PERSONAL EPISTEMOLOGY 
AND APPROACHES TO 
LEARNING IN MEDICINE

A CASE STUDY OF SECOND-YEAR 
MEDICAL STUDENTS

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Personal epistemology addresses “the theories and beliefs that individuals hold about knowledge and knowing and the way in which such epistemological perspectives are related to academic learning” (Hofer, 2004, p. 120). Hofer and Pintrich (1997) proposed that personal epistemological theories consist of two constructs: the nature of knowledge and the nature of knowing. These constructs are hypothesised to exist on a continuum ranging from naïve to sophisticated epistemological beliefs. Personal epistemology is particularly applicable to medical students in a problem-based-learning (PBL) program, as it emphasises self-directed learning, as “beliefs about knowing and knowledge are potentially important determinants of intellectual performance” (Kuhn, Cheney & Weinstock, 2000, p. 309). There is a paucity of studies in the medical education literature on personal epistemological beliefs (Knight & Mattick, 2006). Roex and Degryse (2007) argue that “insights into students’ epistemological beliefs have yet to find their way into the curriculum” (p. 616). Savin-Baden (2000) reported that “students’ voices are largely missing from the literature on problem-based-learning, key elements such as learning context… are rarely acknowledged” (p. 26).

The aims of this study was to investigate how personal epistemological beliefs were conceptualised by medical students at the end of their first two years in a PBL medical program; whether their beliefs evolved over the first two years and were related to the process of learning; and whether they differed between students from the lowest and highest ranked academic groups.

A qualitative research design framed this investigation. A series of interviews were conducted with 12 second year medical students selected according to a maximum variation purposeful sampling technique (Patton, 2002). The participants represented the highest and lowest academically ranked in their year. Interview transcripts were analysed using a combination of thematic analysis, the constant comparison approach, and a personal epistemological theory framework. The results were presented as thematic narratives constructed on the students’ retrospective experience of learning over the first two years of medical school. Narratives are well-suited to reporting these qualitative results to “link audience, text, structure, empirical inquiry and lived experience” (Denzin, 1997, p. 244).

The findings revealed that students’ prior learning experiences in high school had a major impact on their epistemological interpretations of the medical program. There was a pattern of epistemological beliefs between the two groups of students. Students from the lowest ranked group retained naïve epistemological beliefs after two years. These students misinterpreted the constructivist curriculum and their approach to learning was disabling. Students from the highest
ranked group demonstrated sophisticated beliefs. These students struggled with the transition to the medical program but turned these into opportunities for epistemological development. These results provide an epistemological explanation for why some students struggle, and will continue to struggle, based on their prevailing epistemological beliefs. The findings also suggested that the constructivist PBL approach was a major influence on the development of students’ epistemological views, and that a constructivist PBL medical program can accelerate students’ epistemological development.
DECLARATION

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide.

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