

## Chapter 9

# Mobile Education Mitigating the Heavy Magnitude of Illiteracy in India

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### ABSTRACT

*This chapter introduces the concept of mobile learning as a means of portable learning. Through the use of mobile technology, citizens of the world will be able to access learning materials and information from anywhere and at any time. Learners will not have to wait for a certain time to learn or go to a certain place to learn. It presents the evolution of classroom learning to mobile learning. There has been made an effort to explore current perspectives of mobile learning. Approaches of m-learning suggest implication of mobile devices in the classroom. Pedagogical methods and instructional approaches of m-learning have also been explored in this chapter. Further, the authors make an attempt to give rational of mobile learning through various theories of m-learning. It suggests opportunities of mobile learning in the Indian scenario. Mobile learning can effectively support a wide range of activities for learners of all ages.*

### INTRODUCTION

Mobile technology, because of its personal nature, lends itself to a unique integration into the user's life. Advances in technology during the past decade have created a worldwide boom in the sale of this kind of technology, permitting private individuals to enjoy personal, mobile wireless connectivity. The widespread ownership of mobile technology in the form of mobile phones, especially among

young people, has created opportunities and challenges for educators.

All humans have the right to access learning materials and information to improve their quality of life regardless of where they live, their status, and their culture. Mobile learning, through the use of mobile technology, will allow citizens of the world to access learning materials and information from anywhere and at any time. Learners will not have to wait for a certain time to learn or go to a certain place to learn. With mobile learning,

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learners will be empowered since they can learn whenever and wherever they want. Also, learners do not have to learn what is prescribed to them. They can use the wireless mobile technology for formal and informal learning where they can access additional and personalized learning materials from the Internet or from the host organization. Peoples all over the world will want to access learning materials on their existing mobile devices

These opportunities are facilitated by the development of relevant technology platforms and tools, and their effective use to reach a desired outcome. An essential feature relevant to education is that mobile technology removes the limitations of time, space and connectivity that characterize the conventional classroom and other forms of teaching and learning. Because of this it offers the individual user the capacity and freedom to connect to remote information and other resources; enriching, personalizing and extending the learning environment.

### **Historical Perspective of Mobile Learning**

The idea of using computerized mobile devices to support learning was formally conceptualized a surprisingly long time ago. In his paper “Disruptive Devices: Mobile Technology for Conversational Learning,” Sharples, 2002 identifies Alan Kay’s Dynabook, conceived in the early 1970s, as the first serious attempt to design a computer-mediated mobile learning platform. Although the Dynabook was a concept, the ripples of the project – and Alan Kay’s (non-portable, “interim”) Dynabook prototypes – can still be felt today, and will probably be felt for decades to come.

Just as groundbreaking as the technology it was Alan Kay’s vision for how the technology would be used to support learning. His vision for the Dynabook was based in the then-nascent philosophies of (Social) Constructivism: the theories and models of learning being developed by his contemporaries Lev Vygotsky, Jerome

Bruner and Seymour Papert, (who had studied with developmental psychologist Jean Piaget). Sharples (2002) distills the features of effective learning in constructivist terms via the essential elements of construction, conversation and control. Sharples’ m-Learn, 2007 presentation on the history of mobile learning summarizes how the Dynabook concept would have accomplished these requirements, technically and pedagogically. It was to be an interactive machine that would be small and light enough to be carried everywhere by learners. It would have “book-like” qualities in terms of display, yet its interface would be dynamic, with the ability to create, edit and store visual, textual, and audio content. It would have high-bandwidth communication, both locally and globally, and it would cost under \$500. It would be personal, interactive, and would support learning through play, collaborative learning, informal learning, dynamic simulations, and “anytime, anywhere” learning.

It was amazing thinking for 1972. Many of Kay’s original ideas for the Dynabook simply weren’t possible at the time he conceived them, but have recently come to fruition – such as the Squeak Smalltalk environment which enables children to create and learn using computers (implemented on the OLPC, but boasting cross-platform capabilities). Here’s a real example of Squeak being used as a learning tool.

Although small, pocket-sized “electronic organizers” were available in the 1990s; these had, at best, a three line text-only display. Palm Pilot PDAs, introduced in 1996, were the first multi-purpose, customizable handhelds suitable for a range of creative learning activities; and in 2001, SRI International awarded over 100 “Palm Education Pioneer” grants to US teachers who had a vision of how Palm handhelds could be used to improve teaching and learning. Many of the findings of the PEP grants have been confirmed by later “handheld learning” studies. Examples of pertinent findings include the strengths and weaknesses of various models for allocating

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