

## Chapter 9

# Technology to Enhance the Affective Learning Outcomes of Teacher Trainees

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### ABSTRACT

*This chapter focuses on the utilization of technology to enhance the learning outcomes of pre-service teachers in the context of post secondary four year teacher education program provided by higher education institutions. A brief description of technology in teacher education precedes the discussion on the learning outcomes with a specific focus on the affective outcomes. Several guiding principles for enhancing the affective learning outcomes of pre-service teachers are furnished prior to describing a technology supported immersive learning approach to elicit such outcomes. The chapter concludes with a Malaysian immersive learning example that utilises the internet technology and collaboration with practitioners in schools.*

### INTRODUCTION

Technology is certainly not a panacea to all educational problems but it has become indispensable to educators in schools and higher education institutions. This is especially true for computer and internet technologies. At the very least, the word processor aids the preparation and management of class instruction. This chapter focuses on how technology can be employed to enhance the affective outcomes of teacher trainees in teacher

education. We specifically opt to deliberate on affective learning outcomes due to the challenges of educating teachers who are not only expected to have the knowledge, skills and affective attributes but to impart all three components to the students they are teaching. Teaching also takes place in an ill-structured, dynamic setting; it draws on various knowledge and directs at diverse groups of students whose characteristics and dispositions differ from one another. It is an overwhelming task and rather a difficult one to measure the outcomes of graduates of teacher education who are poised to “*teach more by what they are than by what they say*”. We refer to

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pre-service teachers and teacher trainees as those who are undergoing teacher education programs and have yet to graduate. We seek to limit the discussion in this chapter to the four year teacher education program normally conducted by higher education institutions (HEIs) in countries such as United States and Malaysia. Such university based programs have been scrutinized and challenged on its effectiveness to produce educators (Russell & Wineburg, 2007). There ought to be a re-examination of the outcomes of such programs especially amidst the competition with other alternative pathways to teaching licensure. Moreover, the higher education environments are invariably different from those in the schools. Education in higher education tends to differ from the real life contexts. HEIs play the role of furnishing educational theories and classroom models. More often than not, delineation of theories and practice occur as practices in schools are imagined, visualized and simulated. Some instructors may not even have the experience of teaching in schools. There is a need to minimize the demarcation between the pre-service teachers' understanding and what is in store in the real school setting. To do so, we call for the use of the increasingly affordable and ubiquitous technology to support learning in all the learning domains, at all levels and via different modes.

## **TECHNOLOGY AND TEACHER EDUCATION**

There is no denying that technology has advanced by leaps and bounds over the years. What was the awe of the 70s are now almost obsolete or have taken different forms in terms of production or delivery. An example would be the video. The analog era saw video production as tedious and time consuming but now children are able to produce videos of acceptable quality using hand held digital camera or mobile phones and editing them via simple video editing software. Computers

evolve from being unique to being ubiquitous. The high tech wonders of the 80s which included the monitor with the flickering green text and other peripherals that essentially required a room to be housed in are now installed in lightweight tablet PCs or I Pods. Technology not only converges; it is more durable and affordable. We no longer see technology as the gadgets for the rich. In fact, people are fast becoming consumers of technology. We are also witnessing a diminishing affluence divide due to the all pervading technology. The emergence of the World Wide Web and the internet transform lives as the internet serves as a communicator, infotainer and service provider. People express themselves, work and learn on the move; with the internet, they connect and interact. Educators cannot deny the significance of the internet in the teaching-learning process since students are now "born and bred in the web era"

In this chapter, we will loosely refer to technology as the tool and techniques for learning and for the delivery of instruction. Hence, it may range from media such as videos and information and communication systems to process (soft) technologies. Table 1 illustrates some of the available hard and soft technology including hardware, categorized accordingly with reference to Sun Associates (2001). In terms of technology use, Davis (1997) also classifies them into the following areas: (1) enhancement of productivity, (2) technology literacy, (3) technology assisted learning, and (4) technology tools for learning (mind tools, etc).

Betrus and Molenda (2002) provide an informative account of how technology in teacher education has evolved since the 1920s. They reflected on how educational media was substantially affected by the emergence of computer technologies of the 1980s. The internet has also brought colossal changes to teacher education providers. Tomei (2003) classifies technology in a progressive utility level from the use of technology for literacy (understanding), for collaboration, decision-making, infusion (learning with technol-

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