Integrating art and technology: an action research case study in a high school in the United States of America, 2001

Abstract
This study was inspired by James Tarrant’s (1989) extension of John Dewey’s (1916) understanding of democracy and education. Democracy as we dream it has yet to be invented and can only be realized as a process, as the experience of being an equal among equals. It is a moral imperative, in a Kantian sense, for educators to assert their conversational mutuality with students as participants in re-creating democratic process. The purpose of the study was to explore a much-cited barrier to technology innovation in schools: teacher resistance to technology. Focal participants were teachers, staff, artists, and parents of art students who worked or volunteered in a Fine Arts Academy within a public high school. I found that teacher resistance to technology was a phenomenon amenable to influence through conversation, care, collaboration, and connectivity. Two new concepts emerged as a result of this study: polarity thinking and emotional scaffolding. Polarity thinking is a perceptual schematization in which concepts are understood to be antagonistic. Certain effects of polarity thinking can delay self-actualization, collaboration, innovation, and change. Emotional scaffolding extends the horizon of Lev Vygotsky’s (1934) concept of the Zone of Proximal Development (ZPD) to include Nel Noddings’ (1981) concept of the ethic of care in education. Emotional scaffolding supports learners creatively as well as critically. I recommend that change agents adopt a definition of cognition that values the role emotional intelligence plays in learning, and be willing to participate emotionally as well as cognitively, ethically as well as rationally. I suggest that curriculum theorists interested in technology integration in the schools recognize the importance of celebration and identify joyful, caring ways to share information, skills, and resources with specific schools and individual teachers; to influence the social ecology of education towards connectivities that support group and individual self-actualization.
that the arts have played in the experience of most American public school students (Parsons, 2005). Drawing, painting, sculpture, music and drama have all been minimized at both the elementary and secondary levels, in large part, due to an increased focus on academic performance testing (Parsons, 2005). To reinforce this belief, a series of —high stakes— standardized testing has been implemented (Efland, 2002). Using the historical approach in his book Art and Action Research in Arts Education Cognition: Integrating the Visual Arts in the Curriculum, Efland (2002) traces the evolution of the Western psyche as it comes to the conclusion that the arts are academically unchallenging, and should be used solely for entertainment. Although research studies in education show that use of technology can help student learning, its use is generally affected by certain barriers. In this paper, we first identify the general barriers... In this paper, we first identify the general barriers typically faced by K-12 schools, both in the United States as well as other countries, when integrating technology into the curriculum for instructional purposes, namely: (a) resources, (b) institution, (c) subject culture, (d) attitudes and beliefs, (e) knowledge and skills, and (f) assessment.