted almost entirely of original, detailed comments.⁴

Of those who disliked this use of computers, most expressed disdain for technology intruding into the grading process, and their arguments focused on the diminishment of human interaction. One student wrote that "Seeing computer-printed comments seems to go along with the idea we're all just numbers. In a class as small as [this one] it would have been nicer to see hand-written comments. I felt like some mechanical beast was grading my papers." After a discussion of the computer program, one young man was saddened to learn of yet another computer file with information on him. Another student, confused about whether the machine or the teacher actually decides on the grades, regretted that this method would not take into account such variables as whether the writer was having personal difficulties when completing an assignment. I assured him that his instructor, not the machine, decided the final grade. Possibly some teachers would avoid computer-assisted grading because it may signify an abrogation of their responsibility. The questionnaire results do not indicate that students share this attitude. Their concern focused more on whether they found it helpful rather than if teachers would be doing less work.

CONCLUSION

Finally, does computer-assisted grading save time? Not in the short run. The average time required for the computer-assisted grading of a freshman level, five-page student paper is about 20 minutes. The difference, of course, is in the product. In a set amount of time the non-assisted teacher may circle ten errors, write fifteen abbreviations in the margin, and a paragraph at the end. The computer leaves the student's paper unmarked and provides a neatly typed, full page of line-numbered errors and summary. Best of all, students respond more favorably to this type of commentary, and thus their attitude towards writing instruction may well improve.

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NOTES

¹Mark D. Hawthorne of James Madison University has written a similar computer-assisted grading program that offers a summary of mechanical errors made by the entire class. Thus, he is able to tell if he should spend class time explaining errors many students are making.

²See Larson (152-155). This article describes an excellent, humanistic philosophy of grading, but it is somewhat idealistic in that few fulltime teachers have the time to strictly follow its guidelines. Nevertheless, Larson offers a method to strive for.

³William Marling of Case Western Reserve teaches "paperless" composition courses in which students write with word processors that employ split screen techniques. Essays are filed in the computers, and the instructor writes original comments adjacent to the students' writing.

⁴These students are enrolled at a technological university and thus may be more accepting of technology; however, since computers have taken a major role in all areas of our lives and costs of some models have decreased to less than \$500 and since ownership of a personal computer is close to becoming an accepted college expense, I don't think these students are reacting much differently towards this technology than students in liberal arts institutions.

WORKS CITED

- Larson, Richard. "Training New Teachers of Composition in the Writing of Comments on Themes." *College Composition and Communication* 17 (1966): 152-55.
- Marling, William. "A Grading Program for Microcomputers." Paper presented at College Conference for Composition and Communication. Detroit, 1983.

