Digital divide and factors affecting digital literacy education essay

Education

SkillsDigital divide is an international issue and a new feature of contemporary inequality between digital users. Several researchers have used the term " Digital divide" to differentiate between people who are better able to gain control over technologies and master digital skills than others (C. Jones & Czerniewicz, 2010)(Harambam et al. 2012). Ferro, Gil-Garcia, and Helbig (2007) present digital divide as an " inequality in the relationship between groups of individuals and their relationship with information communication technologies (ICTs)" (2007, p. 266). However, researchers differentiate between two distinct levels of digital divide (Attewell and Gates, 2012)(Korupp 2005). The first level of digital divide is the inequality and varying levels of computing and internet access among individuals (Huang and Russell, 2006)(Secretariat, 2000). Researchers categorized the two groups of people; " haves", those who are " information rich", and " have-nots", those who are " information poor" (Huang and Russell, 2006). This phenomena exemplified in different communities that are categorized as being developed and undeveloped countries. The second level of digital divide is the inequality and the varying levels of information and computer literacies skills among the individuals. This level compartmentalizes the Saudi Arabian students' who came from poor digital literacy practices in Saudi Arabia to a complete digital literacy environment in the UK. According to the changing context, students had digital divide from the second level. Researchers proposed various reasons that stand behind the digital divide among the individuals. One of the most fundamental aspects of digital divide is different population groups. For instance, home differences in computer and internet access are one of the

factors that cause the digital divide. Researchers also claim that, age and generation gap between technological users are the main factors of these differences (Carrington & Marsh, 2005; Prensky, 2001a; 2001b; Snyder, 2007). Hence, older citizens for whom new technology has arrived late in life are less skilful than the younger generation. However, other researchers doubt these claims that can be generalized. For example, a study conducted by Eshet-Alkalai and Chajut (2009) to distinguish between the age, generation gap, and the usability experience as factors responsible for the changes through time in individuals'' digital skills. The researchers used three matched control groups, which are similar in age and demographic background to the groups of previous study conducted by Eshet-Alkalai and Amichai-Hamburger (2004). They tested their groups with similar tasks that have been used in the study of Eshet-Alkalai and Amichai-Hamburger (2004). The researchers found that digital literacy skills change significantly over time and the commonly held notion that the younger generation is more digitally literate than older technology users is not an accurate fact. Thence, experience with technology is responsible for the changes over time in digital literacy skills, regardless of users' age. This indicates that digital literacy skills change over time and is not equally shared among all age groups. The experience of using technology in every day is responsible for individual's digital skills changes (Y Eshet-Alkalai & Chajut 2010) (Hargittai, 2005, Nielsen & Tahir, 2002). Therefore, this indicates clearly that the reason that stands behind the differences in individuals' digital skills is not the age but the usability and experience of users in using technology. Other researchers argue that individuals' education level is the essential factors

that affect digital skills (Hargittai, 2002; Gui, 2007; van Deursen and van Dijk, 2009). Others found that disciplinary differences among students influence their digital use (Macdonald, Heap and mason, 2001; McDowell, 2002).(Chris Jones et al. 2007) Gui (2007) found that, when age is kept constant, education level and parental education show a relevant impact on the ability to solve complex research tasks on the web. Past studies have highlighted the role of gender as one facet of the digital divide and self-perceived skills and knowledge of web-related terms (Bimber, 2000; Liff & Shepherd, 2004; Losh, 2004; Shade (Liff and Shepherd, 2004; Gui, 2007; Hargittai and Hinnant, 2008) (Cooper & Weaver 2003) (Salinas 2008). That is, women in many societies are much less likely than men to have effective access to ICT (Secretariat, 2000). For example, data gathered from three large North American national surveys found that women are less-intensive Internet users and use the Internet more for social, rather than instrumental or recreational reasons (Kennedy, Wellman, & Clement, 2003). The Pew Internet and America Life project published in 2005 found that since 2000, men and women do not differ in terms of their Internet access but to date still differ in the patterns of their Internet use and activities online . Most recently, research by (Liff and Shepherd, 2004; Argentin, 2007) found that females tend to use the web in a more instrumental way without going into exploration and technical details than males. Other researchers presented other factors that influence digital literacy such as socio-economic, governmental, accessibility factors (Pick & Azari 2008), institutional requirements, social context (Jones and Lea 2008), and geographic location (Servon 2007). Another important factor that cause the digital divide is

individuals' formal education and ICT use in schools and classrooms (Secretariat, 2000). As the gap that exists in formal education, between schools that have equipment, materials, connectivity, and integration of ICT within the teaching learning environments and schools that have not is one of the reason that cause inequalities in digital literacy (Secretariat, 2000). On the other side, informal learning-homes and communities have obvious role in causing the digital divide (Secretariat, 2000). Although various research studies found that home computer use was seen as devoted to game playing, others found that being electronically active out of schools, is furthering their school computer use. From examination of these different dimensions, clearly appears that the second level of the digital divide is affected by the first level of digital divide. That is, the poor services and access to digital information is the main reason for the low level of the digital skills among educators. According to the previously mentioned factors, researchers used varieties to categorize different groups of digital users (C. Jones & Czerniewicz, 2010) (Weiland and Clason, 2011). Users who came from digital environment are called " Net Generation", " Millennials", " I-Generation", " Next-Gens", and " Digital Generation". They have been called digital natives as they speak digital as a first language (DFL). Digital natives feel at home in web space and function best when networked. They like to do multiple tasks and parallel processes. They also prefer random access such as using hypertext (Prensky, 2012). One the other side, users who come from the non-digital world but at some point in their lives adopted many aspects of the new technologies, speak digital as a second language and with varying degrees of skill (DSL) have been called Digital immigrants.

They speak an outdated language, that of the pre-digital age, and are struggling to speak an entirely new language Some of these immigrants have caught on the new living styles quickly and thrive in new country, while others struggle to apply old thinking to new ways of doing things (Jukes, McCain, and Crockett, 2010). They are like immigrants, some of them are better than others at adapting to the ways of the new context, but they still retain some degree of their own accent from their home country (Prensky, 2012). For example, digital immigrants usually print out emails or document written out on the computer in order to read or edit it instead of read and edit it on the screen. Another example is inviting someone to see specific webpage instead of sending it. Digital natives and digital immigrants have their own ways of doing things in a number of areas; such as, communicating, socializing, sharing, buying and selling, exchanging, creating, meeting, collecting, coordinating, evaluating, gaming, and learning (Prensky, 2012). Serving the literature reveals that research studies that focus only on investigating between the digital natives and the digital immigrants based on the academic reading practices in the digital age do not exist. Most of the previous studies evaluated digital users mainly from social digital practices but not the academic practices. Therefore, in the current study the differentiation between digital natives and the levels of digital immigrants will occur upon the degree of using the technology for reading academically and using the affordances of the digital world to enhance their academic reading comprehension. The study will also investigate the perceived factors that affect postgraduate students to transform their attitude and practices toward digital academic reading. 3. 18

Traditional Academic & Digital Academic LiteracyAcademic literacy is an essential aspect to successfully function in an academic environment. Academic researchers identified the various components of academic literacy. For example, Boughey (2000) stated that academic literacy is the ability to know how to speak and to act in academic discourses. Neeley reports that academic literacy is " ways of thinking, reading, speaking, and writing involving ways of dominant in the academic setting; knowledge, managing knowledge, and creating knowledge for the benefit of a field of study" (2005, p. 8). Goodfellow (2011) mentioned that academic literacy is the ability to read, write, research, and communicate. Other researchers demonstrate that academic literacy is more than the ability to read and write. It also involves higher level skills of reading and writing, critical reading and articulated writing, and discipline specific skills for reading and writing. The previously mentioned characteristic of academic literacy presents what currently has been named as Traditional Academic Literacy. Traditional academic literacy remains valuable and essential in the current age. For example, handwriting is a great skill for students to learn in schools for their cognitive development and it is an important skill for personal note taking. However, in the current age composing a letter, mail, or even taking notes depend on electronic typing and editing. The current digital age requires students to have new academic literacy beyond those that were needed in the twentieth century to effectively function in the digitally educational context. In other words, academic literacy in the current digital educational environment is experiencing new challenges for students in their educational fields. It has been connected to efficiency in the digital skills

which are digital platforms for delivering information that are related to academic studies. Several researchers examined the relationship between academic efficiency and digital literacy skills and found the correlation between the two. (Barab et al., 2005) (Barab, Dodge, Jackson, & Arici, 2003). The current educational era involves digital aspects such as access to data base, access web based course resources, using online resources (dictionary, grammar explanations), participate in online discussion, download lectures notes and presentations, select and use tools for communication, research, and autonomous learning. According to Kenton and Blummer (2010) Information Technology Literacy, which is the component of digital literacy, includes searching skills for online databases, e-journals, the Web and the online public access catalogue (OPAC). The presented literature of digital literacy involves digital literacies that are applied academically in educational sittings. It consists of operating digital tools to facilitate learning and success in academic context. Several research studies, conducted in the UK revealed that there are significant limitations in students' digital understanding and skills (Armstrong, 2001; Rowley, 2002, Cited in (Conole & Oliver 2007). For example, students in higher education prefer to Google for academic information rather than using academic resources (Brophy, 2004). In the UK, the SCONUL Working Group on Information Literacy sated that academic literacy in the current age is part of other concepts that form information literacy; namely, digital, visual and media literacies, information handling, information skills, and data management. It noted that literacy development in higher education requires specific core skills, competencies (ability), and attitudes and behaviours (understanding). Therefore, they

proposed a new model for academic literacy from the digital lens for higher education in 2012 (Society of College 2007) instead of the core one, that proposed in 1999 (Moira & Ruth 2011). The new digitalized model is based on the previous elements of the core model; namely, scope to assess current knowledge and identify gaps, plan to construct strategies for locating information and data, gather to locate and access the needed information, evaluate to review the research process and compare information, manage to organise information professionally and ethically, and apply the knowledge that has gained and create new knowledge (Moira & Ruth 2011). The current digitalized model of information literacy in higher education is based on applying the previously mentioned elements with the current electronic information and data. Jukes et al. (2010) and Crockett et al. (2011) suggested new basic skills that should be considered as a part of the basic academic literacy skills and essential to be acquired in the twenty first digital academic age. The researchers used the term fluency instead of literacy to indicate that being digitally literate in the current age is not enough. In other words, individuals should be also digitally influenced. Therefore, they described the six new digital skills as digital fluencies in order to indicate a greater ease with which they can be used. These skills according to (Jukes et al. 2010) and (Crockett et al. 2011) are Solution fluency, Information fluency, Creativity fluency, Media fluency, Collaboration fluency, and Global digital citizenship. Solution fluency is based on thinking to solve problems, designing and applying solution and then evaluate the outcomes. Information fluency is the ability to access digital information sources and to assess the information that is retrieved from searching in order to extract

the essential knowledge, understand its meaning, recognize it significance, and then use it in real world tasks. Creativity fluency comes up with creative solutions and adds meaning through designing new outcomes. Media fluency is based on understanding the media and interpreting its real message, communicates effectively with electronic texts, visual, and auditory elements; and the ability to create digital product in appropriate media formats. Collaboration fluency is based on working cooperatively with virtual and real partners in physical and online environments to solve problems. Global digital citizenship is the consistency in personality in online and in person. Therefore, it is the framework that enables individuals to consider which of the previous fluencies are good idea and an appropriate action to undertake (Crockett et al. 2011). The previous literature indicates that academic digital literacy in the current academic digital age consists of various skills and abilities that are essential to effectively function in an academic digital environment. One of these skills is digitally academic reading and comprehension. The current study will specifically focus on academic reading in the current digital academic environment. It will investigate and reveal the academic reading skills of postgraduate students in digital academic environments and their level of utilizing the digital affordances in their discipline academic reading that will be presented in the following sections.