Chapter 40
Game-Changer: Operationalizing the Common Core using WebQuests and 'Gamification' in Teacher Education

Roberta Levitt
Long Island University Post, USA

Joseph Piro
Long Island University Post, USA

ABSTRACT

Technology integration and Information and Communication Technology (ICT)-based education have enhanced the teaching and learning process by introducing a range of web-based instructional resources for classroom practitioners to deepen and extend instruction. One of the most durable of these resources has been the WebQuest. Introduced around the mid-1990s, it involves an inquiry-centered activity in which some or all of the information learners interact with comes from digital artifacts located on the Internet. WebQuests still retain much of their popularity and educational relevance and have shown remarkable staying power. Because of this, recontextualizing the WebQuest and situating it within the modern-day trend of the "gamification" of instructional design is examined, together with how the WebQuest can promote solid academic gain by placing students inside a learning space patterned after a multi-user virtual environment. This structure includes emphasis on teamwork and socially responsible problem-solving, intense task immersion, task game flow and scalability, and reward cycles. The authors also discuss how including an upgraded WebQuest informed by Common Core Grade-Specific Learning Standards in pre-service education curriculum can advance multiple facets of teacher education with candidates who are acquiring, learning, applying, and integrating pedagogical, technological, and content-area skills. Further, the authors offer suggestions for new directions in the use of web-based resources in 21st century education enterprise.

DOI: 10.4018/978-1-4666-8200-9.ch040

Copyright © 2015, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

TEACHER PREPARATION AND THE DIGITAL AGE

A pedagogical shift has occurred driven by the forces of disruptive technology effectively altering and expanding the role of teacher from that of, primarily, knowledge "dispenser" to learning systems manager, guiding students through individualized learning pathways and creating connected and collaborative learning opportunities (American Association of Colleges of Teacher Education, 2010; Christensen, Horn, & Johnson, 2008). With the onset of Web 2.0 and the practice of immersive learning, the "technologizing of schools" has created the need for what might be called the "cyber-teacher," a new learning agent who conceptualizes teaching as a transformative, dynamic, and visionary experience (Lawless & Pellegrino, 2007; Piro & Marksbury, 2012). However, despite the nearly unanimous agreement on the need for this type of instructional professional, many teacher education programs across the U.S. continue to be notoriously slow in programmatic modifications and enhancements to ensure this outcome, not demonstrating the leadership or vision to break the teacher education mold and champion new directions for educators-in-training (Clifford, Friesen, & Lock, 2004; Sheldon, 2012).

As Foray and Raffo (2012) note:

The educational sector is often characterized by experts as a sector suffering from an innovation deficit and a structural inability to advance instructional technologies and practical knowledge and knowhow about pedagogy at the same rate as what is occurring in some other sectors. (p. 6)

How pre-service teacher training not only exposes but embeds future educators in instructional technologies research and practice will be a critical link in the teaching cycle whose end point is the delivery of meaningful, utilitarian, and effective pedagogy across the nation's K-12 schools. The ultimate goal of this training must be the turning out teachers ready for networked, globalized, and technology-driven digital classrooms that increasingly populate the American education landscape (Davis & Falba, 2002; Dawson, Pringle, & Adams, 2003; Kelly, & McAnear, 2002; National Council for Accreditation of Teacher Education, 1997; Thomas, 1999; Thompson, Schmidt, & Davis, 2003). Utilizing an operational standpoint, this article will focus on how teacher education programs in the U.S. can become more responsive to preparing a new generation of teachers to match the expectations of a 21st century post-industrial, high-tech, global society (Blackboard, 2013; Vander Ark, 2011).

THE WEBQUEST AS TOOL OF LEARNER INQUIRY

One particularly potent digitally-focused learning tool for this new teacher generation which holds pedagogical, technological, and social value for use in 21st century classroom environments is the WebQuest. WebQuests are inquiry-centric activities where teachers "compose explanations, pose questions, integrate graphics, and link to websites to reveal a real-world problem" (Koeck & Peterson, 2001, p. 10). From the mid to late 1990s on to the present, WebQuests have spanned the K-12 spectrum, have generally crossed disciplinary lines, and can be utilized as either an entry point to core content instruction or as a culminating curriculum activity (Dodge, 1997, 2001). WebQuests continue to enjoy great popularity in K-12 education as authentic learning experiences. There are a number of Internet websites devoted both to teaching about WebQuests by offering structured tutorials, as well as those sites archiving WebQuest exemplars for classroom application. There is a popular authoring and hosting site devoted to WebQuest production known as www.questgarden.com, which gives users access to over 20,000 WebQuests on cross-disciplinary topics. Other reputable online sites including *Thirteen*

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/game-changer/126090

Related Content

Preservice Teachers Exploring the Nature of Science in Simulated Worlds
Jill A. Marshall, Tim Ericksonand Kumaridevi Sivam (2015). *International Journal of Gaming and Computer-Mediated Simulations (pp. 24-45).*
www.irma-international.org/article/preservice-teachers-exploring-the-nature-of-science-in-simulated-worlds/133618

Effectiveness of Exergaming Interventions
Harsh Mehtaand Preeti Yadav (2023). *Exergaming Intervention for Children, Adolescents, and Elderly People (pp. 57-75).*
www.irma-international.org/chapter/effectiveness-of-exergaming-interventions/323071

Believable and Effective AI Agents in Virtual Worlds: Current State and Future Perspectives
Iskander Umarovand Maxim Mozgovoy (2012). *International Journal of Gaming and Computer-Mediated Simulations (pp. 37-59).*
www.irma-international.org/article/believable-effective-agents-virtual-worlds/67551

Adaptive Interactive Narrative Model to Teach Ethics
Rania Hodhod, Daniel Kudenkoand Paul Cairns (2010). *International Journal of Gaming and Computer-Mediated Simulations (pp. 1-15).*
www.irma-international.org/article/adaptive-interactive-narrative-model-teach/47202

Flip-Game Engineering and Technology Methodology
Milagros Huerta Gómez de Merodio, Juan Manuel Dodero, Nestor Mora Núñezand José Mª Portela Núñez (2023). *Research Anthology on Game Design, Development, Usage, and Social Impact (pp. 839-871).*
www.irma-international.org/chapter/flip-game-engineering-and-technology-methodology/315519