Digital Literacy Education for Digital Inclusion

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INTRODUCTION

Information and communication technologies (ICTs) such as computers and the Internet have widely diffused around the world and become an essential part of everyday life. The use of ICTs at school, work, and home has been increasingly common, transforming everyday activities and shaping a major portion of life experience. In the digital age, basic knowledge and skills in use of ICTs as well as access to them are imperative for individuals to communicate with others, work, personally develop, and gain information. ICTs are becoming an integral element of contemporary society and social change and modifying human interaction and relations (Bure, 2005).

The importance and ubiquity of the Internet and computers raises a wide range of discussions about the nature, notion, education, and various aspects of digital technology-based knowledge and skills, digital literacy, which is vital to develop in the digital world (ETS, 2007). Many people gain transformative benefits from knowing how to perform various tasks on the Internet and computers. However, a great number of people still do not have consistent, quality access to those media, and lack digital literacy (Orrick, 2011). They do not know how to use computers and the Internet, and lag behind in the digital world, thus they do not obtain opportunities for the benefits from knowing it. In addition, they do not gain equal opportunities of taking digital advantages that can enhance their daily life. The inequality in use of ICTs for a wide variety of activities has raised concern about the digital divide, digital literacy gap, and digital exclusion (Seale, 2009; Selwyn, 2006; van Dijk, 2006).

Digital literacy is an important concept and has major implications for current education, culture, society, and community development in the digital age (CRILT, 2009). The development of digital literacy is necessary for people to find information, perform basic tasks, communicate and connect with others, expand social networks online, and gain diverse digital opportunities such as businesses and civic engagement online (Bure, 2005; Orrick, 2011). More importantly, digital literacy education in informal settings for those who are the digitally illiterate is perceived as an important tool to bridge the digital divide and cultural enclaves (Hobbs, 2010), and to contribute to digital inclusion. Digital literacy education for digital inclusion is a crucial tool to offer an equal opportunity and reduce the digital inequality (van Dijk, 2006). This study aims to explore the issues of the digital literacy gap and digital divide and the impacts of digital literacy education (DLE) on the development of digital literacy for those who have a lack of digital literacy. This study also explores the integration of digital literacy education into a digital technology community center.

BACKGROUND

Digital Divide

The digital divide, inequality caused by economic, physical, geographical, and linguistic barriers, has been documented in many studies. Since the Internet became commonplace in the 1990s, concern about the inequality of access to computers and the Internet has raised the discussion on the digital divide. The digital divide refers to the disparity between those who have access to computers and the Internet and those who do not have (Norris, 2001). A variety of factors such as age, gender, race, socioeconomic status, and location have contributed to the digital divide in the adoption and use of ICTs. The early studies of the digital divide discovered that the lack of access to computers and the Internet was typically found among individuals who were low-income and had a low level of educational attainment (Norris, 2001).

Fuchs (2008) pointed out that unequal access to and usage skills of ICTs magnified existing socio-economic inequalities. Already socioeconomically marginalized people with limited ICTs resources are less likely to use ICTs and have digital literacy, but more likely to be disadvantaged by a lack of digital literacy in the information society, therefore digitally and socially excluded (Seale, 2009). The lack of skills and knowledge of how to use ICTs is an obstacle to the adoption and use of ICTs (Seale, 2009; Selwyn, 2006; van Dijk, 2006). According to Zickuhr (2013), 34 percent of non-Internet users in the United States expressed that the Internet was not very easy to use. Those who have a lack of digital literacy are alienated from the benefits of the digital opportunities to gain information or communicate and engage with others. However, the development of digital literacy can reduce the digital divide and generate economic and social benefits for the public (Hobbs, 2010).

Digital Literacy

Information and communication technologies (ICTs) are increasingly being engaged in everyday contexts, such as personal and social life and work. The wide use of ICTs in people's everyday life has influenced the changes in the perception of digital literacy (Nawaz & Kundi, 2010). Digital literacy has transformed into an everyday literacy, and is becoming a powerful and necessary means in the digital age (CRILT, 2009). Gilster (1997) defined *digital literacy* as "the ability to understand and use information in multiple formats" (p. 1). *Digital literacy* is often used as an interchangeable term with *digital competence*, *information literacy*, *ICT literacy, ICT skills, digital and media literacy, digital skills, media literacy, and eSkills* (e.g., Crawford & Irving, 2007; Ezziane, 2007; Hargittai, 2005; Hobbs, 2010; Ilomaki, Kantosalo, & Lakkal, 2011; Potter, 2010).

Hobbs (2010) defined digital and media literacy as "a constellation of life skills that are necessary for full participation in our media-saturated, information-rich society" (p. vii). Hobbs (2010) also expanded digital and media literacy as "cognitive, emotional and social competencies, . . . the skills of critical thinking and analysis," and the creativity and active participation through the use of technologies (p. 17). Being digitally literate means not only the development of basic func-

tional skills in use of ICTs but also the enhancement of cognitive, critical, and social competencies (Junge & Hadjivassiliou, 2010).

Digital literacy is conceptualized as the individual's knowledge and skills to use ICTs, perform various tasks using them, access, manage, integrate, evaluate, and create information, and function in a knowledge- and information-based society (Eshet-Alkalai & Chajut, 2010; Hargittai, 2005; Jones-Kavalier & Flannigan, 2008). Digital literacy in this present study refers to the necessary digital skills and knowledge to access and use computers and the Internet (CI) and create content in a variety of digital forms.

In the digital age, people need to develop their digital literacy to use computers and the Internet, perform basic tasks based on those media, and become a digital citizen to participate fully in the digital society (Junge & Hadjivassiliou, 2010). A significant aspect of developing digital literacy is that digital literacy can be utilized as practical values for a wide variety of tasks: for instance, to find information online about jobs, public service, health, and government, to take advantage of digital opportunities such as online businesses and learning, to participate in online community activities, and to take social action online to improve communities (Hobbs, 2010). Given that digital literacy is perceived as a social, political, economic, and cultural product (Nawaz & Kundi, 2010), the lack of digital literacy creates the gap between the digital literacy-haves and the digital literacy-have-nots.

Digital Literacy Gap and Connection

Digital literacy gap is considered one of the important social fairness issues confronting the digital society (Seale, 2009). The disparity in digital literacy was found particularly among the older and less-educated with a low level of digital literacy (Dewan & Riggins, 2005). Although socioeconomic disparities still remain as a significant factor in access to and use of ICTs, the lack of digital skills is also a strong determinant factor for not having an Internet connection (EC, 2011). Those who had access to and frequently used ICTs tended to show better scores of digital literacy, compared to those who did not have (Ilomaki et al., 2011). Those living in marginalized circumstances continue to show-ing a lack of digital literacy, a contributing factor to the digital divide and digital literacy gap. The lack of

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