CHAPTER TWO

REVIEW OF LITERATURE

Introduction

This chapter reviews the research literature related to the study. The first section of the chapter presents a background of literature related to the use of word processors in writing while the second section focuses on investigations into computer writing processes. The third section provides an overview of research on the use of word processors and its influence on writing quality.

Research on the Use of Word Processors

Research in word processing is essentially research in writing. Research literature on the influence of the word processor on writing includes ethnographic studies, which adopt a holistic approach to investigating the effects of writing with the word processor (Herrmann, 1985; Juettner, 1987) and studies which concentrate on the relationship between word processing and the revision process (Duling, 1985; Sommers, 1985; Daiute, 1986; Hawisher, 1987). Most studies, however, looked at the effects of computer revising strategies on writing quality (Pollack, 1985; Wetzel, 1985; Owston, 1996). Others include studies on the effects of the word processor on the contexts of writing (Hawisher, 1989; Snyder, 1990).

Research on word processing can be broadly categorised into two major categories. One line of research studied word processing in the context of use. Researchers working along this line argue that word processing is affected by the culture and social contexts in which it is used (Hawisher, 1989; Cochran-Smith, 1991,
Snyder, 1993). Snyder (1993) concluded that the computer writing context was more interactive, more cooperative and more collaborative than the pen context. The use of computers had a democratising effect, in that the class became more student-centred and less teacher-dominated.

Another line of research studied the effects of word processing on writing processes and/or products. The present study focuses on this line of inquiry. There is a diversity of research designs in this category. There have been case studies of individual writers (Womble, 1984; Catano, 1985; Bridwell, Johnson & Brehe, 1987), classroom case studies (Snyder, 1990), comparative designs, with one group using pen-and-paper and another using the word processor (Daiute, 1986; Hawisher, 1987; Snyder, 1990) and alternating designs, where writers alternate between writing with the pen and the word processor (Duling, 1985; Hawisher, 1986). Variables measured in these studies include the types and amounts of planning, revision frequency, types of revision, length of composition, syntactic complexity, spelling errors and holistic ratings of written products.

Surveys of student attitudes towards writing with the word processor have also been investigated. Many of these studies reported that students were generally positive towards writing with the word processor (Etchison, 1985; Hawisher, 1989).

However, due to the diversity of research designs with and settings in which these studies have been conducted, findings varied from study to study, so much so that Cochran-Smith, Paris & Kahn (1991) stated that the answer to the bottom-line question, “Do students write better with the word processor?” is “It depends” (p. 61).
Word Processors and Writing Behaviour

Research, which focused on word processing and writing behaviour, has provided valuable insights into the composing processes of writers (Graves, 1975; Womble, 1984; Catano, 1985; Bridwell, Johnson & Brehe, 1987; Haas, 1988). The common finding is that the word processor takes the drudgery out of writing and recopying. When students find that their writing tasks have become less laborious and therefore more enjoyable, they tend to write more and spend more time writing.

Owston (1996) concluded that by eliminating most of the cumbersome effort involved in editing and recopying compositions by hand, student resistance to revision decreased. This in turn encouraged a more fluid and recursive writing style, leading to improved text quality.

Among ESL students in her study, Pennington (1993) concluded that improvements in the affective factors of attitudes towards writing and motivation to write appeared to be the major benefits of computer-assisted writing. Additionally, Phinney (1989) suggested that the novelty of writing on the computer may encourage ESL students to think of writing in English in a more positive way than when writing with traditional tools.

Clearly, there are attitudinal benefits to be gained when students switch to the word processor from traditional tools. Furthermore, the use of an electronic keyboard solves the problem of illegible handwriting that handicaps many ESL students (Berens, 1986; Piper, 1987).

Word Processors and Writing Quality

Moving in tandem with changes in writing research, word processing research has also shifted away from analyses of the written products to looking at writing
processes. However, there has been numerous research in word processing which combined investigations on writing processes and the written products. For example, Duling (1985), studied the relationship between word processing and revision on writing quality while Daiute (1986), examined revision processes and its effects on the writing process and products. Haas (1988) studied the types and amounts of planning writers do when writing with the word processor and this also involved an examination of the written products. Owston (1996) compared the writing processes in relation to product quality among students in high computer access settings and low computer settings. In the ESL context, Thang (1996) looked at revision strategies employed in word processing and examined its effect on the quality of written products.

The general consensus among many researchers is that, students writing with the word processor produce longer texts than they do when writing with the pen-and-paper (Bridwell-Bowles, Johnson & Brehe, 1987; Hawisher, 1987; Snyder, 1990; Jones, 1994). These researchers found that the word processor freed students from recopying, thereby motivating them to write more. Students were reported to be more willing to rewrite because of the ease with which they could rearrange sentences and paragraphs, leading to enhancements in quantity as well as quality of writing.

The word processor has also been found to be largely responsible for the improved quality of written products (Daiute, 1986; Hawisher, 1989; Snyder, 1990). The ease with which texts could be manipulated with the word processor left students with more time to revise and improve their texts.

Studies on the effects of word processing on elementary students also reported positive results on the quantity and quality of children's written texts (Daiute, 1986; Jones, 1994).
Dalton and Hannafin (1987) studied the effects of a year-long word processing programme on holistic writing skills of two groups of subjects, the treatment group used a word processor three times a week while the control group used the conventional pen-and-paper technique to complete their writing assignments. An analysis of writing samples at the end of the study suggested that the word processor group fared better.

Snyder (1990), investigated the impact of the word processor on the three critical elements of writing; context, process and products. She compared writing with pen-and-paper and the word processor across three genres of writing, namely arguments, narratives and reports. She found that the word processor facilitated the writing of argumentative essays. The enhanced quality of these essays has been attributed to the ease with which texts could be manipulated, leading to more revisions and better overall quality.

Owston (1996) studied students' writing processes and products over a three-year period and found significantly greater improvements in writing quality among subjects in high computer access settings compared to subjects in low computer access settings.

However, results of investigations on the effects of word processing in improving quality of texts have been inconclusive, with studies reporting results ranging from no improvement to significant improvements.

Duling (1985) studied the impact of the word processor on ninth-grade students' revising habits and found that the students made significantly more revisions at the sentence level and that there were fewer uncorrected punctuation errors. However, there was no difference in the judgement about quality of writing between the computer-written texts and texts written with the pen.
Catano (1985) investigated the impact of the word processor on the writing of experienced, professional writers and found that individual authors respond to the technology in idiosyncratic ways.

It has also been reported that the influence of computers on writing was most significant among junior elementary (Dalton & Hannafin, 1987; Daiute 1986; Jones, 1994) and intermediate level students (Owston, 1996; Snyder, 1990), less significant among college-aged students (Hawisher, 1986) and not significant among experienced writers (Bridwell-Bowles, Johnson & Brehe, 1986). These researchers found that the computer was not the only influence on students’ writing. Writing instruction was equally important in determining the changes or lack of change in the students’ writing.

Nevertheless, researchers have been able to account for studies that have found no differences in quality between computer writing and writing with traditional tools. Among the factors that were found to have mediated the outcomes of studies which found no differences in writing quality between word processing and conventional writing are; poor typing ability (Snyder, 1990), types of software used (Haas, 1988), inappropriate classroom organization (Greenleaf, 1994) and low computer access (Owston, 1996) to mention a few.

Bangert Drowns (1993), however, found out from his meta-analysis of 32 studies on word processing that the number of studies that report positive results far outnumber those that report no differences in the quality of writing with the word processor.
Conclusion

On the whole, studies show that the word processor proved to be useful, both as the medium and the basis for instruction in composition. However, results of studies on the impact of the computer on writing quality have been inconclusive. This is to be expected because of the diversity in research design and settings. Furthermore, the effects of word processing have been measured in different ways in different studies. Generalizing the results across all grade levels may also be inappropriate because younger writers who have yet to develop good writing skills, even with the pen-and-paper, may not respond in the same ways that experienced writers do when they write on computers.

Due to the wide variety of student responses to both writing and the computer, Phinney (1988) concludes that experimental and statistical studies, which compare groups rather than individuals, often produce less than spectacular results.

In view of the wide variety of student responses to writing and word processing and the difficulties involved in interpreting data derived from studies on groups of students, the present case study is designed to look at one individual student writer's response to the use of the word processor for writing.

The following chapter provides an overview of how the study was conducted. It presents the data collection procedures and instruments used to measure variations in writing behaviour and product quality.