

PERSONAL EPISTEMOLOGY AND APPROACHES TO LEARNING IN MEDICINE

A CASE STUDY OF SECOND-YEAR MEDICAL STUDENTS

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TABLE OF CONTENTS

TABLE OF CONTENTS	3
LIST OF TABLES	10
LIST OF FIGURES	11
ABSTRACT	12
DECLARATION	14
ACKNOWLEDGEMENTS	15
CHAPTER 1: INTRODUCTION	16
Background	16
Relevance of Personal Epistemology to Medical Education	16
Aims of this Study	17
Significance	18
Structure of the Thesis	18
CHAPTER 2: LITERATURE REVIEW	20
Introduction	20
Personal Epistemology	20
Models of Epistemological Development	21
Perry’s Scheme of Intellectual and Ethical Development.....	23
Women’s Ways of Knowing.....	28
Epistemological Reflection Model.....	32
The Reflective Judgment Model.....	36
Overview of the Shifts in the Development Models of Epistemology.....	39
Epistemologies as a Set of Beliefs	42
Summary of Schommer’s Contribution	45
The Theoretical Constructs of Personal Epistemology	46
The Four Dimensions of Personal Epistemological Theories	47
Capturing the Dimensions of Personal Epistemology in Context.....	50
Epistemological Beliefs in the Context of Medical Education	51
Studies on Epistemological Beliefs of Medical Students	51
Implications for this Study in Medical Education	52

Chapter Summary	53
CHAPTER 3: RESEARCH DESIGN.....	55
Introduction	55
Qualitative Research	55
Theoretical Perspectives	56
Acknowledgement of Background and Bias of the Researcher	57
The Research Setting.....	59
Purposeful Sampling	60
Preparation for the Research Interviews.....	61
Stage 1: Focus Groups: Rationale and Justification.....	62
Stage 2: Pilot Interviews.....	63
The Research Interviews	64
Procedures of Consent and Accessing the Participants	64
The Interview Process	65
Procedures of Analysis	66
Introduction.....	66
Steps in the Analysis Process.....	66
Method for Reporting the Results.....	69
Introduction.....	69
Rationale for the Structure of Results.....	70
Methods for Reporting the Results.....	70
Linking Narrative, Storytelling and Craftsmanship.....	71
The Narrative Form.....	72
Crafting the Narratives in this Study	73
Theoretical Framework for the Analysis.....	73
Schwab’s Educational Framework.....	74
Chapter Summary	74
CHAPTER 4: MEET THE STUDENTS.....	75
Introduction	75
Background	75
The Affective Domain of Learning.....	75
Reese: You can never really escape it!	76

Bailey: I always had a great admiration for doctors	77
Jamie: I could do a Bachelor of Arts and be fine and not worry!	78
Jordan: Everyone in the course is a caring, sharing individual really	78
Gordon: You've got to beat the person next to you	79
Brita: I miss tests; I really do!	80
Cameron: Do you want to do something smart people do?	80
Tristan: I used to be a perfectionist	81
Catherine: I'm always worried	81
Marilyn: I could just do it at home	82
David: You just sort of pick up what you have to do	83
Beth: Keeping Up with Appearances	83
Chapter Summary	84
CHAPTER 5: EPISTEMOLOGICAL REFLECTIONS ON HIGH SCHOOL IN MAKING SENSE OF MEDICAL SCHOOL	85
Introduction	85
Application of an Educational Framework.....	85
A Worked Example of Epistemological Analysis of High School.....	86
Epistemological Analysis of High School.....	87
The Dimension of the Certainty of Knowledge	87
The Dimension of the Simplicity of Knowledge	89
The Dimension of the Source of Knowledge.....	92
The Dimension of the Justification of Knowledge.....	94
Chapter Summary	97
CHAPTER 6: EPISTEMOLOGICAL VIEWS OF MEDICAL SCHOOL	99
Introduction	99
Results from Schwab's Educational Framework	99
Defining Characteristics of Problem-Based-Learning.....	100
Personal Epistemological Theory Applied to Medical School	101
David: You just pick things up!	102
David: Epistemological Analysis	103
David: Summary	105

Gordon: Baptism by Fire!	106
Gordon: Epistemological Analysis.....	108
Gordon: Summary.....	109
Cameron: I've come this far I must be doing something right!	110
Cameron Epistemological Analysis	112
Cameron: Summary	114
Bailey: I've always been independent	115
Bailey: Epistemological Analysis	116
Bailey: Summary	118
Jamie: I took it for granted that I would be okay	119
Jamie: Epistemological Analysis.....	121
Jamie: Summary.....	123
Reese: A year and a half of hating PBL	124
Reese: Epistemological Analysis	126
Reese: Summary	128
Catherine: The others were just taking what I said as Gospel	129
Catherine: Epistemological Analysis	131
Catherine: Summary	133
Beth: I really know where I'm at	134
Beth: Epistemological Analysis	136
Beth: Summary	137
Summary of Epistemological Components in Medical School	138
Patterns of Epistemological Beliefs between Students	138
Chapter Summary	138
CHAPTER 7: EPISTEMOLOGICAL PERSPECTIVES OF PBL	141
Introduction	141
The Cognitive Constructive Approach to PBL	141
'Think Out Loud' Interview Approach	142
Student Narratives	142
David: It's just looking at what other people in the group do	143
PBL Process Analysis	144
Activation and Elaboration of Prior Knowledge in PBL.....	145
Group Collaborative Learning Versus Individual Knowledge Acquisition.....	145
Gordon: I hate being held back and slowed down by the group	146

PBL Process Analysis.....	148
Activation and Elaboration of Prior Knowledge	148
Group Collaborative Learning Versus Individual Knowledge Acquisition	148
David and Gordon: Comparative Epistemological Analysis	149
Certainty of Knowledge	149
Simplicity of Knowledge	149
Source of Knowledge.....	149
Justification for Knowledge	150
Summary of David and Gordon.....	150
Cameron: The other students do all the learning – not me	151
PBL Process Analysis.....	153
Activation and Elaboration of Prior Knowledge	153
Group Collaboration Learning Versus Individual Knowledge Acquisition	154
Bailey: I've always gone further than my PBL group	155
PBL Process Analysis.....	157
Activation and Elaboration of Prior Knowledge	157
Group Collaborative Learning Versus Individual Knowledge Acquisition	158
Cameron and Bailey: Comparative Epistemological Analysis	158
Certainty of Knowledge	158
Simplicity of Knowledge	159
Source of Knowledge.....	159
Justification for Knowledge	159
Summary of Cameron and Bailey.....	160
Jamie: Well obviously I know a little bit about it.....	161
PBL Process Analysis.....	162
Activation and Elaboration of Prior Knowledge	162
Collaborative Learning versus Individual Knowledge Acquisition	163
Reese: I do a lot more to get the whole picture	164
Reese: PBL Process Analysis.....	165
Activation and Elaboration of Prior Knowledge	165
Collaborative Learning Versus Individual Knowledge Acquisition.....	166
Jamie and Reese: Comparative Epistemological Analysis	166
Certainty of Knowledge	166
Simplicity of Knowledge	166
Source of Knowledge.....	167
Justification for Knowledge	167
Summary of Jamie and Reese	167

Beth: It depends on your group and what path they take.....	168
PBL Process Analysis	169
Activation and Elaboration of Prior Knowledge.....	170
Group Collaborative Learning Versus Individual Knowledge Acquisition.....	170
Catherine: Do I understand all of that?	171
PBL Process Analysis	172
Activation and Elaboration of Prior Knowledge.....	172
Group Collaborative Learning Versus Individual Knowledge Acquisition.....	172
Beth and Catherine: Comparative Epistemological Analysis	173
Certainty of Knowledge.....	173
Simplicity of Knowledge	173
Source of Knowledge	174
Justification for Knowledge	174
Summary of Beth and Catherine.....	175
Chapter Summary	175
<i>CHAPTER 8: CONCLUSION</i>	<i>177</i>
Introduction	177
Aims of this Study	177
Framework for the Discussion	178
Why Students Struggle with the Transition.....	179
High School Was a Breeze	179
Medical School Was a Shock	180
Addressing Research Question No. 1	181
Addressing Research Question No. 2	182
Addressing Research Question No. 3	183
Portrait of Naïve Learners	184
Portrait of Sophisticated Learners	184
Addressing Research Question No. 4	185
Portrait of Naïve Learners	185
Portrait of Sophisticated Learners	187
Addressing Research Question No.5	189
Portrait of Naïve Learners	189
Portrait of Sophisticated Learners	190
Summary of Epistemological Beliefs Held by Students and Process of Learning	191

Cognitive Constructivist Approach to PBL and Personal Epistemology.....	191
The Activation-Elaboration Hypothesis and Certainty and Simplicity of Knowledge	192
Group Collaborative, Individual Learning and the Source and Justification of Knowing	192
Summary	192
Research Strengths and Limitations	193
Recommendations from this Research	194
Recommendations for Further Research	195
<i>APPENDICES.....</i>	<i>197</i>
Appendix A.....	198
Focus Group and Pilot Interview Questions	198
Appendix B.....	199
Student Introduction and Guided Interview Outline.....	199
Appendix C.....	200
Reese’s First Narrative.....	200
Appendix D.....	207
Reese’s Second Narrative.....	207
Appendix E	212
Cameron’s First Narrative.....	212
Appendix F	216
Cameron’s second narrative	216
<i>LIST OF REFERENCES</i>	<i>219</i>

LIST OF TABLES

Table 1 Structure of the Thesis and Chapter Outlines.....	19
Table 2 Models of Epistemological Development.....	22
Table 3 Studies on the nature of epistemologies.....	23
Table 4 Perry's Scheme of Intellectual and Ethical Development.....	25
Table 5 Epistemological Reflection Model.....	34
Table 6 Summary of Reflective Judgment Stages.....	37
Table 7 Summary of Development Models of Epistemology.....	41
Table 8 Schommer's Epistemological Questionnaire.....	44
Table 9 Dimensions of Epistemological Theories from Hofer and Pintrich.....	47
Table 10 Research Paradigms in Medical Education Research.....	56
Table 11 Pairs of Student Narratives.....	142

LIST OF FIGURES

Figure 1 Dimensions of Personal Epistemological Beliefs	49
Figure 2 Dimensions of Personal Epistemology representative of High School	97
Figure 3 Epistemological Beliefs representative of the Lowest and Highest Ranked Students	181
Figure 4 Sophisticated Epistemological Beliefs representative of the Medical Program	191

ABSTRACT

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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