Chapter 34
Liberating Educational Technology Through the Socratic Method

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ABSTRACT

Technology is now an essential component of classroom instruction. Instructors have come to terms with the realization that their students are "digital natives" who acquire information through an array of technologies. The knowledge that is attained through technology induces schools to develop what has been called one-to-one programs. These programs offer both instructors and students opportunities to understand material in meaningful ways. However, without training, laptops merely become add-ons to traditional lesson plans. In order to raise the level of student participation and teacher expertise, this chapter puts forward the idea that the Socratic method can be the pedagogical bridge between traditional lesson plans and technological platforms. In elucidating this idea, this chapter offers background on the general experience of schools that adopted one-to-one programs. The chapter then offers a brief account of the Socratic method. Lastly, there will be discussion on the relationship between the Socratic method and educational technology.

INTRODUCTION

Digital literacy and technology are instruments for human communication and behavior (Lemke, 2010). The skills and attributes the human person needs for responsible citizenship, and work-performance, is being re-defined by, what Dede (2010) called "information and communication technologies." In the educational world, November (2012) claimed that a revolution is happening where teachers are harnessing the uses of technology in their courses. Moreover, the influence technology is having on society is fundamentally changing the nature and functions of schools (Lever-Duffy, McDonald, & Mizell,

2010). While one should celebrate the positive results of the role technology has given students in their educational endeavors, our celebration must be tempered with caution. Recent research suggest that suggests that technology, in the form of laptops, has not raised student achievement in any significant way (Goodwin 2011; Hu 2007). If this is the reality that confronts us, we are then pressed to respond. The question for educators is what kind of response? What are the answers to this problem that seems to be growing? This chapter, per the author, suggests that a return to something used in antiquity may be the answer. This chapter explores the use of the Socratic method as a teaching technique that can give direction to the lack of pedagogical vision in the great One to One debate currently confronting schools.

BACKGROUND

In 2009, Arne Duncan, U.S. Secretary of Education exhorted public schools nationwide to implement technology in public schools (Lemke, 2010). He indicated at a national consortium that "good teachers can utilize new technology to accelerate learning and provide extended learning opportunities for students" (Lemke, 2010, p. 245). As one example of this desire to increase educational technology, schools began to invest millions of dollars in One to One laptop programs (Goodwin, 2011).

However, even before this speech by Duncan, issues were raised concerning One to One laptop programs. Hu (2007) indicated that school districts in New York and elsewhere were seeing One to One laptop programs as major obstacles to student learning. As early as 2007, the United States Department of Education found that there was "no difference in academic achievement between students who used educational software programs for math and reading and those who did not" (Hu, 2007). Studies in Texas and Michigan showed mixed results in student achievement when it came to the effectiveness of laptop programs (Goodwin, 2011).

One cannot also discount the influence teaching has on successful laptop programs (Stansbury, 2010). Studies published in the *Journal of Technology, Learning and Assessment* at Boston College's Lynch School of Education indicated that "the most important factor of all is the teaching practices of instructors – suggesting school laptop programs are only as effective as the teachers who apply them" (Stansbury, 2010). This is further confirmed from results of a recent study of 997 schools in the United States indicating that one of the factors that added to successful laptop programs was teacher training (Goodwin, 2011).

Hence, educators must seize upon the notion that before laptops are given to students, a commitment to teacher training is needed (November, 2010). Norris and Soloway (2010) echoed this sentiment; they wrote: "To make the computer an essential tool in the classroom, and thus to realize the potential value added from technology, we need to redefine the curriculum in terms of what gets taught, and we need to redefine how it gets taught" (p. 1).Indeed, Pearlman (2010) made the bold claim that simply putting computers in the hands of students is not a solution, but actually "reinforces the old teacher-directed whole group instruction" (p. 127). The common experiences of schools that have embraced laptop programs has been to add on the technology to the same lesson assignments, instead of changing the nature of the lesson assignments. Students have been given the technology, but the lessons have not changed, resulting in the laptop becoming high-priced notebooks (November, 2010).

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