Chapter 8
The Golden Apple:
A Quest toward Achievement

Lesia Lennex
Morehead State University, USA

Kimberely Fletcher Nettleton
Morehead State University, USA

ABSTRACT

The success of any educational technology lies in how students interact with it in an educational setting. In the iLRN model (Lennex & Nettleton, 2009), the teacher provides instruction but through activity theory the students transform the learning to suit their own designs. The quality of teacher directions determines the extent to which students depend on the teacher for further feedback and technical assistance. If a teacher is perceived as not understanding even a small part of the technology, Lennex (2008) discovered that P-12 students are unlikely to ask for clarification of assignments or for any further assistance. Exploration and peer coaching replaced the teacher. Technologically literate teachers who interacted with their students and encouraged the scaffolding of knowledge discovered that final student projects demonstrated higher levels of critical thinking and creativity when compared to teacher-controlled projects.

INTRODUCTION

A great race is being run in schools, with the outcome impacting the future of students. Educators and school budgets strain to keep pace with the rapid growth and capabilities of cutting edge technology (Hirsch, 2005). Considerable gaps occur between acquiring technology and adapting it for effective instruction. Hippomenes, in Greek Mythology, runs a race against Atalanta in order to win her hand in marriage. To attract her attention, Hippomenes tosses golden apples onto her path. The Apple iPod promises to be the golden apple for educators striving to help students keep pace. Sparking student enthusiasm through imaginative educational applications of technology, the iPod's adaptive capabilities to education are extensive. Compared to other handheld devices, it is affordable and has clones that market similar capabilities. Hitting the market in 2001, many universities and

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schools began examining the iPod's educational adaptability (Bomar, 2006; French, 2006; Hastings, 2005; Vess 2006).

Teachers are being trained in educational applications of new technologies with very little time spent on mastering how to use the technology. Lennex and Nettleton's (2009) research revealed that bad technology instruction from teacher education candidates can be overcome. The iLRN model, developed by Lennex & Nettleton (2009), shows the observed effects of initial student instruction provided by the teacher. The quality of the directions determines the extent to which students depend on the teacher for further feedback and technical assistance. If a teacher is *perceived* as not understanding even a small part of the technology, Lennex (2008) discovered that P-12 students are unlikely to ask for clarification of assignments or for any further assistance. Exploration and peer coaching replaced the teacher. Teachers who encouraged this interaction discovered that this scaffolding of student knowledge produced final student projects that demonstrated higher levels of critical thinking and creativity when compared to teacher controlled projects. Using the handheld technology generated final products that exceeded project parameters (See Fiugure 1: iLRN model).

This chapter will also examine current research studies on the strengths and weaknesses of handheld technology in the educational environment and examine the technology standards for teachers and students from the International Society for Technology Education (ISTE) and the National Council for the Accreditation of Teachers (NCATE). It will provide some examples of how the iPod can be used effectively in the classroom. Based on our research into the introduction and use of the iPod in educational settings, the chapter will explore a learning dynamic that occurred when using the Apple iPod as a focal point in P-16 education.

TECHNOLOGY MISCONCEPTIONS

The focus on education should not be on the technology but the teaching that is used with it. The mythology surrounding educational technology must be eradicated. The first myth that undermines the use of technology is that students are omniscient when it comes to understanding technology. Many teachers believe that by virtue of having grown up in a technologically rich society, today's students have an innate understanding of technology. This is unfortunate because there is a digital divide between students. Access to technology is not equal throughout the United States or the world. There are areas of the country where Internet access is not available or only available through limited access. Nearly three-fourths of the American population uses the Internet on a regular basis according to the Global Information Technology Report 2008-2009 (Dutta &Mia, 2009). Yet only 50% of students have access to computers in homes or schools (Reynolds & Lennex, 2009). Complicating the issue further is the gender gap in the use of technology. The average amount of time girls spend using technology is significantly less than the amount of time boys use it. This gap widens as girls enter middle and high school (Canadian Teacher's Federation, 2003; Sanford &Madill, 2006). Even though teachers are aware that disparities exist, students are taught as if, by virtue of their age, they are proficient in technology.

In an education class, the researcher asked undergraduate teacher education candidates to brainstorm ways in which an iPod might be used as a teaching tool. These handheld devices were new to the market at the time. The researcher was explaining that her plan of allowing students to borrow the device was not practical, since the very act of hooking the iPod up to another computer and downloading material would cause the stored