Chapter 2
Where Are We If Our Batteries Die?
Seeking Purpose in Educational Technology

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ABSTRACT
This chapter explores the role of technology in literacy from an historical perspective. Using the examples of the printing press, Engelbart’s philosophy of technology use, and the Law of Amplification, compared with the current status of technology in education, the authors argue that the technology itself is less important than the framework and pedagogy that it supports.

INTRODUCTION
Miss Retzyl is old school. She likes technology, but she wants us smart if our batteries die. (Turnage, 2015)

Potential effects of technology in general, and the transfer of information via computing and internet access within educational technology specifically, has been called transformational, even ‘Gutenberian’ in the scale of impact on human potential (Loveless, 2014). According to many education experts, the underpinnings of the next ‘great age’ for civilization rely upon technology access and use (Dalton & Proctor, 2008; Dwyer, 2016). These experts posit that the ability to communicate vast amounts of information, across distance and even languages, has been made possible with very little effort on the part of an individual human being. Also, not since the invention of the printing press has there been such a widespread change in the dissemination of knowledge or information. While it is true that technological tools have changed the speed, means, and ease through which human beings communicate, reflect,
and learn; the impact of such changes is still being debated (Kardaras, 2016). Whereas the printing transformation was seen as the key to democratizing knowledge construction, the digital age, with its accompanying advertisements, data collection, and tracking, can be seen as further corporatizing daily life and especially the processes of learning. Unfortunately, as we describe in the preface of this book:

*The dreams of resurgent democratization in cyberspace has been usurped by “a reality of many, many ways to buy things and many, many ways to select among what is offered” (Lessig, 2002, p. 7). In this economic paradigm, digital technologies “empower the strong and disempower the weak” (Morozov, 2011, p. xvii). Thus, digital technologies that could transform knowledge construction and schooling instead are co-opted to reinforce standardization movements with rote lines of curriculum that equate 21st century skills to the labor needs of corporations.*

Furthermore, the educational system as a whole, and teachers in particular, have been attempting to navigate between *old school*—pencil and paper and *new school*—technology based instruction. As with the fictional Miss Retzyl in Turnage's book, the challenge of finding balance has largely been left to individual teachers.

Within the education system, it seems as if each new technology has been lauded as “powerful” and a provider of “a once-unimaginable array of options” for enhancing learning opportunities (Herold, 2016, N.P.). Lately, others have called it a “sixty-billion dollar hoax” (Kardaras, 2016, N.P.). However, each increase in technology, beginning with the very act of writing, continuing through the printing press, to the connected of internet tools of today have not occurred in a vacuum. They have been the result of social expectations and opportunities and they have also had an effect on the society that created them. They do not simply exchange information, but change the expectations and opportunities for human beings.

*Anthropological studies of societies show that literate societies think differently than oral ones. In other words, a literate society is not an oral society with a writing system, but a new ecology of ideas and thinking.* (Kay, 2013, p. 2)

As educators, we grapple everyday with our charge of preparing students for their roles in tomorrow’s society, knowing those roles may also require a new ecology of ideas and thinking.

### THE GUTENBERGIAN MYTH

It is a tantalizing idea, and perhaps not surprising that educators turn to the event that is perceived as the last such transformational invention, the printing press, as they struggle to both understand the impacts of technology on the traditional classroom and to harness the power of the new tools for the benefit of their students.

The invention of the printing press in the fifteenth century has been both romanticized and slightly mischaracterized. When educators refer to this event in the discussion of technology, they tend to be referring to the romanticized version of events. In this version, the printing press is seen as the tool that “brought knowledge to the people” (Clanchy, 1983, p. 7). It has been cast as an isolated event that triggered a civilization-wide change from the medieval to the Renaissance by fostering literacy and the accompanying levels of knowledge and progressive thinking. In actuality, literacy and progressive