Chapter 1
Literacy and Technology:
A Historical View

Karin Perry
Sam Houston State University, USA

ABSTRACT

This chapter takes a look at technology and how it has influenced literacy through the ages. Technology has been utilized in writing since the Sumerians started using clay tablets and styluses and developed the cuneiform. This chapter also discusses prominent technology that has been used in the classroom from lead pencils and slates to iPads. With the invention of the Internet, a new form of literacy (Information Literacy) has also become important in education. Research has shown that the success or failure of the technology depends entirely on the teacher (Jonassen, 2003), and, in order for it to increase literacy and enhance instruction, students must be allowed to create their own learning using the tools that are natural to them.

INTRODUCTION

Literacy, in its simplest definition, is the ability to read and write. Throughout history, reading and writing have taken many different forms. From the sticks used to draw shapes in the dirt by our primitive ancestors to the electronic text on portable, handheld devices we know today, the end results are the same – communication, knowledge, and understanding.

Literacy in Ancient Times

Literacy hasn't always been as available to people as it is today. The earliest known form of writing is the Sumerian cuneiform. It consisted of simple pictographs drawn into a clay tablet with a stylus. Writing was challenging; it required the author to memorize 1,500 symbols for 1,500 different words. It took a student twelve years to learn to write Sumerian in cuneiform. The scribes were

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very important people as they were the ones to record information about crops and taxes. Subject matter grew to include daily events, astronomy, and literature (Writing).

Eventually, in 2900 B.C., the pictographs became more abstract and were reduced in number to 600. Scribes would use a wedge-tipped reed to make impressions in clay instead of drawing. They used a combination of syllabary, where each symbol represents the syllable of a word, and logograms, where one symbol represents one word. Even with this shortened form of writing, the time it took to learn the symbols and record the information made literacy impossible to achieve for the general public.

In the 8th Century B.C., ancient Greeks developed alphabetic writing where each written symbol represented a meaningful sound of the language. "Both Plato and his teacher Socrates argued that literacy would change the way people think, would destroy memory, shift power, and consequently negatively affect the social order" (Murray, 2000, p.45). Not surprisingly, the two scholars valued oral discourse above the written language. Murray (2000) states, "Socrates feared literacy would promote the appearance of wisdom among writers who merely had information (p. 45). However, studies of ancient Greece show those fears were unfounded, and instead that oral discourse and writing enriched each other and that writing only solidified the existing way of thinking (Lentz, 1989).

The Printing Press

One can't discuss the impact technology has had on literacy without mentioning Gutenberg's printing press. It was as revolutionary to 13th Century England as alphabetic literacy was to ancient Greece. Prior to the invention of the printing press, citizens had to rely on priests and scholars to tell them what the Bible's teachings meant, instead of being able to read it for themselves to make their own interpretations. Writing continued to be primarily used for business and religious purposes; however, reading and writing was spreading and being used more widely by the general public. Gutenberg saw there was a market for books and invented the printing press to fill the need (Murray, 2000).

Not everyone saw the spread of literacy as a good thing. Like Plato and Socrates feared writing would weaken the thinking skills of people, Pope Alexander VI "feared printing would weaken memory, the mind, and the spirit, and thus, their power" (Murray, 2000, p. 47). The Pope declared the need for total control over the printing presses in order to prevent distribution of writings against the church's teachings.

Even though the printing press was an important technological advancement, it wasn't a revolutionary change for literacy. The books weren't a part of most people's lives. Even if the common man purchased a copy of a book, he wouldn't have been able to read it. Over 90% of Europe couldn't read - even among the aristocracy who could afford scribes. "It was not until the end of the 18th century that illiteracy began to decline to near 50%, mostly as a result of the need for reading and writing at work, especially in trades that needed to keep records" (Murray, 2000, p. 47). Literacy for the masses was spreading, and due to new technologies like steam power, the rolling press, and a cheaper way to make paper, the cost of books dropped drastically, making them affordable for the common man.

Still, there were scholars that worried over the damage reading would do to the public. John Locke worried about the information books might contain and feared, by being forever in print, they would be considered as true fact, even if wrong. In some printed religious materials reading was said to cause "colds, headaches,…epilepsy,…and, melancholy" (Darnton,1986, p. 16).

Literacy, Schools, and Technology

As we moved into the 19th Century, free, public schools were widely available. The spoken word was a very important tool in the classroom