Chapter 13

Using Information and Communication Technology to Maximize Workforce Readiness

Merideth Dee
Florida Atlantic University, USA

ABSTRACT

The following chapter will provide a general discussion regarding the use of Information and Communication Technology (ICT) and how ICT can be used to help prepare students for the demands of the workforce. Additionally, the chapter will explore why ICT fluency is an important factor in preparing students for the demands of the workforce. Furthermore, the chapter will review the literature and empirical research concerned with: attitudes toward the use of ICT, the value of using ICT with regards to workforce readiness and professional development, how different learning environments, such as blended-learning, e-learning, m-learning, virtual learning communities, and social interaction impact workforce readiness, and the theories to consider when designing multimedia and why multimedia can help to prepare students for the workforce.

INTRODUCTION

Information and Communication Technology (ICT) has become an extremely popular tool used in educational learning environments. ICT can help supplement learning as well as learning activities, which can ultimately help prepare students for the time when they enter the workforce. ICT is the combination of Information Technology (IT) and communication technologies. Both IT and communication technologies include different forms of technology that allow for communication. Such examples include: the use of the computer, the Internet, cellular phones, and varied digital...
communication and multimedia technologies. Many researchers contend that today’s students are fully capable of using ICTs and are prepared to enter the workforce. Other researchers argue that today’s students are not fully prepared for the demands that today’s technology-rich workforce entails and reason that “the ability to use Information and Communications Technology (ICT) is now assumed by most commentators to be a prerequisite to living and working in the ‘information society’” (Selwyn, 2003). As such, the use of ICT in our global society has increased the expectation that students will possess a high degree of ICT proficiency upon entering the workforce.

Students who are entering the workforce today are said to be skilled and proficient with the use of ICT. These students, or Digital Natives as some of the literature has named them, are said to be proficient with ICT because they have grown up using it. This, however, may not be the case. Regardless of whether or not Digital Natives truly “exist” (Brown & Czerniewicz, 2010; Junco & Mastrodicasa, 2007; Kennedy, Judd, Churchward, Gray, & Krause, 2008; Palfrey & Gasser, 2008; Prensky, 2001; Selwyn, 2008) as there is an ongoing debate regarding the generalizability of this term, for the purposes of this chapter students who were born between 1980 and the early 2000s (Palfrey & Gasser, 2008) as Digital Natives are said to be “students [who] think and process information fundamentally differently from their predecessors” (Prensky, 2001, p. 1). Moreover, it is argued that Digital Natives will enter higher education and the workforce with knowledge regarding ICT that previous generations of learners will not possess as these Digital Natives will have “spent their entire lives surrounded by and using computers, videogames, digital music players, video[cameras], cell phones, and all the other toys and tools of the digital age” (Prensky, 2001, p. 1). Digital Natives are said to acquire knowledge in a distinctive fashion (largely using ICT as it is argued), and therefore, it is important to consider that it may be impossible to make such a daring statement regarding how and why Digital Natives acquire information. One cannot generalize that all Digital Natives learn the same way, i.e., by using ICT, without empirical research to support such a statement. Therefore, as Digital Natives become the workforce majority, it is important for educators to focus upon the research regarding how ICT can be used to help augment learning and help prepare Digital Natives for the demands of the workforce.

Adult learners, adults who are continuing their education for professional development (or changing their career for example), also have the ability to enter today’s workforce. One of the main goals of this chapter is to discuss the use of ICT in helping to prepare students for the workforce. However, one of the main factors regarding how prepared a student (Digital Native or adult learner) might be for the workforce has to do with how fluent a student is in their use of ICT. As the global use of ICT continues to mature, educators have the complicated task of keeping students up to date and competent with new technologies. Meanwhile, educators must effectively clarify why ICT is an important aspect in their education. Furthermore, educators should also aim to help students understand the importance of being fluent with ICT upon entering the workforce. Sardone agrees, stating: “organizations need individuals with higher-order IT competencies since they depend on IT as a conduit to innovation, transformation, and competition in a global society” (Sardone, 2011, p. 102).

Students, both Digital Natives and adult learners, will need to be fluent with the use of ICT in order to think critically about their work and use ICT to help solve real world problems. Knowing