Educational technologies are changing constantly. Part of the reason is due to the development of new media technologies. Throughout history, it is clear to see how technologies influence education. The printing press was started in 1436. Eventually, mass duplication and distribution of information led to schooling. In 1922, Thomas Edison predicted that motion pictures would replace textbooks. Although textbooks are still required today, film was the first true modern learning technology being used in military training during the World War II. With the development of satellite TV in the 80’s, the military worked with leading universities and brought in behavioral and cognitive psychology, and eventually led to commercial educational films. In early 90’s, multimedia technology with CD ROMs gave another highlight of using modern technologies in education. Shortly, with Internet and Web browsers, the notions of distance learning, virtual university, e-learning, m-learning, and u-learning (i.e., ubiquitous learning) were widely discussed and realized in high level education as well as in K-12.

In the blooming of this virtual university era, someone predicted that teachers will be partially replaced by distance learning systems. Yet, evidence shows that face-to-face instruction is still the most efficient way of teaching. The question comes to the fundamental meaning of education – to transfer information from experienced teachers to less experienced students. Technology is helpful but should never drive the education process. And people are the center of the process. Hybrid Learning or Blended Learning combines face-to-face instruction with computer-mediated instruction. This paradigm of instruction relies on modern media technologies, with serious considerations of their pedagogical implications. Hybrid learning models, although not well-defined with fundamental requirements such as instructional design principles and assessment methods, take notices of educational professionals, researchers, and engineers.

This handbook collects research contributions from both educational and engineering professors. Education theories and models are addressed, as well as practical software implementation and usage case studies. The interesting part of this book includes several good chapters discussing hybrid learning models with a few other chapters demonstrating practical software systems. Some of these chapters discuss advantages of Hybrid Learning over traditional education. Yet, others point out the fundamental issues of educational theories needs to cope with the technology changes. The discussion will benefit graduate students and young professors who are looking for research issues in e-learning and virtual university.

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