Chapter 5
Technology, the 21ˢᵗ Century Workforce, and the Construct of Social Justice

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ABSTRACT

Although there is current research describing ICT use in the 21ˢᵗ century as it relates to workforce needs, there are factors to examine regarding the adult learner that can help offset barriers to ICT involvement. And, factors that may determine success in the cyber community could be due to age, gender, ethnic, and racial disparities regarding ICT use and its ultimate impact on occupational deprivation. Technology is advancing at a geometric pace, and the adult learner must traverse this digital divide. Understanding this overlap, the nature and frequency of technology use by the adult learner will help more effectively: a) blur the lines of social constructs in an attempt to mitigate class hegemony; b) mitigate future occupational problems when employment and economic needs depend on ICT knowledge; c) understand and avoid barriers that create digital disparity so group membership in the cyber community is fostered and maintained; and, d) gain more of a political voice. The focus of this chapter is to assess how traditionally disadvantaged groups currently navigate technology, and the changes that must take place to lessen this digital divide. If barriers to ICT can be determined, this will have subsequent implications on the workforce potential within these disenfranchised groups. This chapter proposes a larger implication, one of a link between ICT use and social justice for specific groups. It is imperative that these groups widen their horizons with the use of technology, not just to improve economic status, but to understand that technology and government structures are inextricably tied, having an ultimate effect on democracy.

INTRODUCTION

There are geometric progressions when it comes to technology. Throughout the world, a multitude of data is being processed at this very moment, and this seems to be increasing at an exponential rate. Business, government, and private citizens use information every day to drive decision-making processes. And, to complicate this matter, hardware and software is being revamped at an alarming rate. According to the National Research Council (NRC), (2006), the evolution and improvement to the silicon chips in computers and Internet Communications Technology (ICT) devices will double every 18 months, which, allows for the expediency of processing catapulting forward.

Charness and Boot (2009) postulate that as the longevity of the populace increases, there a significant effect on well-being that is accredited to microprocessor-based technology. The longevity and the tech connection may also create a gap in technology knowledge, making the construct of the digital divide (Charness & Boot, 2009). Micro-processing applications are pervasive in work, health, and recreational activities (Charness, 2008). Therefore, users, or e-learners of information and technology must become adapted rather quickly to a dynamic environment. Essentially, technology that is used by society is a long way from the mainframes of the 80s and the computer programs of yesteryear.

Time in managing these data applications is imperative for quick informational turnarounds (Gorton, Greenfield, Szalay, & Williams, 2008). According to Gorton et al. (2008), three areas of concern that will be important to process are within astronomy, cyber security, and social computing (Gorton et al., 2008). Academic disciplines that will directly assist in serving these critical areas include, "…computer science, engineering, and mathematics" (Gorton et al., 2008, p. 31). Therefore, technology will impact not only the infrastructure of hardware and software but will influence academic studies and the ability of the e-learner to fathom an ever-changing environment.

Beyond the concept of the user, or e-learner, lies the root and enigma of the digital citizen. To be a citizen of any paradigm, one must interface with a larger group construct with the idea of exchanging information, utilizing technology afforded in the world or technology or ICT. And, there are barriers to becoming a digital citizen, which may include the telecommunication infrastructure, social forces, income and educational disparities, racial considerations, age, language, disabilities, and the relevance technology holds for the end user (Shelly et al, 2004). It is imperative that to be a "citizen" within a participatory government, and in order to glean information regarding health and welfare concerns, online and Internet use of information must be accessed. And, in order to access this information, the e-learner must fight against a result of "digital inequality" (Shelly et al., 2004, p. 258).

BACKGROUND

Technology and the Disenfranchised

In terms of technology, there are those that are disenfranchised. According to Barzun (1954), even though there may be a pervasive thought that Americans have overcome the problems of Europe that included inequality, a class society, a basis in aristocracy, and illiteracy within the lower socio-economic strata, we really still suffer from these same kinds of constructs. But, perhaps the question that begs to be answered is, what makes a fundamentally decent society? And, what is the role of government and technology in fostering the components of citizens, or the collaborative shareholders' guarantees to information, safety, medical care, housing, and a shared voice in government, which is ultimately a democratic involvement? And, to advance this idea one step

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