Chapter 11
A Model of Pedagogical Change for the Evaluation of Interactive Whiteboard Practice

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ABSTRACT
This chapter explores how whiteboard pedagogy is constructed from both a theoretical pedagogical perspective and empirical evidence based on interactive whiteboard practice. A brief discussion on what is meant by the terms Pedagogy, Pedagogical Knowledge, Content Knowledge, Curriculum Knowledge and Pedagogical Content Knowledge (Shulman, 1987) is followed by the utilization of established theoretical models of teacher knowledge to form a model of teachers’ general pedagogy. An evaluation of IWB practice of 11 teachers in two primary UK schools, over one year, is then presented. Evidence emerging from whiteboard practice is subsequently blended with the model of general pedagogy to construct a theoretical model of pedagogical change subsequent to whiteboard use. Particular whiteboard teaching behaviors are proposed which facilitate greater efficiency and which may extend teachers’ existing pedagogical practice or help to transform their teaching. Finally, in the concluding section implications for teachers’ professional development in whiteboard practice and future research directions are put forward.

INTRODUCTION
A question which frequently arises is: “What is IWB pedagogy?” Is this pedagogy different from other forms of pedagogy? If so, how does it differ and what are the particular aspects of teaching and learning that relate to the IWB? Since pedagogy itself is not easy to define, this chapter first reflects on what is meant by pedagogy before moving onto teaching practices associated with the IWB. Using a general model of pedagogy and evidence from eleven teachers’ use of an IWB over one year, a model of whiteboard pedagogy is constructed. Throughout, the IWB is considered as a tool to provide a catalyst for changing teaching rather than a change factor per se since the stance taken is that
it is teachers who change teaching, not technology. It is however not always easy for teachers to understand how their teaching has been affected. Some would claim that the whiteboard has not changed their teaching style though an external observer might think otherwise (Cogill, 2008). Using the informed model constructed, I next consider whiteboard practices which may make teaching more efficient or may be considered to extend or transform a teacher’s practice (McCor-mick & Scrimshaw, 2001). With this as a guide, teachers can evaluate their own IWB practice and reflect on ways to extend their pedagogy.

Throughout this chapter the term “whiteboard pedagogy” refers to the act of teaching with the interactive whiteboard through the use of appropriate teaching methods, resources, questioning techniques and the necessary technological skills to foster children’s learning. This definition necessarily draws in issues relating to a teacher’s knowledge and in particular his or her Pedagogical Knowledge (PK), Content Knowledge (CK), Pedagogical Content Knowledge (PCK) and Curriculum Knowledge (Shulman, 1987). Consequently the term ‘whiteboard pedagogy’ is used to encompass both pedagogical knowledge and practice. A distinction will be made where appropriate between “whiteboard pedagogical knowledge” and “whiteboard pedagogical practice” if the general term “whiteboard pedagogy” is ambiguous.

BACKGROUND

When whiteboards were first introduced into UK schools in 1998 my interest was roused through a conversation with a secondary mathematics teacher who commented: “The whiteboard changes the way I teach.” At the same time I read an observation that while an operating theatre would be unrecognizable from 100 years ago, a classroom might look almost identical. As a result I decided to explore the influence that interactive whiteboards might have. Technology creates some appearance of physical change but what matters are the potential effects the interactive whiteboard has on teachers and learners, often referred to as pedagogical practice.

The empirical evidence on teachers’ pedagogical change cited in this chapter is drawn from research on 11 teachers, across one year of IWB use, in two UK primary schools. Pupils involved were aged 5-11. All teachers were competent and experienced in teaching across a range of subjects but new to the whiteboard at the start of the research. I observed each teacher in their classrooms and interviewed each of them once per term, a process that resulted in a total of 33 interviews and 33 observations for subsequent analysis. In addition I interviewed the head teachers of each school at the start and the end of the research year. The theoretical underpinning for analysis of this research, based on grounded theory (Strauss & Corbin, 1998), is supported by Shulman’s Framework for teacher knowledge (Shulman, 1987) together with established pedagogical models from a range of literature sources. From these a new model of general pedagogical change is first constructed for the analysis of IWB pedagogy.

WHAT IS PEDAGOGY?

What constitutes pedagogy is not easily defined and appears to be somewhat obscure. Watkins and Mortimer (1999) define it as “any conscious activity by one person designed to enhance the learning of another” (p. 3). Alexander (2003) has his own preferred definition which suggests that pedagogy requires discourse:

Pedagogy is the act of teaching together with its attendant discourse. It is what one needs to know, and the skills one needs to command in order to make and justify the many different kinds of decisions of which teaching is constituted. (p. 3)
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