Book Review

Innovative Applications of Online Pedagogy and Course Design

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With new technology revolutionizing the context of learning throughout education, teaching and learning could be freed from traditional classrooms where physical presence is necessary (Uppal, Ali, & Gulliver, 2018; Zhang & Nunamaker, 2003). As online resources and tools become diverse and complex, online pedagogy and course design should be adapted to these radical changes. This book "*Innovative Applications of Online Pedagogy and Course Design*" offers some great guidelines for stakeholders in e-learning.

This book is divided into several sections with different themes. Section 1: Online Pedagogy and Instructional Design contains five chapters. Chapter 1 outlines a historical review of the development of instructional design, and indicates current and promising trends in technologies supporting instructional development. The author also introduces the concepts of adaptive learning, digital storytelling, gamification, simulation technologies, augmented and virtual reality, cybernetics, the xAPI standard, mobile and ubiquitous learning. Instructional design needs to keep up with advances in technologies and human-machine interaction capabilities; therefore, the author calls for extensive studies in discovering ways that instruction can be properly developed, effectively delivered, tracked, and assessed using newer technologies.

The second chapter aims at exploring how Finnish and Greek language and science teachers integrate digital technologies into classroom practices. A meta-analysis of findings is conducted from two previous studies on teachers' metaphorical thinking through the theoretical lens of conceptual metaphor, blending theory, and semantic theory of metaphor. The findings indicate that teachers' pedagogical actions change when they reconsider the socio-political aspects of school reality. The

authors suggest that when positioning digital pedagogies within a specific context, one should also look into their historical and theoretical aspects.

In Chapter 3, the authors describe testing their hypotheses of teachers using Web 2.0 Tools in engaging content, promoting self-efficacy, and the implications of these for intentional student learning. Their interesting research was conducted on undergrads majoring in elementary education by applying Technological Pedagogical Content Knowledge (TPACK) model as a framework. The results suggest that teachers should integrate their learning and experiences into the web environment. By shifting from an objective/subjective political structure to an intersubjective political structure, the classroom could become democratic and collaborative.

The fourth chapter explores Human-Computer Interaction and focuses on the methodology aspect of designing an application. A pedagogical agent called Lingu, which interacts with learners in natural language, is introduced. Interviews with student users show positive results, that students were motivated when using the interface.

The last chapter in this section examines the perceptions regarding the support needed and tools applied by K-12 online course developers. Web-based survey and telephone interviews were conducted and the results revealed the developers' tendency toward using interactive elements in course design. Those who initially created independently teamed up as the process evolved. Although the developers prefer not to retain a template, they express the need for general structure in which the content may be placed.

Section 2: Online Pedagogy and Managing Instructional Delivery comprises Chapters 6-10 and focuses on delivery of instruction. In Chapter 6, an E-Learning Political Strategies (ELPoS) model is presented and with four case studies to demonstrate how e-learning behavior or strategy can lead to a different outcome in educational settings. E-Learning political strategies are affected by the identity of the initiator of the political activity, by the direction of the political strategy, and can be moderated by demographic and situational variables.

The next chapter adapts a framework regarding online learning design and further adds context to the affective domain of learning. The authors present a concept map to draw the importance of affective considerations, and provide an example of enhancing course design by incorporating the taxonomy of learning objectives in the affective domain.

In Chapter 8, Salmon's 5-Stage Model is employed as a guideline by the authors to conduct their research on the role of tutors in online facilitation. In interviews, they discuss challenges faced by tutors and best practices that tutors could follow for improvements in the distance-learning experience. The results reveal that tutors should act with more than just technical competence; the ability to create bonding relationships with students is important as well as having an understanding of the dynamics of online communication and interactions.

The importance of feedback between students and instructors in online learning is also discussed in Chapter 9. Among different types of feedback, the researchers found that personalized, specific, and timely feedback is considered most helpful by students. From instructors' perspective, they are used to providing positive and corrective types of feedback. Strategies for instructors to integrate different types of feedback into course design are presented as well as methods which could enhance students' learning experience with digital communication.

In the final chapter of this section, the author demonstrates how a web-based cumulative sentence analysis (CSA) system could be helpful to English reading comprehension. Research was conducted on university engineering students, and the results show positive correlation between the post-test and online CSA test. This study indicates that learners could improve their reading comprehension by enhancing syntactic analysis ability.

Section 3 is about Online Pedagogy and Social Media; use of popular social media such as Twitter, blogs and Facebook are discussed in Chapters 11-13. Twitter was chosen as an online instructional

tool in an exploratory quasi-experiment among college-level students. The authors of Chapter 11 examine how instructor's Twitter usage might influence students' learning outcomes. Results imply that higher Twitter usage is linked to increased pedagogical affect and course effectiveness, thus giving Twitter pedagogical value in higher education.

Chapter 12 turns to usage of blogs among primary school students. This study reveals that students are motivated to blog when they can share ideas, experiences, and maintain relationships. It also shows the need for competence as most prevalent amongst students. In addition, students' grammar and writing improved through this experiment, which has great pedagogical significance for online courses.

An experiment with Facebook serving as a knowledge-building teaching resource for a group of future primary teachers at a Spanish university is conducted and analyzed in Chapter 13. The aim is to use social networking in the teaching-learning process and to examine if student-teacher relations, a key element in the process, could be improved. The authors showed that Facebook could benefit both students and teacher in knowledge construction, social learning and digital competence. In addition, teamwork, cooperation, collaboration and interdisciplinary work-related skills also improved.

Section 4 introduces five studies regarding innovative applications of online pedagogy. The first one, in Chapter 14, deals with a virtual laboratory in science education. The authors test the constructivist approach by designing three successive versions with altered guiding structures in a virtual laboratory setting to engage students for collaborative knowledge construction. They originally aimed to find out how students' scientific reasoning changes within different versions. Yet the analyses in this experiment reveal that this approach may not be that effective. The authors note that students might not be knowledgeable enough regarding the micro-concepts of their study and not able to master the scientific language. The case implies that adding guiding structures and aids may lead students to the right answer, but could also decrease students' constructive discussions in the discovery process.

In the second study, featured in Chapter 15, a qualitative multiple-case comparison of graduate students is used to demonstrate the advantages and difficulties of HyFlex model course design. Online option and face-to-face components are blended in the course, so that students could choose based on their needs. By giving students multiple delivery modes and learning choices, the students' motivation in learning is also increased.

Chapter 16's study is a discussion on using Internet-based collaboration networks to assist management education for future transformation. Developments such as curriculum innovation, cloud-based resources, intelligent tutors, and implementation strategies are introduced. Through a 2012 Internet=based survey, the authors measured faculty, administrators, and researchers' attitudes towards new learning technologies. Faculty training, mentoring and development are identified as key ingredients in management education; cloud-based collaboration is recommended to share and exchange ideas for learning.

The author in chapter 17 conducted a phenomenological interpretation of students and teachers' educational online technology (EOT) experiences in blended tertiary environments. By analyzing the stakeholders' EOT needs and challenges, the author recommends a set of recommendations for effective EOT use, such as integration of Facebook-like notification and messaging functionalities into learning management systems (LMS), development of a rewards or acknowledgement system that encourages students to deliver online support to their peers, and training in using LMS functions to support learning.

In the final chapter, the evolution of distance learning in the higher education environment and concerns for the future are discussed. The authors present a summary of critical factors related to course organization and the individual in the adoption of technology. Critical factors in the organizational dimension include strategy, structure, time management and credit hours (flexibility), technology, evaluation and pedagogical/technological support. As for the individual/personal dimension, time to develop materials, blend them for online delivery, and participation in pedagogical and technological training are identified as main factors.

Modern age classroom requires new approaches to adapt to the latest technologies. For instance, implementing digital storytelling in classroom settings, utilizing intelligent tutoring system outside the classroom and applying data mining algorithms on social networks to analyzes the habits and interests of students in learning activities are proved to be effective in numerous studies (Kotluk & Kocakaya, 2017; Mahnane, 2017; Mohamed & Lamia, 2018; Tsuia & Starechesk, 2018). However, the various learning theories, online tools and concerns about socio-political aspects of school reality might be too overwhelming for teachers who want to incorporate online learning for the first time. They not only need to consider aspects such as their workload when including new methodologies, the affective burden of the stakeholders, but also have to figure out how to maintain students' focus after adapting social media. Although some of these concerns are addressed in the book, there is still room for discussion. In addition, according to Tsai and Chiang (2013), the major contributing countries of problem-based learning (PBL) pedagogy and online education papers from 2004 to 2012 are US, Taiwan, UK, Australia, and Spain. It would be more insightful if this book would have included more studies from Asia. Nevertheless, as it stands, this book presents recent research, detailed analyses, fascinating case studies, and helpful recommendations. Its well-structured and rich contents indeed live up to its title; therefore, it is still practical for educators, students and facilitators who want references for online course design and pedagogy.

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