Handbook of Research on Transformative Digital Content and Learning Technologies

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Chapter 1: Professional Development for Technology Integration into Differentiated Math Instruction
Jackie Hee Young Kim, Ardyth Foster and Moon Heum Cho
To make a connection between pedagogy and technology in teaching, this chapter will explore whether or not a professional development design and practice, whose aim is to help teachers use technology for personal purposes, readily translates into the ability to effectively teach and learn with technology.

Chapter 2: Mobile Technology Integration and English Language Learners: A Case Study
Jung Won Hur,
The purpose of this chapter is to report a case study examining the benefits and challenges of iPad use to help ELLs develop language proficiency. Based on the differentiated instruction framework, the author integrated iPads into a grade 4-5 ELL classroom and investigated learning impacts through classroom observations and interviews with the teacher and students.

Chapter 3: Integrating iPads in Middle School Science Instruction: A Case Study
Lana M. Minshew and Janice L. Anderson
This chapter reports on a study to examine how middle grades teachers’ integration of one-to-one technology moves beyond drill and practice and using apps as extension activities. With the appropriate support and experience, iPads and other mobile devices can be used for collaborative scientific inquiry moving beyond individual skill practice and assessment appropriateness.

Chapter 4: ICT Literacy Integration: Issues and Sample Efforts
Lesley Farmer
This chapter explores the process of developing a systematic and coordinated approach to ICT literacy into the curriculum through a Case Study of one university system. Collaboration within academic domains, with expert partnerships of librarians and instructional designers, can boost ICT literacy and facilitate its effective integration for student learning.

Chapter 5: Reconceptualizing Universal Design for Learning (UDL) as Learning Technology in Non-Formal Education
Laura R. Ficarre and Deborah A. Chapin,
This chapter will offer a novel interpretation of learning technology to include models and frameworks of support, such as Universal Design for Learning (UDL). The recognition, strategic, and affective cognitive networks provide a structure for how differentiation can be operationalized and applied so that access to instruction is maximize while barriers are minimized.

Chapter 6: Digital Wellness: Integrating Wellness in Everyday Life with Digital Content and Learning Technologies
Chadwick Royal, Suzan Wasik, Robert Horne, Levette Dames, and Gwen Newsome
The purpose of this chapter is to present the Digital Wellness Model (Royal, 2014) and provide recommendations for how the model can be implemented by users of technology. Specific strategies for promoting digital wellness are also shared.

Chapter 7: Fully Online Education and Underserved Populations
Rochelle R. Newton
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Chapter 8: Enhancing Learner-Centered Instruction through Tutorial Management Using Cloud Computing
John K. Thuku, Elizaphan M. Maina, Samson R. Ondigi, and Henry O. Ayot,
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Chapter 9: Opportunity to start strong: Integration of technology in science lessons in the early elementary grades
Dalila Dragnic-Cindr, Elizabeth Barrow, and Janice L. Anderson
This chapter investigates challenges faced by educators in the early elementary grades as well as opportunities to transform science education in these critical, early years of schooling. While implementations of technology enhanced inquiry-based science lessons in early elementary grades present educators with some unique dilemmas, they also carry a potential for sparking the scientific curiosity of the youngest elementary school learners’ and illuminating the years to come.

Chapter 10: The Use of Social Media to Facilitate Real-time eLearning
Njoroge P. Kahemya
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Chapter 11: Facilitating Multicultural Student Team Engagement in Higher Education: A Model for Digital Learning Environments
Soo Jeoung Han, Carla Liau-Hing, and Michael Beyerlein
This chapter introduces a three-phase model of multicultural online project team development in order to engage students in digital learning environments in higher education. The findings suggested that cultural diversity in teams negatively impacted the process factors, such as communicating, trust building, establishing expectations, intercultural learning, and knowledge sharing.

**Chapter 12: Makerspaces: Materializing, Digitizing, and Transforming Learning**
Marguerite Koole, Jean-François Dionne, Evan Todd McCoy, and Jordan Epp
This chapter examines the makerspace activity process (MAP) framework that illustrates how makerspace activities—curating, relating, and creating—are intertwined through networking practices. For those educators who find it difficult to integrate within formal curricula and assessment practices, the MAP framework provides a guide for facilitating and assessing learner activity in educational makerspaces.

**Chapter 13: Distance Learning in Kenyan Universities: The Relationship between Learners’ Characteristics and Academic Performance**
Winfred K. Kithinji and Anne W. Kanja
This chapter examines the relationship between learners’ characteristics and academic performance. Adopting the triangulation design validating quantitative data model, the predictive power of the following variables was examined: age, gender, entry qualification, region of residence, employment status, marital status, academic selfconcept, and study strategies. Findings show that learner characteristics were positively related to academic performance.

**Chapter 14: Active Student Engagement Through the Use of WebEx, MindTap, and a Residency Component to Teach a Masters Online Group Counseling Course**
Levette S. Dames, Chadwick Royal, and Kyla M. Sawyer-Kurian
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**Chapter 15: Promoting Active Learning in Mathematics Teacher Education: The Flipped Classroom Method and Use of Video Content**
Rukiye Didem Taylan
This chapter provides examples of how mathematics teacher educators can promote prospective teachers’ active learning and professional growth by bringing together the Flipped Classroom method with video content on teaching and learning as well as workplace learning opportunities in a pedagogy course. The professional learning of prospective teachers is framed according to the components of the Pedagogical Content Knowledge. Implications for future trends in teacher education are also provided.

**Chapter 16: Integrating Disciplinary Literacy Practices in One-to-One Classrooms**
Emily L. Freeman, Alexandra J. Reyes, Daiila Dragno-Cindric, and Janice L. Anderson
This chapter examines the use of disciplinary literacy in elementary and middle grade science classrooms that participated in a one-to-one iPad initiative. Results of teacher instruction in science disciplinary literacy practices in a one-to-one iPad technology integration, examples of collaborations, and observational data are shared.

**Chapter 17: Using Hearing Assistance Technology to Improve School Success for All Children**
Diane M. Scott
This chapter will provide information to teachers and administrators about hearing assistance technology that can facilitate classroom learning for typically developing children, second language learners, children who are hearing impaired, and children with normal hearing thresholds but significantly poorer auditory performance, such as children who are diagnosed with auditory processing disorder, autism spectrum disorder, attention-deficit hyperactivity disorder, and language disorder. Teachers and educational audiologists can collaborate on the use of technology to ensure children have access to auditory information in the classroom.

**Chapter 18: Mobile Learning: Content Format and Packaging for Effective Teaching and Learning in a Learner Centered Pedagogy**
Bonface Ngari Ireri, Ruth Diko Wario, Elijah I. Omwenga, Robert Oboko, and Irene M. Mwinginya
This chapter explores multimedia digital content packaged in the format of video, as the most preferred learning media by the learners. Content formats that were rated high had highest with accessed mean rate above 300 (discussion forums, video clips, and graphics) are also discussed. The study revealed that learning becomes interactive and effective when a video is presented in the style of hypermedia.

**Chapter 19: Leadership in Global Open, Online and Distance Learning**
Ebba Ossianilsson
This chapter examines leadership and why the demands of leadership in global open, online, and distance learning have to innovate, change, and be rethought. The chapter also examines increased digitization and societal issues, global open online and distance learning, and finally leadership in global open online learning arenas. In conclusion, leaders must embrace and be in the forefront in the areas of teaching, research, governance and society for the transitions to personal global open online learning.

**Chapter 20: A Blueprint for Online Licensed Practical Nurse Training**
Shani Salifu
This chapter presents a blueprint to train low-income mothers into Licensed Practical Nurses to reduce dependence on public finances and to enhance their self-images (Atkins, 2010). The blueprint explores how these women learn, and the services they need to complete the program.