

Handwriting Within the Context of Literacy

Introduction

One of the pressing educational issues today is, "How can we increase the literacy levels of our widely diverse student populations?" Because of the National Reading Panel Report and the No Child Left Behind legislation, great pressure is being brought to bear on the educational community to find an answer to this question. This brings up the question of, "What do we mean by literacy?"

Today there is a plethora of definitions and interpretations of literacy, e.g., academic literacy, cultural literacy, media literacy, etc. However we choose to define literacy, reading and writing including handwriting remain at its core. As Soares (1992) writes, literacy is:

- "an outcome of cultural transmission. Individuals in societies without a written system do not become literate."
- "the possession of an individual of the essential knowledge and skills which enable him or her to engage in all those activities required for effective functioning in his or her group and community and whose attainments in reading, writing, and arithmetic make it possible for him or her to use these skills toward his or her own and the community's development..."

Handwriting Is Integral To Literacy Development.

Recent research has clearly shown that the development of higher order thinking skills, including problem solving and analytic thinking, are directly related to one's ability to put thoughts down on paper in intelligible language. Through this expressive language medium, ideas can be reflected upon and translated into meaningful knowledge both for the writer and the community in which the writer functions (Applebee, 1991; Spivey, 1990; Vacca, 2002).

In addition, there is considerable research on beginning reading that supports the fact that learning to write the manuscript alphabet enhances letter recognition and promotes automaticity, i.e., the ability to quickly and effortlessly recognize or reproduce words. Automaticity leaves the mind free to concentrate on meaning. As Adams explains in her review of reading research, reading requires the ability to extract meaning from print, but before that can occur, letter recognition must be automatic. She goes on to cite the wealth of research evidence that points to the fact that the speed and accuracy with which young readers recognize individual letters is a determinant of their future reading and literacy proficiency (Adams, 1990).

Systematic Handwriting Instruction Is Crucial To Literacy.

As the research related to both literacy and technology shows, learning handwriting is neither outdated nor a superfluous element in the general curriculum. In addition, consider the wisdom of this practical advice from Donald Graves (1994), the highly respected authority on the writing process:

"Legible handwriting is an important skill—far too important to be left to chance. Systematic handwriting instruction can and should be provided in every school district and classroom because all children deserve the benefits that legible handwriting can confer. Make no mistake, if handwriting has a poor appearance, the writer is judged poorly by our society. This won't end tomorrow. Surface features will always attract far more attention than underlying structures. For a person who has poor handwriting the road ahead is difficult. In spite of the high quality of his [her] ideas and information, the writer will bear a lifelong burden."

And, Graves is not the only authority in the field that advocates the teaching of handwriting. As Farris (2001) and others say, "Legible handwriting is a practical asset for students. Even in this age of word processors, the legibility of learners' handwriting can have a profound impact upon their learning and the acceptance of their ideas." Busy teachers spend hours deciphering illegible compositions and assign grades accordingly. Increasingly standardized tests include a written essay that is holistically scored by trained raters. There is evidence that the quality and legibility of handwriting significantly skews the evaluation of these essays.

Although the research on writing to learn, or how literate thinking is enhanced through writing, has influenced the role of writing as a tool for learning in various secondary academic disciplines and content

fields, it has just begun to be included in grades one through eight. When students at all levels "think on paper" to express thoughts, feelings, and opinions, they are much more likely to respond and explore ideas encountered in their reading tasks and personally interact with these ideas. Also, writing-to-learn strategies help students focus on information encountered in text beyond the simple recall level, thus raising their levels of literacy. This is still true despite the influence of new technologies. The computer and the word processor have not replaced the need to learn how to print and write rapidly, legibly, and succinctly. That ability comes only through systematic handwriting instruction. It is what John Mayher (1990) calls "uncommon sense" as it relates to the whole field of language and literacy education.

Learners who become independent and fluent in writing manuscript and cursive letters enter a world of limitless opportunities. **Handwriting instruction is an essential element of a complete literacy curriculum.** It must not be taught as an isolated skill. Without its integration as part of the overall literacy curriculum, learners lose an important link to the world of learning and communicating (Dobbie and Askov, 1995; Farris, 2001).

Handwriting Is More Than A Matter Of Physical Coordination

On-going research studies that are being done around the world support the need to systematically teach both print and cursive writing to aid cognitive processing of content across the curriculum. This research demonstrates that handwriting is more important to the whole learning process and is not simply a matter of hand/finger and kinesthetic coordination (Simner, Leedham, and Thommassen (Eds.), 1996).

Despite a recent movement espoused by occupational therapists that attempts to disconnect handwriting from literacy and claims that it is especially difficult for all young learners, the conclusion reached by most researchers is that this is not true. In fact, research in education, developmental psychology, and neuroscience shows that, with appropriate instruction, most young students can readily master the motor movements necessary for both printing and cursive writing (Moore and Rust, 1989).

Research also indicates that those first graders who need extra assistance in learning to print are also likely to be in need of extra assistance with other areas of the curriculum. Thus, not every student needs special methodological techniques (Simner, 1996).

Computers Have Not Reduced Handwriting's Relevance As a Necessary Life Skill.

Some people have been heard to say, "Computers have demoted the second of the three Rs. Instead of teaching the lines, the swoops, and swirls of letters, it is just necessary to point to the letter R on the keyboard." These same people point out that keyboarding skills are taught earlier and earlier in schools, and handwriting appears to be slowly receding into the curricular background. In some schools in the United States, keyboarding even begins as early as first grade.

However, most educators and researchers support the idea that keyboarding and penmanship lessons should co-exist and most pupils should be able to master both skills. In addition, these supporters of coexistence pose the question, "What if someday the Internet crashed? How would people communicate and store their thoughts then? Their answer is, "Writing with paper and pen or pencil" (Graham and Weintraub, 1996).

Pen-Computing Technology Makes Handwriting More Important Than Ever.

Over the last twenty years or so, the science of handwriting has become a burgeoning field of research that has brought together education, psychology, forensic science, neuroscience, and computer science. This collaboration has produced a device that is broadly classified as a pen-computing instrument. Pen-computing includes a computer and applications in which a pen is the main input device. The reason this has come about is because there are a number of applications in which a pen and handwriting are the most convenient form of input. These applications include the need to:

- Prepare a first draft of a document in which the author's concentration must be placed on content creation.
- Capture information in meetings. Using pen and paper is more considerate of others because they create less noise and visual distractions.
- Record information in educational settings in which it is much more efficient to write ideas and notes on a paper-like pad and then transfer these notes to a PC for further composition.

Briefly, a pen-computing device consists of an electronic base with a pad of paper. Writing is done with a special pen that dispenses both ink

and an electronic signal. As the ink creates a paper record, the signal creates an electronic record. The electronic record can then be transferred to a PC. However, in order for this to occur, the writer's handwriting must be legible so it can be translated by the electronic engine system (Fauri, 1996).

Researchers in the field of pen-computing devices support the idea that exchanges between the user and the computer can be successfully facilitated by intuitive and direct interaction. Intuitiveness reduces the time needed to learn how to interact with the machine, and directness reduces the cognitive load and the number of steps required for expressing an intention. The intentions of the users do not need to be mediated by a common language nor by a sequence of actions for selecting icons, positions, or keys.

The pen is an appropriate input device for intuitive and direct interaction. A stylus in combination with an electronic display almost resembles the familiar pen-and-paper situation. Comparisons between the pen and other input devices show specific advantages for the pen (Mahach, 1989; Wolf, 1992; Apte and Kimura, 1993).

Thus, the issue is not whether computers have forced handwriting out as a necessary life skill. The issue is that the world of technology and computers has only served to support the necessity of learning how to write legibly as an essential life skill for the 21st century and beyond.

Zaner-Bloser Handwriting: Opens the Door to Communication Teaches Handwriting As a Literacy Tool.

The systematic Zaner-Bloser method of teaching handwriting supports current thought related to the field of literacy in general:

1. Both upper and lower case letters are taught simultaneously right from the beginning. This methodology is supported by the research evidence that "printed uppercase and lowercase letters look more like the typeset in books, and also what children see in other parts of their daily environments—signs, educational television, animated flip books, and computers" (Dobbie and Askov, 1995).
2. By calling attention to the strokes used to create each letter, students are actively engaged in reproducing the letter. This engagement reinforces the child's knowledge of the alphabetic principle and supports acquisition of automaticity in reading. Besides the other benefits of teaching handwriting, scientists involved in brain research are discovering that there is a direct link between the patterns that children learn when they write and their ability to read fluently.

These same scientists support research that shows that students who learn the letter patterns needed to write a word will also be better spellers (Sirat, 1994).

3. In addition, self-evaluation has become a very important goal of education. The Zaner-Bloser method of teaching self-evaluation in the four keys to legibility—shape, slant, spacing and size—helps students become more conscious of the quality of their handwriting and how they can improve. This self-evaluation element is missing in other handwriting programs (Graham and Harris, 1992).

Frequent and explicit handwriting instruction that helps students automatize letter production and retrieve letterforms rapidly from memory also increases the probability that students will become writers who use the building blocks of written letters to construct quality written compositions (Berninger, et al. 1997).

Zaner-Bloser Handwriting opens doors to communication by integrating what we presently know about reading instruction, writing instruction, self-assessment, and technology as these relate to the teaching of handwriting and the whole field of literacy education.

Resources

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