Digital Literacy for the 21st Century

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INTRODUCTION

In the past few decades, technology has spanned the globe, connected people in a whole new way. As a result, citizens of all countries have not only had to learn to use new technology, but also learn how to interact with one another. Skills that comprise these abilities have been combined under the term "digital literacy." The purpose of this chapter is to (a) define digital literacy and its changing nature, (b) discuss implications of digital literacy on contemporary schooling, (c) demonstrate the impact of digital literacy on digital citizenship, and (d) analyze the implications of digital literacy on educational equity.

BACKGROUND

Almost two decades ago, Gilster (1997) defined digital literacy as the "ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers" (p. 1). At this time, the Internet was in its infant stages. More than a decade later with Internet usage in full swing, Fieldhouse and Nicholas (2008) asserted that terms like *literacy* and *fluency* can be used to describe how users find and evaluate information within digital environments. Digital literacy involves any number of digital reading and writing techniques across multiple media forms, including: words, texts, visual displays, motion graphics, audio, video, and multimodal forms. In the same way that literate individuals can negotiate print text through the processes of reading and writing, literate users of technology are able to consume and produce digital compositions. There are many cognitive processes at work, along a continuum from *consumption* to *production* when a reader is immersed with digital content. The digital context is challenging for all readers due to the fluid nature of the Web and the demand for critical judgments (Spires & Estes, 2002) as the reader makes decisions about how to locate information as well how to discern the reliability and credibility of that same information.

WHAT IS DIGITAL LITERACY?

Spires and Bartlett (2012) have divided the various intellectual processes associated with digital literacy into three categories: (a) locating and consuming digital content, (b) creating digital content, and (c) communicating digital content (see Figure 1). Learners must develop evaluative dispositions as they navigate digital content. A discerning mindset is essential in order to interact with online resources with accuracy. Without critical evaluation, the learner may easily be directed by the technology rather than the learner directing the inquiry.

Figure 1. Digital literacy practices involve the ability to locate and consume, create, and communicate digital content, while simultaneously employing a process of critical evaluation
Adapted from Spires & Bartlett (2012)
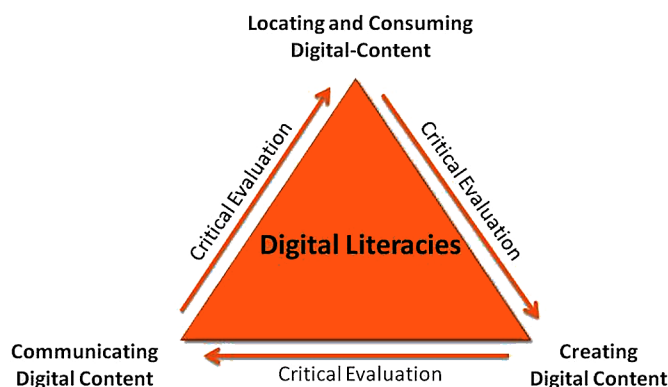
Locating and Consuming Digital Content

It is essential to develop the skills to locate, comprehend and consume digital content on the Web. Central to being effective with the Web is strategically searching for information and evaluating its accuracy and relevancy (Leu et al., 2008). There is consensus that effective Web search skills must be developed for educational success in a digital society, and instruments such as The Teaching Internet Comprehension to Adolescents (TICA) checklist can ensure that students have the necessary prerequisite Web search skills (Leu et al., 2008). However, more challenging is how to incorporate the effective teaching and development of Web search skills in the classroom (Moraveji et al., 2011). Nevertheless, some important skills are considered necessary for locating and using digital content: domain knowledge, a working knowledge of how to use search engines, basic literacy skills, and a general knowledge of resources available on the Web (Moraveji et al., 2011). In addition to building on the ability to craft productive Web search terms, search lessons should involve direct modeling of the use of search techniques, differentiating between domain names, and querying sites for accuracy and transparency.

Creating Content

Digital content is easily created by teachers and students alike through multiple media and a variety of Web 2.0 tools. The implementation of digital content may be an important and effective method of enhancing teaching and learning (Bakkenes, Vermunt, & Wubbles, 2010), enabling teachers to embrace the 21st century skills that students are expected to master. Digital resources can also free up teachers, allowing them to spend more time facilitating student learning and less time lecturing. Allowing students to create and consume digital content in the classroom may increase engagement while also encouraging the development of skills needed for a technological society. For example, students can create video content with easy-to-use video editors such as *Animoto*, *WeVideo*, and *Powtoon*, just to name a few. Because there is a low bar for technical expertise, students can spend more time on the quality of the content rather than learning the process of a new tool. An added benefit is that the products look polished and professional. Although the creation of digital content is becoming increasingly simple, personalization of learning will require teachers to locate and utilize a variety of digital resources to meet the needs of every learner. Personalization will also

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