Section 7

IT AND DISTANCE LEARNING IN K-12 EDUCATION

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Distance education is defined by Moore (2003) as "all forms of education in which all or most of the teaching is conducted in a different space than the learning, with the effect that all or most of the communication between teachers and learners is through communication technology" (p. xiv). The history of distance education (DE) in the form of correspondence education could be tracked back to the early 1700s, and technology-based DE, marked with the introduction of audiovisual devices into schools, to the early 1900s (Jeffries, 1993, p. 1). Nevertheless, today's K-12 DE is fundamentally unique (Cavanaugh et al., 2004, p. 6). The profound developments in computer networking and telecommunications in the last decade created a powerful technological base for DE, which offers various possibilities for compensating the distance – global reach of people, unlimited access to educational resources, rich possibilities for distance communication and collaboration, and design of virtual learning environments.

This section deals with ICT-supported DE in K-12 (i.e. primary and secondary school). It includes six chapters, complementing each other in order to provide an overview of the main issues in today's K-12 DE and to identify future trends and research directions. A variety of representations of ICT-supported DE in K-12 have been observed: from enrichment of traditional learning, through blended learning models to virtual schools (VS). Whatever the context and format, DE in K-12 phenomenon poses new challenges and new requirements to all players in the process – students, teachers, administrators, and parents. Though there are a number of "best-practice" examples for student-centered DE, in the mass scale teacher-centered and material-centered learning designs still dominate. Another concern about present K-12 DE is that despite the technological developments, which allow more flexible and active learning arrangements, this potential has not been fully utilized yet.

J. Voogt and G. Knezek (eds.), *International Handbook of Information Technology in Primary and Secondary Education, 639–640.*

Chapter 7.1 discusses the role of ICT as a catalyst for a global educational reform in schools aimed to break the monopoly of the print-and-paper-based education. It is characterized by the use of virtual learning environments that do not a put clear boundary between physical and virtual worlds. The effectiveness of ICT-based DE is discussed and its future is considered in the context of the so-called Web 2.0 schools.

Chapter 7.2 presents an overview of pedagogical issues in the online classroom, with a focus on the communication component. Strategies for enhancing teaching and learning in a collaborative online environment are discussed. Past experiences are reflected upon and current challenges for effective use of technology as a tool in the online classroom are emphasized.

Chapter 7.3 zooms into the virtual school phenomenon. After defining VS characteristics and configurations, a number of important VS issues are reviewed from program, student, teacher, and policy perspectives. Finally, recommendations on research and policy issues related to the future of VS are provided.

Chapter 7.4 focuses on the DE-Enrichment model. Definitions and examples of the concept are presented using the experiences of Hawaii and Pacific/Asian regions. Alternative models and techniques are presented as well.

In chapter 7.5 the concept of open learning is elaborated. Particular attention is given to the emerging field of Learning Objects and open educational resources. Their potential for K-12 education is considered.

Finally, in Chap. 7.6, online professional development for teachers is discussed. Virtual learning environments are seen as an effective way for spreading teacher education and supporting professional development. Models for online professional development are presented and trends in content development are identified. Lessons learned from Asia/Pacific, as well as examples from Europe (Hungary), are presented.

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