

## THE USES OF COMPUTERS IN THE ANALYSIS AND ASSESSMENT OF WRITING

**Speakers:** *William Wresch*, University of Wisconsin-Stevens Point  
*Helen Schwartz*, Carnegie-Mellon University

**Introducer/**

**Reporter:** *Marie Jean Lederman*, NTNW and Baruch College, CUNY

William Wresch discussed the current state of the field of computer analysis of student writing, dividing the software programs into six different categories, each of which has a different pedagogical orientation. The first category is error checkers. These programs focus on homonym confusions, sexist language, usage errors, and infelicitous phrases. Some examples are Writer's Helper (Conduit), Sensible Grammar (Sensible Software), RightWriter (RightSoft), Ghost Writer (MECC), and Writer's Workbench (AT&T).

The second category is reformatters which, rather than find errors, make it easier for writers to find their own errors. One of the first programs was Quill (DC Heath) which included a combination of prewriting, writing, and revising activities. For example, to help students revise their work, it displayed each sentence of their paper alone on the screen. Rather than make statements about or changes in the sentence, the program allowed students to look at each sentence in a new way. Other newer reformatters include Ghost Writer (MECC) and Writer's Helper (Conduit). The third category of programs is audience awareness programs. These programs include readability formulas and they pinpoint

vague references and other problems.

The fourth category is student conference utilities. These computer programs try to help students develop editing skills as they read each other's papers and "send" comments to each other. Two examples are Quill and Alaska Writer (Yukon-Koyukuk School District). The fifth category is grading utilities, programs designed to help teachers in the clerical aspects of paper grading. Students turn in their work on disks, and the teacher uses the computer to help grade the work. By creating ten or twelve messages for major errors, teachers can respond with just a keystroke or two to most of the mistakes they are likely to see. Examples are the RSVP project (Miami-Dade Community College) and Writer's Network (Ideal Learning).

The last category is automatic graders. This is the logical "next step" after grading utilities. Ellis Page of the University of Wisconsin proved twenty years ago that a computer could grade papers quite well based on a formula of paper length, sentence length, level of subordination, and word length. However, merely assigning a grade isn't enough in a classroom situation in which students expect not only a grade but a range of responses from teachers. It might be possible, however, to use such computer graders in large-scale assessment programs. Wresch concluded that there are many decisions to be made about how computers will be used in writing analysis, but it is certain that there are already many opportunities and, surely, many more to come.

Helen Schwartz began by discussing several purposes of assessment: diagnosis and revision as well as improved self-evaluation. The range of writing behaviors which can be assessed are ideas, organization, rhetorical presentation (purpose and audience assessment) and grammatical correctness. In answer to the question, "How can computer programs assess these behaviors for these purposes?" she first gave a short answer, "No computer program alone is now accurate or helpful enough" and most of the existing programs may overwhelm the student with too much information at once. Style checkers can draw attention to problems, but the student must make the decisions. And sometimes readability formulas can lead students to vary sentence length by creating run-on sentences and fragments. Schwartz pointed out that "Computer programs are useful as delivery systems for teacher, peer and self-assessment. They help students become aware of problems in their writing and help them to solve these problems." She gave four examples:

- 1) Prewriting programs such as "ORGANIZE" (Helen Schwartz, Wadsworth Publishing) can be used not only to help students see the shape of their papers but also to desensitize peer review.

- 2) Templates, such as the self-evaluation form given in "Interactive Writing," help students assess strengths and weaknesses.
- 3) "SEEN" (Schwartz, Conduit) includes a built-in bulletin board where peer review can take place.
- 4) Programs for teacher and peer response to paper drafts, including (a) "Chat and Comments," developed by Christine Neuwirth at Carnegie Mellon which facilitates discussion and peer review; (b) "PROSE" (Prompted Revision of Student Essays by Davis, Kaplan, Martin, McGraw Hill) which allows summary comments; comments embedded in the paper; revision notes; and handbook-like responses with an overview of the error, further explanation, and then interactive tutorials on each of 18 features; and (c) "Prentice Hall College Writer" which is a word processor that allows access to an on-line handbook and allows the insertion of comments that can include excerpts from the on-line handbook.

The discussion that followed centered on examples of software described and demonstrated by the speakers.