

Chapter 8

Teacher's Ontological and Epistemological Beliefs: Their Impact on Approaches to Teaching and Scholarship

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ABSTRACT

This chapter involves a discussion of a case study to explore teachers' beliefs on the nature of reality (ontology) and knowledge (epistemology) within an International Baccalaureate Middle Years Program at the International School of Amsterdam. The study is positioned within the constructivist-interpretive paradigm and allows for the emergence of a holistic and contextualized understanding of teachers' beliefs and practices. The chapter includes reflection on the author's ontology and epistemology and its impact on the research undertaking. The study is an attempt to understand whether teachers' beliefs impact their approaches to teaching within this inquiry-based environment. Comprehensive teacher profiles were generated for three participants, all experienced teachers, who teach Science, English Literature, and Spanish. The findings indicate that the participants' approaches to teaching resonate strongly with their ontological and epistemological beliefs. The chapter also includes consideration of the role that scholarship played in the generation of the teacher profiles.

INTRODUCTION

Denzin and Lincoln (2000) suggest that the way a researcher approaches a given research situation is a reflection of who the researcher is, as a person, and how they view and approach the world – that is the influences on the paradigm(s) within which they function. The purpose of this chapter is to explore the views of international school teachers and to consider the ways in which their ontological and epistemological beliefs affect how they see the world, and how they teach. The chapter begins with a brief contemplation of the doctoral assignment that fueled my interest in the research topic and then moves on to a consideration of how teachers' beliefs impact approaches to teaching. The chapter involves descrip-

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tion of the complex nature of the research context, the International School of Amsterdam, which is a well-established International Baccalaureate (IB) school. This is followed by a consideration of a range of literature related to this area of research, which highlights the ways in which perceptions of reality, knowledge, teaching and learning have changed within educational contexts over time. In the chapter, the author brings to light the impact that the complexity science and super-complexity paradigms are having on emergent beliefs, as well as on the evolution of relational approaches to teaching. A detailing of the chosen research paradigm for the study, the constructivist-interpretivist paradigm, and its associated research methodology, is followed by a summary of the participant-teachers' profiles. A comparison of these profiles generates conclusions that include acknowledgement of the complexity of teachers' beliefs and the transformative role that an exploration of these beliefs can have on their personal and professional development. Where appropriate, consideration is also given to the role that the scholarship of discovery and the scholarship of teaching and learning played in the generation of these profiles.

THE ONTOLOGY UNDERPINNING THE STUDY

Whilst working on a doctorate module entitled the Philosophy of Educational Research with the University of Nottingham, I was asked to complete an assignment relating to personal perspectives on the concepts of reality, knowledge and truth. Ultimately, the assignment involved a consideration of the relationship between these three concepts and how they might inform my approach to educational research. Engagement with the module brought to the surface latent personal interpretations of reality, knowledge, and truth, and the insights gained not only broadened my understanding of the nature and role of research paradigms in educational research, but also highlighted the subtle ways in which these beliefs intertwine to form personal worldviews.

Despite the fact that there is considerable debate with regard to the legitimacy of different theories on the fundamental nature of reality, it became clear that everyday Western thinking leans towards a materialistic view of reality: a reality in which matter is considered to be the fundamental nature of all things. I found, however, that my personal views tended less towards a materialistic view and more towards the relational view put forward by the physicist-philosopher Amit Goswami. From Goswami's (1993) perspective "the principles of quantum theory, which sees the fundamental nature of reality as relational, make it possible to question and maybe even discard many of the assumptions of material realism" (p. 45). My interest in Goswami's views stem not only from an interest in quantum theory but also from an appreciation of the underlying principles of Buddhist philosophy, which sees all of reality as interconnected.

An understanding of beliefs on the nature of reality made it possible to consider views on the nature, possibilities, origins, and extent of human knowledge. I felt comfortable adding tacit, intuitive, spiritual and somatic-based knowledge to the traditional lists that included knowledge by sense experience, language, logic, abstract reasoning, and experimentation. Knowledge generated by humans, I realized, could not be considered a true reflection of reality, but merely a reflection of how humans perceive, experience, and conceptualize at different points in their biological, cultural and evolutionary development. The concept of knowledge itself emerged, through the assignment, as a transient construct that was open to change as new ways of interpreting and engaging with reality are devised.

On considering the impact of beliefs on my approaches to teaching it became clear that my teaching reflects a view that all living organisms and the physical environment exist as a fragile and interconnected

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