

Chapter 5

A State of the Art Cart: Visual Arts and Technology Integration in Teacher Education

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ABSTRACT

This chapter examines research that characterizes the complexity of teaching and integrating visual arts in K-12 education. Issues include teachers' previous experience and backgrounds in art, their differing development of pedagogical and art content knowledge, and the existence of a variety of philosophical orientations for teaching art. The authors then describe how the complexity of visual arts education requires complex solutions for integrating technology and describe one art teacher educator's first explorations into creating online solutions with Web 2.0 technology and her plans for further development. Finally, the authors describe a model of visual arts and technology integration that begins with a problem of practice and develops complex solutions through technology integration.

INTRODUCTION

For classroom technology integration to be successful, current and future teachers need to have strong technological, pedagogical, and content knowledge (TPACK) (Mishra, Koehler, 2008). The impact of Web 2.0 technologies on teaching

and learning and the fundamental restructuring of the social and cognitive structures and practices of learning provide new challenges and exciting possibilities for technology integration in pre-service teacher education and professional development. The Partnership for 21st Century Learning Skills and the International Society for Technology in

DOI: 10.4018/978-1-4666-2988-2.ch005

Education have stated that technology should be used by students and teachers to develop critical thinking, problem solving, communication, collaboration, creativity, and innovation. Though these guidelines provide common standards, the ways teachers engage in these tasks defy standardization. Borko et al. (2009) characterized this situation in teacher education as a wicked problem – a problem with a large number of variables that are dynamic, contextually bound, and interdependent. As a result, both our technology and arts integration methods and models in teacher education and teacher professional development have to account for these variances. The essential question is: How do we do this? An answer lies in the development of new professional development models for visual arts teachers that focus on the problems of practice (POP) (Horn & Little, 2010) and as a result reframe professional development as something that begins with pedagogical and content problems in arts integration and guides the search for technological solutions. Beginning with a fundamental reframing of professional development will allow educators to reexamine the specific contextualized nature of teaching and learning for teachers and facilitate arts integration through technology integration as driven by problems of practice.

In this chapter we will develop this line of reasoning and make the case for developing a wicked solution to this wicked problem. To do this we will:

1. Examine the research that characterizes the complexity of teaching and integrating visual arts in K-12 education.
2. Describe how the complexity of visual arts education requires differentiated, complex solutions for technology integration.
3. Describe a model of visual arts and technology integration that begins with a problem of practice and develops complex solutions through technology integration.

BACKGROUND

For one art teacher educator, who is the first author of this chapter, specific problems of practice (POP) and ISTE's 2008 National Educational Standards for Teachers (NETS•T) provided guidelines for developing a technology integration plan that informed the restructuring of visual arts methods classes in a teacher education program. These standards stated that as a teacher she should be able to: facilitate and inspire student learning and creativity; design and develop digital-age learning experiences and assessments; model digital-age work and learning; promote and model digital citizenship and responsibility; and engage in professional growth and leadership.

To begin with her professional development she found that technology integration, driven by her own wicked problem and classroom needs, was key to successfully integrating technology into her strong pedagogical and content knowledge. This problem of practice model stood in contrast to the more common professional development models in which teachers and pre-service teachers are asked to find a way to incorporate a new, school-wide technology tool into their existing practice. Because the problem was situated in her deep pedagogical content knowledge, her instructional needs informed the search for an appropriate technological solution. It showed how her problem transformed her own professional development for technology integration.

Pedagogical and Content Knowledge for Teaching the Arts

Teaching and integrating “the arts” into the curriculum is a complex endeavor considering that music, visual arts, drama, and dance each have their own distinct pedagogical and content knowledge. Kimm Stastny (1990) notes that, “while the four art forms share several similar formal qualities, such as the concept of contrast, and share similar

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