Chapter 49
Concept Maps, VoiceThread, and Visual Images:
Helping Educators Spawn Divergent Thinking and Dialogic Learning

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ABSTRACT

The context of this chapter has its roots in an educational movement that recognizes the importance of preparing youth for living and working in a global community. Central to this is a belief in 1) engaging students in collaborative learning, 2) developing cultural sensitivity, 3) using digital media for communication and creativity, and 4) transforming pedagogical practice to foster reflection, divergent thinking, and creativity. The question addressed in this chapter is how teachers can use digital media and visual images to spawn divergent thinking and dialogue in a global learning context. This chapter presents a case analysis to examine evidence of inquiry-based collaborative learning and three-dimensional thinking among students when using digital images and collaborative software in a global partnership project.

INTRODUCTION

Story!, Design!, Creativity!, Divergent Thinking!, Complexity!, Exploration!, Curiosity!, Empathy! These are just some of the 21st century skills that business and international educational policy leaders suggest are essential for learning and working in a globally connected society. Already many of us, in particular children and youth, have experienced this transition from left-brain dominated communication (text-based) to right-brain communication (visual and spatial) through the Internet and other social media. The growing use of images and video on the Net, for example, is shaping a new way of thinking and communicating that is more divergent and creative. Through social media we are learning to collaborate, expanding our perspectives and stimulating new questions about life, society, and each other. Researchers have found exciting benefits from this networked, visual communication culture that supports the development of 21st century skills and creativity (Nilson & Nocon, 2005; Offir et al., 2008;

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Schlais & Davis, 2001). Despite this, other international studies (Jerald, 2009) have found little evidence of pedagogical innovation taking place at the classroom level that reflects the above skills and attributes. In general, the majority of schools remain on the outside of this media equation (Snyder, 2007). The dominant learning model is most suited to left-brain analytical thought, while the workforce calls for greater right-brain activity (Pink, 2005; Silverman, 2004). Many now recognize the need to explore pedagogical opportunities that today's media affords innovation in learning.

One of the questions worth asking then is "what can educators do differently to develop learning environments that support holistic learning stemming from inquiry, exploration, creation, and collaboration through the use of digital media? While technology has been used in many classrooms around the world for the past decade or more, many teachers still report that they lack the skills and knowledge to think differently about the use of digital media to support pedagogical innovation (Snyder, 2010). We need to provide teachers with examples of how digital media can be applied pedagogically to stimulate, among other things creativity, diversity of thought, exploration and collaboration. Visual literacy and divergent thinking tools, such as concept maps, can be a helpful step in that direction (Wegerif, 2007). Studies are now reporting the dynamic changes that occur in learning when social software and images are used as part of the curriculum and tools for learning (Beaudry & Wilson, 2010; Stokes, 2001).

In 2010, The Gulf Oil Spill Crisis pilot (GOSP) was developed to support cross-cultural collaboration and pedagogical innovation in 14 schools in Nanshen China and Florida USA. The pilot emerged in response to research findings from the Global Partnership Project (Snyder, 2010). Little evidence was found in student online exchanges that reflected exploration, collaborative learning, and divergent thinking when communication took place predominantly through a text-based learning platform. To support pedagogical innovation, the GOSP pilot introduced the use of digital storytelling (Lambert, 2006) with concept maps (Beaudry & Wilson, 2010; Niesyto et al., 2003) and VoiceThread in an online learning community (Harasim, 1989; Sorensen, 2002). This model was guided by a transformative pedagogical approach that shifted the focus from teacher-driven to student-driven learning (Mezirow, 1997). The intent was to help teachers and students explore the use of collaborative learning media to promote reflective and dialogic learning (Abbey, 2008), as well as divergent thinking through visual literacy. This chapter presents a comparative analysis between the two projects periods examining differences in student exchange and the nature of inquiry when using concept maps and visual images as compared to text-based communication. The purpose is to contribute perspectives on how teachers can use digital media in their classrooms to support 21st century learning skills and help promote critical thinking, creativity and collaboration.

BACKGROUND

In 2007, The EU Commission on education identified eight key competencies that support program development within education, of which digital competence, global awareness, and social skills are included (European Commission on Education, 2007). The call stretches the focus from technology as a mere tool, to technology as a context for interacting and learning. The Commission (2007) states that, "ICT skills comprise the use of multi-media technology to retrieve, assess, store, produce, present and exchange information, and communicate and participate in networks via the Internet" (p. 22). Similarly, U.S. educational programming is guided at the present by an umbrella initiative called Framework for 21st Century Learning (2009), which promotes an integrated model of core subjects, digital media and