The Impact of Word Processing in Education

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**Why Teachers Use Word Processing**

Perhaps no other technology resource has had as great an impact on education as word processing. Not only does word processing offer high versatility and flexibility, it also is "model-free" instructional software; that is, it reflects no particular instructional approach. A teacher can use it to support any kind of directed instruction or constructivist activity. Since its value as an aid to teaching and learning is universally acknowledged, word processing has become the most commonly used software in education. It offers many general relative advantages (unique benefits over and above other methods) to teachers and students:

* **Saves time** — Word processing helps teachers use preparation time more efficiently by letting them modify materials instead of creating new ones. Writers can also make corrections to word processing documents more quickly than they could on a typewriter or by hand.
* **Enhances document appearance** — Materials created with word processing software look more polished and professional than handwritten or typed materials do. It is not surprising that students seem to like the improved appearance that word processing gives to their work (Harris, 1985). This is especially possible with the many templates that are part of the software suites today.
* **Allows sharing of documents** — Word processing allows materials to be shared easily among writers. Teachers can exchange lesson plans, worksheets, or other materials on disk and modify them to fit their needs. Students can also share ideas and products among themselves.
* **Allows collaboration of documents** — Especially since the release of Google Docs, teachers and students can now create, edit, and share documents synchronously.

**Research on the Impact of Word Processing**

Research on the benefits of word processing in education yields contradictory findings. Results of studies of the effects of word processing on quality and quantity of writing are mixed (Bangert-Drowns, 1993). Three reviews of research (Bangert-Drowns, 1993; Hawisher, 1989; Snyder, 1993) found that these differences in findings may reflect differences in researchers' choices of types of word processing systems, prior experience and writing ability of students, and types of writing instruction evaluated. Generally, word processing seems to improve writing and attitudes toward writing only if it is used in the context of good writing instruction and if students have enough time to learn word processing procedures before the study begins.

When Goldberg, Russell, and Cook (2003) updated these findings with a meta-analysis of studies from 1992 to 2002, they focused not only on whether word processing had more impact than handwritten methods but also on identifying when word processing could have the most impact on the quantity and quality of students' writing. Their meta-analysis showed a stronger relationship between computers and quality of writing than previous such analyses had. Students who use computers during writing instruction produce written work that is about 0.4 standard deviation better than students who develop writing skills on paper. Their analysis also suggested that when students write with computers, they "engage in the revising of their work throughout the writing process, more frequently share and receive feedback from their peers, and benefit from teacher input earlier in the writing process" (p. 19).

**Issues in Using Word Processing**

Educators seem to agree that although word processing is a valuable application, its use in education can be controversial:

* **When should students start word processing?** — Word processing software designed for young children is available, and schools can introduce word processing to students as young as 4 or 5 years old. Some educators feel that word processing will free students from the physical constraints of handwriting and free them to develop written expression skills. Others worry that it will make students unwilling to spend time developing handwriting abilities and other activities requiring fine-motor skills.
* **Is it necessary to teach keyboarding skills?**— Discussion is ongoing about whether students need to learn keyboarding ("10-finger typing" on the computer) either prior to or in conjunction with word processing activities. Some educators feel that students will never become really productive on the computer until they learn 10-finger keyboarding. Others feel that the extensive time spent on keyboarding instruction and practice could be better spent on more important skills and that students will pick up typing skills on their own.
* **What effects does word processing have on handwriting?** — While no researchers have conducted formal studies of the impact of frequent word processing use on handwriting legibility, computer users commonly complain that their handwriting isn't what it used to be, ostensibly because of infrequent opportunities to use their handwriting skills.
* **What impact does word processing have on assessment?** — Some organizations have students answer essay-type test questions with word processing rather than in handwriting. Many school districts also allow students to word process their writing tests. This practice introduces several issues. Roblyer (1997) reviewed research that found that students' word-processed compositions tend to receive lower grades than handwritten ones do. This surprising finding indicates that educational organizations that allow students to choose either handwriting or word processing must be careful to establish guidelines and special training to ensure that raters do not inadvertently discriminate against students who choose word processing.

Teachers and administrators are still deciding how best to deal with these issues. Despite these obstacles, education's dependence on word processing continues to grow.