EM8807: University of Waterloo Gazette, October 11, 1988, page 3

English profs surprised by computer's verdict

Alexander Solzhenitsyn received a poor grade when his work was evaluated at UW by computer software designed to improve writing skills.

A translation of one of the renowned author's works was tested in a study conducted by Dr. John North, a professor of English. It scored lower than writing done by first-year students.

The software, called Writer's Workbench, is considered to be one the best available, but North has decided to come up with his own program as a result of the test.

"It was intended for people preparing documentation for equipment manuals for the U.S. Navy," North said. "What we found was that every measure of good writing which the Writer's Workbench software made was inverse to the actual value as evident in examples widely accepted by the experts as great writing."

In his test, it judged the work of some major writers – Graham Greene, Margaret Laurence, C.S. Lewis, Solzhenitsyn's Harvard address translated into English along with writing from people in the English department, including a professor, several graduate students and two first-year students.

"We submitted these to Workbench and it claimed that the best writing was done by first-year students and the worst was by C.S. Lewis and Solzhenitsyn," he said.

"When we looked for the reason we found, among other things, that the software gave 'to be' verbs low grades, whereas the best writers use a high percentage of these verbs; it gave higher grades where there is a variety in sentence length whereas almost invariably the best writers use mostly long sentences ..... perhaps because they are dealing with ideas and contexts, and not lists of facts."

North said that most experts rank Solzhenitsyn's works, even in translation, as among the world's great writings.

"Thus we had to face the fact that while we at Waterloo have an English lab filled with wonderful computer hardware and software in the hope that we can find better ways of using computers to teach people to write ..... that didn't, on the surface, seem to be the way to go."

UW's English computer lab features a MicroVax 2, donated by Digital Equipment of Canada Ltd., as well as 14 terminals and seven DEC Rainbows (powerful personal computers). Plus there are three printers.

North said the software test supported a bias he and others in the English department share about computers.

"Trying to teach students to write using existing computer software packages is much like trying to learn to play the piano by reading a book about it," he said. "One misses out on the feeling, the depth, the human expression that makes truly great writing worthwhile."

Good literature, he added, "appeals to the whole person. It is important for a writer to know basic grammar – to know what a gerund is, a participle, an infinitive, and so on – but that doesn't get at the core of good writing, which has to do with the heart and soul and spirit of both writer and reader.

"Good writing is also partly a matter of revealing something of oneself to the reader ..... one's politics or philosophy or religion."

Nevertheless, North said, he has found that students using computers for essays and other assignments sharpen their writing ability faster than those who don't.

"This surprised us at first," North said. "We worked with about 400 students in a first-year English course to try to find why."

Talking with them soon showed it's simply a mechanical matter, though there are also psychological and emotional implications. "What the students tell us is that when they use the computer as a word processor it becomes so easy to correct mistakes, move sentences and whole paragraphs around and so forth, writing becomes much more enjoyable, so they do more of it.

"Students don't have to retype whole pages of an essay; they edit, re-edit, and re-edit again on the computer screen. Because they do things so much more quickly than is possible with an ordinary typewriter or writing by hand, they find they enjoy it."

North said that another aspect of his study backs another long-held bias: Writing will improve more through reading the great writers than through memorizing the rules of grammar.

He gives his class examples of great writings that have come down over the generations – John Stuart Mill's essay on liberty, John Henry Newman's *Idea of a University*, Milton's essay on censorship, and Soltzhenitsyn's Harvard lecture.

"Initially the students are impatient, even angry," he said, "because these writings are difficult and deal with deeper issues and the students see no relationship between them and learning to write.

"But what we find is that as the course goes along the students start to ask for more and more of these, and less and less emphasis on rules of grammar and sentence analysis so, during the second half of the term I give them writings by Ibsen, Shakespeare, Molière and others, and when they come to write their own essays I find them choosing rather profound social and philosophical questions to deal with."

North said he now sees that giving students short, simple stories or essays to read is actually condescending and unproductive. They prefer lots of work on the most profound issues.

As for computers, they can be more effective in teaching writing skills if students can "interact" with them, he said, adding that he is trying to come up with such software.

For instance, the computer could be programmed to display a variety of paragraphs which the student could then be asked to assess. It would allow a student to identify good paragraphs and typical errors in composition, as well as how a thesis can be developed.

"Another advantage to the computer, in terms of teaching writing skills, is its anonymity," he said. "Students usually find it painful when a teacher discusses their errors with them. They find it much less so when errors merely show up on a computer screen."

The computer lab is located in Hagey Hall, and is open to any student in the arts faculty.

It is equipped not only with the computer hardware noted above, but also with word processing, writing skills software, software that corrects spelling errors and even software that provides typing instruction.

The article EM8807 reprinted above is used in Chapter 6 of the STAT 231 Course Materials.