Chapter 11
Educational Leadership for the Technology Enhanced Learning World

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ABSTRACT
PC-games, video-games, serious-games, educational games, and online-games are forerunners of Technology-Enhanced Learning (TEL) tools we will exploit in myriad ways in the future on a variety of novel platforms. These developments challenge ideas of how to prepare educational leaders and curriculum developers to create and apply effective and meaningful learning tools in this rapidly changing environment. This chapter examines the impact on educational leadership of these phenomena compared with previous instructional designs, including e-learning. With these insights, it also examines the infrastructure needed to expedite cross-disciplinary practice in research and educational communities to create tools for 21st century learning.

INTRODUCTION
Buried in the glare of the ever-growing Internet, a nexus of computer technology and high-speed animation has created a communications/mobile media/animation/simulation/gaming/edutainment industry that is rapidly impacting the way we learn. A useful term for this discipline is Technology Enhanced Learning (TEL) which is the focus of this chapter. Such technology will have a major impact on our future in terms of culture, learning, and education, and it may produce learning that is qualitatively different than traditional education, which can be seen in the way users relate to games such as World of Warcraft. According to Brown and Thomas (2009), “the relationship players may
have with these new learning environments may be much deeper and much richer than current learning theories that rely on a notion of transfer may be able to explain.” (p.1). According to a popular magazine, “It’s learning to be - a natural byproduct of adjusting to a new culture - as opposed to learning about.” (Wired, 2006)

This technical community also produces educational games to teach subjects, expand concepts, understand events or culture, or help learn a skill. Such tools may incorporate games, virtual worlds and simulation for experiential learning, as well as many behavioral tools to teach, direct, and motivate the user to a variety of actions and behaviors. The quality of such products shows how adept developers can simulate real or imagined worlds with imagery and activities that incorporate playability. Good games demand the integration of design and programming skills with artistic flair and sensitivity to human traits, as well as effective management that can handle a creative workforce in an efficient fashion with good engineering and quality assurance. Some PC-based synthetic learning environments cost a fraction of large-scale virtual reality simulators. Soon we will see software that adapts to learners and context with personalization, intelligent feedback, and interactivity to support exploratory learning. (Technology-Enhanced Learning: 32 European Research Projects, 2008).

As bandwidth and delivery improve, products appear in a delivery-independent environment, so this chapter examines these tools based on the features, functions, and benefits delivered to the user or learner, rather than how they are delivered. Brown and Thomas (2009) tell us “What is happening in the games of today is, we believe, a fair predictor of what will be happening in the workplaces and societies of tomorrow.”

Similar technology is also the basis for Serious Games (SG), which are designed to train, solve a problem, investigate, or advertise. Such games may sacrifice entertainment in order to make a serious point, and they are also blended with social networking which are incredibly popular. Thomas and Brown (2007) describe the effects of such technology in leadership training: “When role-playing gamers team up to undertake a quest… This process brings about a profound shift in how they perceive and react to the world around them. They become more flexible in their thinking and more sensitive to social cues.” (p. 1). If this is true, then we might expect Educational leadership programs to quickly adapt such tools in their own training curricula. However, few examples of such activities have appeared in the EDL literature, which suggests it may be more difficult for EDL students to gain the necessary exposure to such systems that will be needed to evaluate the efficaciousness of such tools and the investment required to incorporate them into any curricula. It is this challenge that must be addressed.

Previously, games were created by individuals or small groups, but now games incorporate many skills and resources that require large development teams and huge budgets. However, the design may be the responsibility of programming gurus who may be poorly educated in instructional design, educational values, and learning techniques. Conversely, educational leaders and instructional designers may be barren of the technical skills needed to create products or communicate well with programmers and engineers. Who will edu-