THE COMPUTER LAB
A NEW HOME FOR COMPOSITION WRITING

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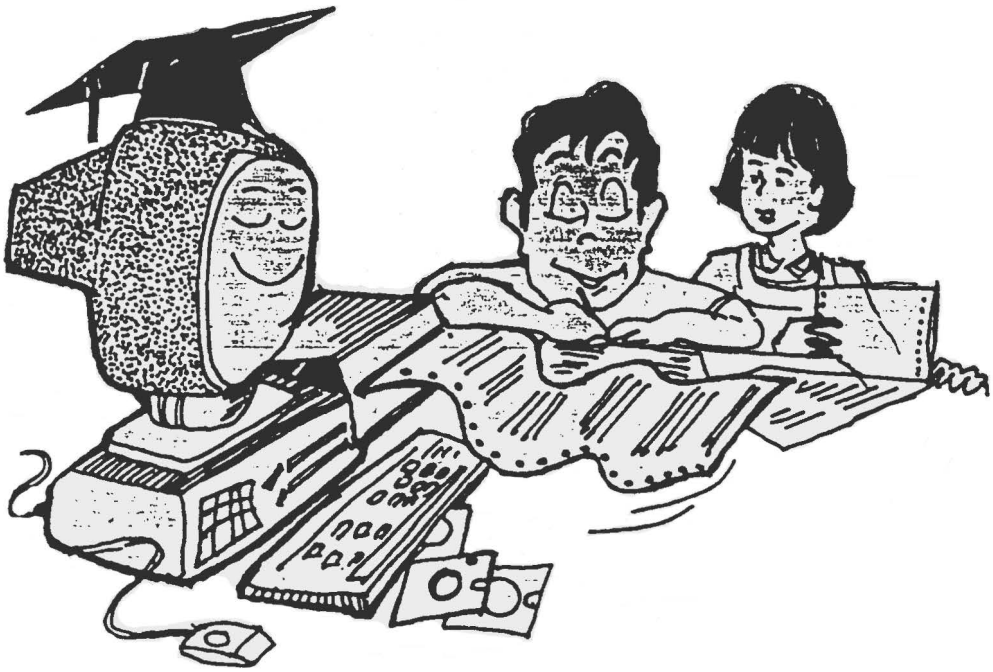

INTRODUCTION

Many language teachers report that students dislike writing compositions. In the hours devoted to compositions, students have to generate ideas and organise them, after which they have to plan each sentence and write it neatly. Teachers react to these products by saying that students have no ideas to begin with and that their command of the language (i.e., grammar, spelling and punctuation) is poor. Yet, many teachers also report that when students brainstorm in groups they come up with lots of ideas; on paper, however, few ideas appear and the essays are simple narrative text because the costs of revising are too high for them.

RESEARCH ON COMPUTERS & WRITING

Writing is not an easy skill to acquire; it places cognitive demands on the writer because attention has to be paid to both lower-level aspects, such as spelling and punctuation, and higher-level skills of planning and organisation (Flower and Hayes, 1981). Student writers are helped by any procedure that focuses on one set of skills at a time (Woodruff, Bereiter, and Scardamalia, 1981-82). When cognitive resources are freed from the mechanics of lower-level skills, students can attend to higher-level skills such as generating ideas and organising information (Cochran-Smith, Kahn, and Paris, 1990).

Current word-processing programmes have facilities, such as spell-checkers, that allow the subskills of writing to be isolated and worked on separately. In addition, computers in the classroom also seem to encourage group work and co-operative learning, which improve the quality of information and ideas (Bruce, Michaels, and Watson-Gegeo, 1985; Mehan, 1989). This research evidence shows that

when computers are used in conjunction with English classes, students develop more effective writing skills.

COMPUTERS & ENGLISH LESSONS: POTENTIAL PROBLEMS

However, English teachers are wary of using computers to teach writing.. Although many teachers use computers in their staff-rooms to prepare lessons and worksheets for the students, there is a perception that computers and English lessons exist in two different worlds. Teachers find it difficult to move their English classes into the computer labs because:

- *they are afraid they cannot handle the technology*
- *many teachers and parents believe that students are supposed to practice writing with pen and paper as it more closely resembles the actual examination situation*
- *there may be scheduling conflicts with time-table arrangements.*

The software is another major concern. English teachers feel that they have to use or buy special programmes and then learn how to use them. In fact, the vast majority of these programmes are produced in the United States and target monolingual English-speaking children. They may be unsuitable for Singaporean secondary schools because:

- *they are often intended to be used with lower primary pupils, and older students find them too childish*
- *they often assume cultural and educational backgrounds that our students do not share.*

There are ways around some of these problems. Those teachers, who themselves may be novice computer users, will find that many of their students, especially those involved in computer clubs, can work together with the teacher and help facilitate lessons in the computer lab.

The concern for finding appropriate software need not be major. If the computer is being used to teach composition skills such specific programmes may not really be necessary since standard word-processing and desktop publishing packages are relatively culture-free.

THE SINGAPORE CLASSROOM

Although such problems exist, they must be overcome because the technology is readily available in Singapore schools. Any school that has a Normal/ Technical Stream is already equipped with at least one computer laboratory that has 40 computers, 40 colour printers, a flatbed scanner, diskettes, and software. Other schools also have computers for use.

The software already loaded onto Singapore school computers includes the following:

- **Word Version 2.0** which allows basic word processing and comes with tools to check spelling and grammar.
- **Microsoft Publisher** which allows students a choice of layouts for their compositions (newsletters, brochures, banners, etc.), along with ready-to-paste coloured pictures.
- **Micrografx** which has a gallery of pictures under **ClipArt**. Students can access pictures of animals, people, etc., and incorporate them into a text they have already written.

With the rapid pace at which technology changes, this set-up is in a state of flux. **Novell** has just been loaded onto the computers in the school laboratories so that in any lab all the computers are linked to one another. Right now, it is not possible to control the students' screen but software programmes, such as **Timbuktu**[1], allow the teacher during class to:

- *watch a particular student working on his/her computer,*
- *control and even edit a particular student's work on the computer, and*
- *project a particular PC screen onto a classroom screen and edit the composition in front of the whole class.*

Until such networking software becomes available in schools, teachers can use the Desktop Projector that is connected to the teacher's computer to show students how to revise a composition. In terms of process skills this is particularly useful because students do not have to imagine what the revision process or the final version will look like – it is done in front of them.

USING COMPUTERS TO TEACH WRITING

The easiest way to plan a lesson in the computer laboratory is to think of it as a change of venue and tools. If the computer can be thought of as a substitute for pen-and-paper, then all that is necessary is to switch the venue of the English class to the computer lab and replace the worksheet with a diskette. Instead of the usual tedium of scribbling on several pieces of paper and using liquid paper, the students can type, edit, revise and format all their drafts, thereby focusing more on the process.

The technology thus allows the student to pay greater attention to the process of writing. As part of an on-going research project[2], our preliminary investigations in two schools indicate that the pay-off is in the product. Students soon recognise the capabilities of the technology, because they realise that:

- *the output is neater*
  the output is more authentic – the font, column, and picture-formatting capabilities allow the students to create better-looking and more interesting texts such as letters, brochures, news articles and newsletters
- *the revision is simpler and more interesting with the cut-and-paste, spell-check, and thesaurus functions.*

The effect this has on them is that:

- *they become more confident about their language abilities*
- *they become more independent of the teacher*
- *they are more likely to revise for style and organisation because of ease.*

This use of computers in process writing is particularly suitable for students in the Normal/ Technical stream, where discipline and motivation problems reportedly abound. The computer makes the writing task manageable and gives them a sense of confidence that the job can be done. It also allows them to be visually creative as well as fairly independent of the teacher.

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[1] A trial version of Timbuktu is available on the Internet at http://www.farallon.com

[2] We would like to thank Daniel Lee, Ms. Sally Sng and Dr. Anthony Loh of Buona Vista Secondary School and Ms. See and Ms. Bin of New Town Secondary School, all of whom were willing to share their perceptions and experiment with.

When this is coupled with group work, notions of process writing become more transparent. During groupwork, students can take turns doing the mechanical aspects such as typing and spelling; while the rest of the group focuses on generating ideas. Students can pool their resources and concentrate on specific items.

There are equal benefits for the teacher, who can now clearly see each student's screen from the back of the lab. She/he can advise students on organisation and style, encouraging students to use the computers' facilities for lower-level skills. Teacher feedback is simpler and can focus on specific skills. Our observations show that in hand-written compositions, teachers try to cope with virtually all areas of composition (such as penmanship, spelling and punctuation, vocabulary, idiom, grammar, word choice, style, cohesion, and organisation). In contrast, essay composition on the computer instantly eliminates several of these lower-order skills (e.g., spelling, punctuation and penmanship), leaving the teacher to concentrate on higher-level skills, such as organisation, content, and style. Although many teachers are concerned that the use of spelling checkers may limit a pupil's ability to spell correctly in the examination, the spelling facility can be used to generate a personalized list of spelling problems for each student to work on.

The technology also allows students to go beyond the limited world of the classroom. Students can add to and extend their texts to include ideas from other material and even content from other sources, such as magazines and books. Since the computers in the schools are fitted with CD-ROM drives and will be connected to the Internet (if they are not already), students can take ideas and material from sources other than the textbook for their writing. More and more sources of information are coming 'on line' each day, including local and foreign newspapers, libraries, and business and industry; reference materials such as encyclopaedias, dictionaries and thesauruses are available on CD-ROM as well as a growing collection of visual images, video and movie clips, sound tracks, etc. A flatbed scanner can be used to incorporate information only available in printed media.

The goals of Singapore education are clearly moving away from teacher-centred rote learning, and teachers are being encouraged to help students develop independent thinking skills and creativity. Using the available instructional technology to help students 'learn to learn to write' is a relatively painless step in this direction.

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