

Chapter 57

An Integral Analysis of Teachers' Attitudes and Perspectives on the Integration of Technology in Teaching

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ABSTRACT

This chapter explores teachers' attitudes toward, and integration of, technology from multiple perspectives. In order to gain a rich and contextualized understanding of how teachers genuinely use technology in the classroom, Wilber's (2006) Integral methodological pluralism was used as a framework to orient the study, to organize the research questions and to provide the conceptual framework for the research methodology. Four research questions were addressed in this study: (1) What is the influence of policies on teachers' use of technology? (2) What influence does the technology infrastructure have on teachers using technology? (3) What do teachers believe and think about technology? (4) What is the technological culture that teachers' experience? This chapter is an overview of the analysis of the differing and sometimes conflicting practices, beliefs and views on the adoption of technology in the classroom, from the four quadrant perspectives of the Integral Model.

INTRODUCTION

Educational technology is often central to government educational policy, because it is considered to be key to school reform and teacher improvement, in order to meet the demands of the knowledge economy and keep up with global competitiveness. The social use of technology has permeated the classroom and school districts have largely abandoned the electronic device banning policies. Instead, teachers are asked to coopt technologies for educational use.

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An Integral Analysis of Teachers' Attitudes and Perspectives

Integral Methodological Pluralism (IMP) offers a mixed methods research framework for understanding the demands upon teachers in the integration of technology for educational use, and for faithfully describing their true experiences in the classroom. This Integrally informed research study of the multiple perspectives of educational technology attempted to bring clarity to the multiple domains in the field and can be used to understand the pragmatic decisions teachers make in integrating technology in their classrooms with greater precision and understanding.

While a comprehensive description and discussion of the Integral Model follows in subsequent sections, for the purpose of understanding the approach to the research problem and to the organization of the literature review, the fundamental element of the Integral Model is briefly introduced here. The Integral Model, also referred to as AQAL, has been in development, since the 1970s, by Ken Wilber. We suggest Wilber, (2000, 2000a, and 2007), as starting points for a big picture understanding of the model. The model is based on Wilber's observation, that there are, historically and currently, two basic ways in which most humans apprehend the world around them- these are the dichotomies of inside/outside and singular/plural. By superimposing these two dichotomies, Wilber obtained 4 basic perspectives, which he charted as intersecting quadrants. The four basic perspectives in the four quadrants are as follows:

UL (Upper Left) = Singular + Inside = (individual interior perspectives)

UR (Upper Right) = Singular + Outside = (individual exterior perspectives)

LL (Lower Left) = Plural + Inside = (collective interior perspectives)

LR (Lower Right) = Plural + Outside = (collective exterior perspectives)

Thus for a given problem, there are 4 basic perspectives from which to observe it: UL – the subjective experiences and feelings of individuals about the problem; UR – the objective observations of individual aspects of the problem; LL – the intersubjective experiences of groups of people involved with the problem; and LR – the interobjective observations of systems and their influences on the problem. In terms of the specific problem being investigated in this study – teachers' adoption of technology - we can see UL as the teachers' personal feelings and beliefs based on their experiences; UR as the observations of teacher behavior around technology use and adoption; LL as the teacher culture in a school and its impact on technology adoption; and finally LR as the global, provincial and district school system influences on teachers' adoption of technology. Wilber's view is that in order to have a complete picture of a problem, the researcher must view it from all four perspectives. He warns that 'quadrant absolutism' – using only one perspective to explain the problem, will lead to skewed interpretations of the problem and ultimately to skewed policies at the system level. The literature review below, is organized according to the 4 quadrant perspectives. The remaining components of the AQAL model are discussed in a subsequent section below.

Context

Computer technology has been heralded as the most important development in 21st century education. Governments and organizations throughout the world have identified technology as a significant contributor to addressing skills and learning needs (Alberta Education, Andrew, Dach, & Lemke, 2013; Atkins et

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