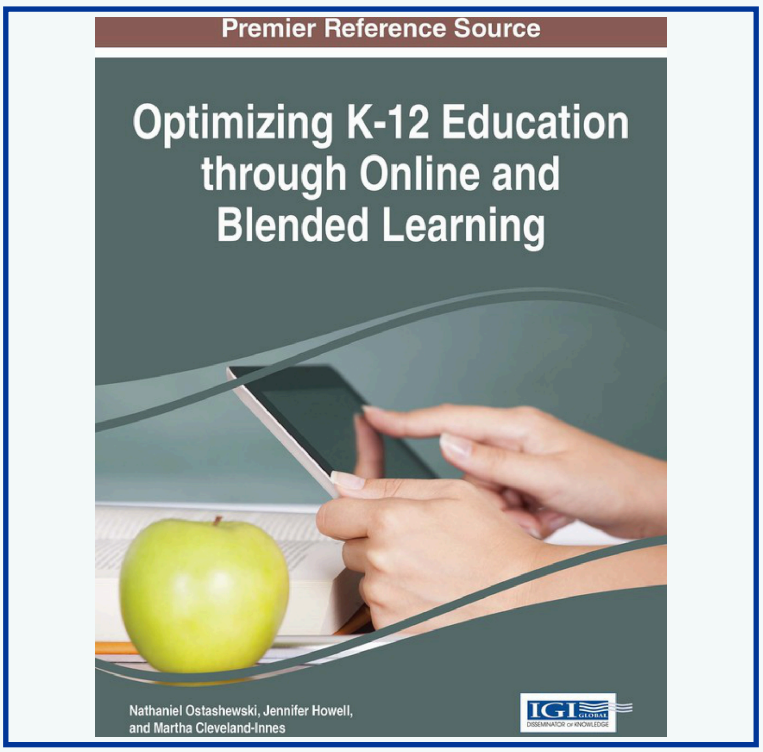
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Optimizing K-12 Education through Online and Blended Learning



Optimizing K-12 Education through Online and Blended Learning

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Martha Cleveland-Innes, Athabasca University, Canada
Stefan Hrastinski, Royal Institute of Technology, Sweden

Using the Internet for educational purposes is now commonly accepted. More challenging is the realization of this potential, particularly in the K-12 education environment. According to the growing literature on this topic, using Internet technology during K-12 teacher training will provide more knowledge and skills for teachers wishing to use Internet technology in their own classrooms. In an adaption of the online Community of Inquiry, a revised framework for one-to-one online teaching was developed. In the Relationship of Inquiry framework, the elements of cognitive, teaching, social, and emotional presence outline the educational experience of one student receiving learning support from one teacher. The framework was tested with pre-service teachers using the Math Coach program which offers help with mathematics just-in-time via instant messaging.

Chapter 2
Optimizing K-12 Education through Effective Educator Preparation: Lessons Learned from a Synchronous Online Pilot Study 23
Mary Kathryn McVey, Franciscan University, USA
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Mary Lucille Smith, Franciscan University, USA

Teacher interaction, presence, and participation in online and blended courses are key to facilitating student learning and student satisfaction. Those being prepared to teach in online K-12 environments must learn the knowledge, content, skills, and dispositions relevant to the online learner of the digital age, and particularly to incorporate into online courses the appropriate methods, including Technological Pedagogical Content Knowledge (TPACK). It is imperative that educator preparation programs provide its candidates with authentic field experiences in K-12 digital environments. This chapter includes findings of a pilot study that examined challenges faced by teacher candidates placed in an online student teaching environment and provides recommendations for course design, faculty support, infrastructure, and future research direction.

Chapter 3
A Model for Teacher Training to Improve Students' 21st Century Skills in Online and Blended Learning: An Approach from Film Education 45
Julia Breddermann, Association for the Promotion of Film Education, Switzerland
Juan-Francisco Martínez-Cerdá, Open University of Catalonia (UOC), Spain
Joan Torrent-Sellens, Open University of Catalonia (UOC), Spain

This chapter presents and develops a model of teacher training considering six socio-technical areas that are currently affecting the K-12 educational environment in both face-to-face, blended and online learning: 1) development of 21st century skills; 2) conducting social innovations; 3) appropriate knowledge management among educators; 4) a renovation of classrooms in pursuit of creative classrooms; 5) effective educational practices; and 6) all these issues under a formal educational context that has its own standard and curricular rules. In this context, a literature review on skills needed in the knowledge based society has been realized together with an analysis of possible film education scenarios for media and web-enhanced classrooms, and an exploratory qualitative research about actual ICT activities at school and their outcomes. The entire research regards teachers' lifelong learning with the aim to acquire regularly new competencies. These new abilities enable them to face new professional challenges.

Chapter 4
Current Trends and Perspectives in the K-12 Canadian Blended and Online Classroom 74
Constance Blomgren, Athabasca University, Canada

Canada has a history and geography that has required the use of distance education models and resources, and with its distributed population the potential of blended and online learning to further address K-12 learning needs is presently viewed by government as a means to deliver public education. These commitments have produced numerous responses and concerns regarding technical infrastructure, discussions regarding pedagogy, professional development of teachers, and establishing the means to meet the needs of twenty-first century learners. The following overview provides the Canadian K-12 context and educational trends, issues, and concerns within digital technologies and distance learning. The resulting summary holds significance for jurisdictions that have a vast geography and dispersed rural students, indigenous populations, as well as K-12 urban learners who require flexible access to educational delivery. Additionally, the overview contributes to the emerging understanding and the variety of response to digital technologies as part of the Canadian educational landscape.

Chapter 5
Factors Influencing International Student Success in a K-12 Blended Learning Program..... 93
Annette Levesque, Canada eSchool, Canada
Doug Reid, Grant MacEwan University, Canada

This research explored the experiences of foreign students enrolled in the Canada eSchool distance learning program. The study included one secondary school in Nigeria and three in Malaysia that had students enrolled in a program based on a blended learning model. A mixed mode data analysis model including qualitative and quantitative data analysis was undertaken. The purpose of the study was to examine factors that influence student success in blended learning programs accessed by foreign students. Results indicated that students in the study were most successful if they were self-disciplined and had access to a variety of local supports including: an effective learning environment with access

to quality technology; assistance in the development of English as a second language; and support in navigating pedagogical transitions between educational systems. In theory, the results of this study point to a connection between the local and Canadian support communities for foreign students enrolled in Canadian blended distance education programs, and their academic success.

Chapter 6
The Psychological Domain: Enhancing Traditional Practice in K-12 Education 109
Adrian O'Connor, University of Limerick, Ireland
Niall Seery, University of Limerick, Ireland
Donal Canty, University of Limerick, Ireland

This chapter will attempt to frame the potential of a flexible approach to teaching and learning that provides diagnostic and formative evidence to enhance traditional practice in K-12 education. Commencing with a brief account of the Community of Inquiry model as a potential framework for online and blended learning, this chapter investigates what is it about traditional classroom practice that researchers wish to enhance, the challenges facing contemporary systems of online and blended learning, and how new ubiquitous configurations for teaching and learning have become possible. With an emphasis on supporting discourse through the development of social and cognitive behavior, this chapter will endeavor to qualify the processes that evidence psychological development in a ubiquitous learning environment and provide data to inform the relative efficacy of utilizing such processes in the design of a new pedagogical approach.

Chapter 7
Introducing the Teaching and Learning Benefits of the WWW in Aboriginal Schools: Trials and Tribulations 128
Judith Rochecouste, Monash University, Australia
Rhonda Oliver, Curtin University, Australia

In this chapter, projects undertaken at two independent Aboriginal boarding schools in remote Western Australia are described. Both projects have sought to provide instructional advice for teachers and to enhance students' literacy levels through access to the internet. A dedicated website was developed for each school to respond specifically to the students' language and literacy needs. Several positive outcomes resulted from the projects. At the first school, code-switching was accepted throughout the school and even formed part of classroom instruction. At the second school, staff in general showed great interest in supporting their students' use of the online resource. Students who accessed the website were excited by the prospect of having their photos and videos uploaded and even suggested improvements to the site. Despite the above successes, the introduction of the websites at each school did not occur without problems which are described in this chapter.

Chapter 8
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Norman Vaughan, Mount Royal University, Canada

The purpose of this chapter is to demonstrate how the Practical Inquiry model can be used to create effective blended and online learning experiences in a K to 12 education context. The chapter begins with an introduction to inquiry-based learning followed by design strategies and examples of how digital technologies can be used to successfully integrate synchronous and asynchronous opportunities for learning in blended and online courses.