

University of Southern Queensland

**COLLECTIVE INTELLIGENCE
IN SCHOOLS: AN
EXPLORATION OF TEACHER
ENGAGEMENT IN THE MAKING
OF SIGNIFICANT NEW
MEANING**

A Dissertation submitted by

Joan Margaret Conway
Dip.T., B.Ed., M.Ed.

For the award of
Doctor of Philosophy

2008

ABSTRACT

It is universally acknowledged that teachers are a critical key in the enhancement of student achievement in our schools. Less accepted is that teachers are key knowledge workers in emerging 21st century societies, demonstrating understandings of how new knowledge is created as well as what it looks like. The related issue of how schools actually function as productive professional learning communities, and how teachers engage in their own learning processes, remains at best vaguely understood.

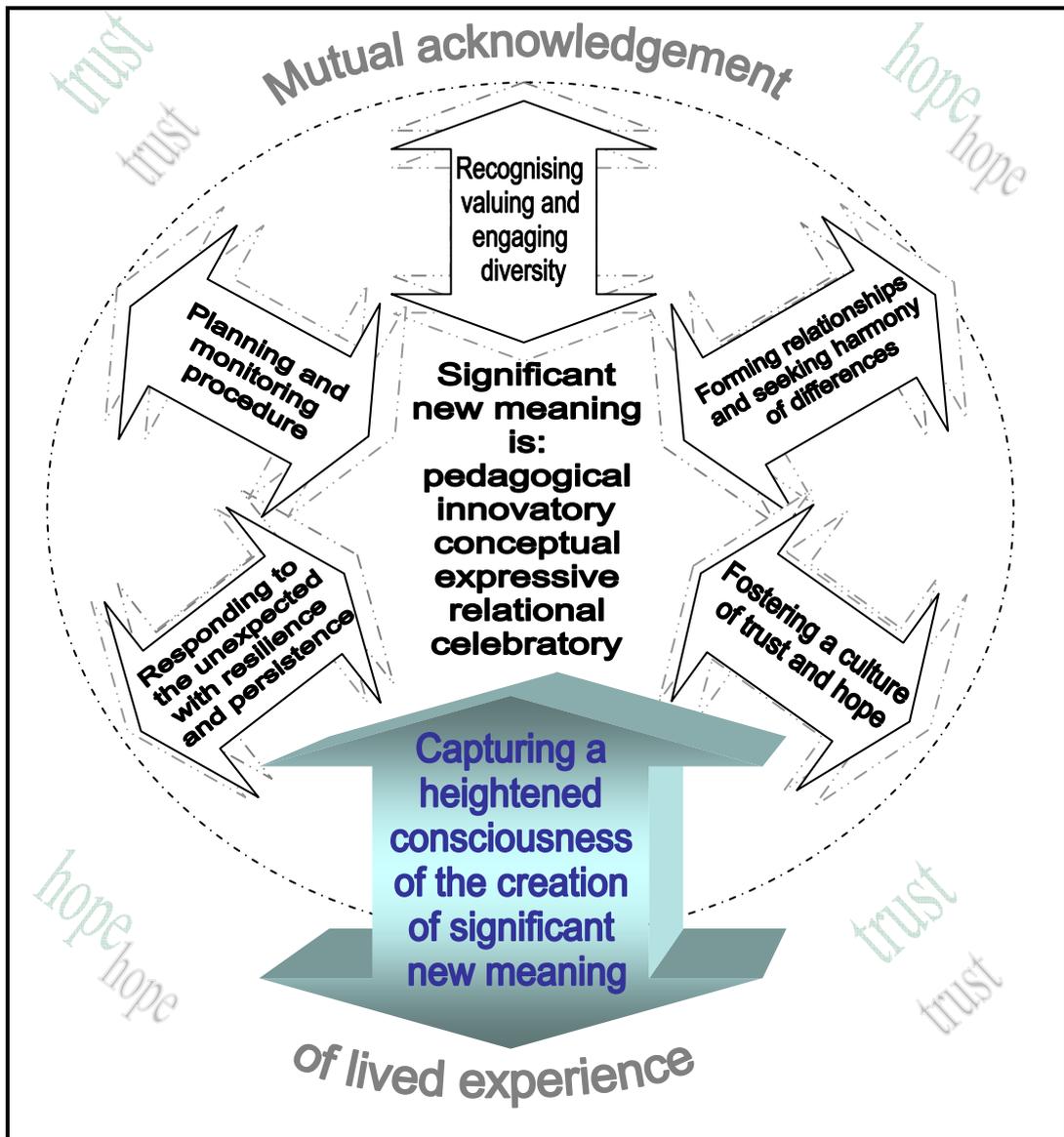
The research on which this dissertation was based sought to establish new insights into the dynamics of how teachers who are engaged in a process of successful development and revitalisation create new knowledge and make significant new meaning. The research acknowledged that meanings ascribed to the processes in question might well be influenced by issues of ideology. Thus, in addition to drawing heavily on recent literature relating to the concepts of professional learning communities, distributed leadership and collective intelligence, the study incorporated a multiperspective dimension. The following research problem was established to guide the creation of research questions, a research design and related methodology:

What emerges as a construct of collective intelligence in schools when teacher engagement in a pedagogical knowledge formation process is viewed from different ideological perspectives?

The *collective* in this study was constituted of the membership of two professional learning communities independently engaged in a widely used process of school revitalisation, the IDEAS (Innovative Designs for Enhancing Achievement in Schools) process. IDEAS utilises a number of distinctive educational constructs, including parallel leadership, alignment of key organisational elements and a schoolwide approach to teaching and learning, to engage the professional community of a school in the creation of significant new knowledge in the form of vision statements, values and pedagogical frameworks.

The data collected from each school community’s knowledge-generating experiences are presented in two case study *bricolages*. Interpretation of these data led to identification of particular characteristics associated with professional learning processes for successful meaning-making. Further analysis of the data, through the lenses of three ideological perspectives (critical reflection, hermeneutic phenomenology and orgmindfulness) resulted in the proposal of a construct for collective intelligence in schools that is contained in Figure 1.

Figure 1 Capturing the dynamics of significant knowledge creation through school-based professional revitalisation: An explanatory framework for a construct of collective intelligence in schools



Of particular significance as a result of the research is the postulation of a new image of the professional teacher – one who recognises his/her capacity for engagement in collective and reflective practices through the exercise of new ways of thinking and acting in support of student achievement. The findings prompt further inquiry into the deep meanings associated with the dynamics of successful professional learning communities in both schools and a spectrum of other organisations.

CERTIFICATION PAGE

CERTIFICATION OF DISSERTATION

I certify that the ideas, experimental work, results, analyses and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

Signature of Candidate

Date

ENDORSEMENT

Signature of Supervisor

Date

Signature of Supervisor

Date

ACKNOWLEDGEMENTS

This has been an amazing experience! It was not so many years ago that the suggestion of pursuing doctoral work seemed so far removed from my personal vision of reality. There are many people to whom I could attribute a mentoring role but most significantly has been the wonderful support of my supervisors, Emeritus Professor Frank Crowther and Associate Professor Dorothy Andrews. Thank you Frank for the challenges you've set and for your faith in me, that I might rise to the occasion. In recognition of your highly acclaimed professional profile I am grateful for having had this opportunity as I continue to realise my scholarly growth. Thank you Dorothy for your consistent reassurance of my progress, your personal strength, generosity of time and the opportunities you've offered in support of my conceptual formation and personal sanity.

There are many who have contributed to my jigsaw of support. In particular I wish to acknowledge Dr Marian Lewis, my long time friend and colleague from our PNG days, who initially gave me the impetus to begin; Dr Bryan Connors, who sparked my interest in the multiperspective approach and has continued to respond to my calls for help to Canada; the participants of the two case study schools who welcomed me into their schools and taught me so much about knowledge creation and teacher leadership; Associate Professor Patrick Danaher for his enthusiasm and support of postgraduate work; my doctoral peers near and far, Dr Ann Ryan, Dr Benjamin Kehrwald and Dr Allan Morgan with whom I have engaged in long and meaningful *doc* chats; Faculty of Education LRI members who have been a special part of my professional support base with the IDEAS process; Sharon Taylor for her passion and enthusiasm of the IDEAS process; and Marlene Barron and Lindy Abawi who willingly gave of their time to assist with administrative and technical development.

As the years progress it is to my parents, Maurice and Anne whom I must attribute the foundations of a strong set of values instilled by their adage "always do your best". Surrounded by members of a large extended family and a circle of friends, I have also benefited from their gentle encouragement with "how are your studies going?" and a quiet reassurance of their faith in me. Thank you: I love you all.

Finally, I am conscious of the huge burden this doctoral pursuit has also been for my children. Thank you Shaun and Eirann for your patience which I acknowledge has not been an easy option during a stage of your lives when there has been much change and searching for your pathways. I dedicate this work to you both and sincerely hope that each of you will be inspired to have confidence in your abilities.

TABLE OF CONTENTS

ABSTRACT	<i>i</i>
CERTIFICATION PAGE	<i>iv</i>
ACKNOWLEDGEMENTS	<i>v</i>
TABLE OF CONTENTS	<i>vi</i>
LIST OF FIGURES	<i>ix</i>
LIST OF TABLES	<i>ix</i>
LIST OF EXHIBITS	<i>x</i>
LIST OF CHARTS	<i>x</i>
LIST OF APPENDIXES	<i>x</i>
CHAPTER 1: INTRODUCTION TO THE STUDY	1
1.1 Background to the study	1
1.2 The research problem and research questions	3
1.3 The research design and methodology	4
1.4 Possible limitations and delimitations of the study	6
1.5 Organisation of the dissertation	7
1.6 Concluding statement to the chapter	8
CHAPTER 2: LITERATURE REVIEW	9
2.1 Introduction	9
2.2 The literature of knowledge creation	10
2.2.1 Teachers' work	10
2.2.2 Collective intelligence	11
2.2.3 Organisational learning	14
2.2.4 Communities of practice	15
2.3 The literature of school revitalisation processes	16
2.3.1 Shared meaning	16
2.3.2 IDEAS - a knowledge creation process	18
2.4 The literature of the perspectives - the lenses of this multidimensional study	20
2.4.1 Hermeneutic phenomenology	21
2.4.2 Critical reflection	21
2.4.3 Orgmindfulness	22
2.5 Chapter summary	22
CHAPTER 3: METHODOLOGY – DESIGNING A MULTIDIMENSIONAL QUALITATIVE STUDY	24
3.1 Introduction	24
3.2 Qualitative research orientation	24
3.2.1 The complexity of qualitative research	26
3.2.2 Researcher-as-bricoleur	26
3.3 The participant-researcher relationship	27
3.4 The research inquiry	29
3.5 Research strategy	31
3.5.1 Naturalistic inquiry and the case study	31
3.5.2 Ideological perspectives	33
3.5.3 Hermeneutic phenomenology	34
3.5.4 Critical reflection	35
3.5.5 Orgmindfulness	36
3.6 Data collection	38
3.7 Working with the data	44
3.7.1 Reflective writing	44
3.7.2 Dialogue	45
3.7.3 Artefacts	47

3.8	Representation -----	48
3.8.1	The role of the focused-reflection session -----	50
3.8.2	Analysis -----	53
3.8.3	The complexity of representation -----	55
3.9	The researcher in the text -----	57
3.10	The ethics and politics of the study -----	58
3.11	Chapter summary -----	59
CHAPTER 4: DATA PRESENTATION - TWO CASE STUDY BRICOLAGES ---		60
4.1	Introduction -----	60
4.2	Gum View State School case study bricolage -----	64
4.2.1	Episode 1: 1 March 2004 - The participant observer’s first encounter with the IDEAS School Management Team -----	68
4.2.2	Episode 2: March-May 2004 - Weekly ISMT meetings -----	72
4.2.3	Episode 3: 27 May 2004 - The new principal joins the ISMT weekly meeting ---	77
4.2.4	Episode 4: 31 May 2004 – Whole staff dinner meeting to workshop the development of the vision statement -----	84
4.2.5	Episode 5: 29 July to 1 September 2004 – Creation and celebration of the vision statement -----	88
4.2.6	Episode 6: 4 October 2004 - Lost in the process – “where to now?” -----	96
4.2.7	Episode 7: 2 November 2004 – “Back on a roll”: The whole staff exploration of schoolwide pedagogy -----	102
4.2.8	Episode 8: 10 November - 9 December 2004 – Checkouts -----	105
4.2.9	The process in reflection at Gum View State School -----	108
4.3	Horizon Campus case study bricolage -----	109
4.3.1	Episode 1: Emergence of the Horizon Campus values -----	113
4.3.2	Episode 2: Extended ISMT meetings -----	117
4.3.3	Episode 3: Development of the vision statement -----	126
4.3.4	Episode 4: Language triggers -----	134
4.3.5	Episode 5: Distilling the SWP -----	138
4.4	Chapter summary -----	146
CHAPTER 5: INTERPRETATION OF THE RESEARCH DATA – THE RESULT OF TEACHERS’ ENGAGEMENT IN A PROCESS OF PEDAGOGICAL KNOWLEDGE FORMATION -----		147
5.1	Introduction -----	147
5.2	Acknowledging the researcher’s multiple roles -----	148
5.3	Overview of data analysis of the two case study schools -----	150
5.3.1	How significant new meaning evolved at Gum View State School -----	151
5.3.2	How significant new meaning evolved at Horizon Campus -----	159
5.3.3	Brief summary of the case studies’ findings -----	169
5.4	Response to Research Question One: The characteristics and professional learning processes of significant new meaning making -----	170
5.4.1	The characteristics of significant new meaning as the result of teachers’ engagement in a process of pedagogical knowledge formation -----	170
5.4.2	The professional learning processes that appear to lead to the creation of significant new meaning -----	180
5.4.3	Mutual acknowledgement of lived experience -----	186
5.5	Chapter summary -----	189
CHAPTER 6: FURTHER INTERPRETATION - A MULTIPERSPECTIVE VIEW OF THE DYNAMICS OF SIGNIFICANT KNOWLEDGE CREATION -----		191
6.1	Introduction -----	191
6.2	Preparing for a multiperspective view -----	192
6.3	A Habermasian framing of the multiperspective analysis -----	193
6.4	Critical reflection -----	195
6.4.1	Who’s in charge? -----	197
6.4.2	The balance of power -----	199
6.4.3	Challenging existing structures of leadership -----	200
6.4.4	A critical self-reflection -----	201
6.4.5	A synthesis of the critical reflection perspective -----	203

6.5	Hermeneutic phenomenology-----	203
6.5.1	Interpretive reflection through story telling -----	206
6.5.2	Shared language and the 'emic'-----	207
6.5.3	The story as it is must be told -----	208
6.5.4	A synthesis of the hermeneutic phenomenology perspective -----	210
6.6	Orgmindfulness-----	211
6.6.1	“The whole is greater than the sum of its parts”-----	212
6.6.2	A place for all both individually and collectively -----	214
6.6.3	Creating order from apparent chaos -----	215
6.6.4	A synthesis of the orgmindfulness perspective -----	218
6.7	Synthesising a multiperspective view-----	218
6.7.1	Summary of points from each perspective -----	219
6.7.2	The multiperspective as an analytical perspective-----	222
6.8	Implications of the research form a construct of collective intelligence in schools--	223
6.9	Chapter summary-----	227
CHAPTER 7: COLLECTIVE INTELLIGENCE AND A NEW IMAGE OF THE PROFESSIONAL TEACHER -----		229
7.1	Overview of the chapter -----	229
7.2	Outcomes of the study -----	229
7.2.1	The construct of collective intelligence in school development and revitalisation	230
7.2.2	New ways of school-based thinking and learning -----	231
7.3	The significance of this study: A response to the final research question-----	232
7.3.1	New insights into collective intelligence in the work of the teaching profession-	233
7.4	Recommendations for future research -----	236
7.5	Final reflections -----	238
REFERENCES -----		240
APPENDIXES -----		254

LIST OF FIGURES

Figure 1	Capturing the dynamics of significant knowledge creation through school-based professional revitalisation: An explanatory framework for a construct of collective intelligence in schools-----	ii
Figure 2	The inter-relatedness of the literature review-----	9
Figure 3	The ideas process -----	19
Figure 4	The proposed case study bricolage model -----	52
Figure 5	The case study bricolage model-----	63
Figure 6	The timeline of data collection at Gum View State School in 2004-----	67
Figure 7	The timeline of data collection at Horizon Campus in 2004 -----	112
Figure 8	The “It’s Ours” model-----	154
Figure 9	The “Crash or Crash Through” model -----	164
Figure 10	Knowledge creation through school-based professional revitalisation: An explanatory framework -----	186
Figure 11	The dynamics of knowledge creation through school-based professional revitalisation: An explanatory framework-----	187
Figure 12	Capturing the dynamics of significant knowledge creation through school-based professional revitalisation: An explanatory framework for a construct of collective intelligence in schools-----	226

LIST OF TABLES

Table 1	Research design framework -----	40
Table 2	Overview of Gum View State School data collection and initial data analysis-----	42
Table 3	Overview of Horizon Campus data collection and initial data analysis-----	43
Table 4	Data analysis approach-----	150

LIST OF EXHIBITS

Exhibit 1	One facilitator's recall of a voluntary meeting held late April 2004-----	76
Exhibit 2	The co-facilitators recall the ISMT meeting of 27 May 2004 -----	82
Exhibit 3	Recollections of the dinner meeting -----	88
Exhibit 4	The checkout at Gum View State School -----	106
Exhibit 5	Sue's reflection on the photocard activity-----	115
Exhibit 6	Desirable attributes based on identified values -----	116
Exhibit 7	Sue's recall and reflection of the extended meeting held 20 August 2004 -----	122
Exhibit 8	Learning together: Launching bright futures-----	135
Exhibit 9	Community understanding of the vision statement -----	136
Exhibit 10	Towards a schoolwide pedagogy-----	140
Exhibit 11	Learning works best at Horizon Campus when ... -----	143
Exhibit 12	The intended SWP statements -----	144
Exhibit 13	The final version of the SWP statements-----	146

LIST OF CHARTS

Chart 1	The researcher-as-bricoleur framework -----	27
Chart 2	Description of characteristics and evidence of shared meaning-making at Gum View State School -----	156
Chart 3	Evidence and description of professional learning processes at GumView State School --- -----	157
Chart 4	Description of characteristics and evidence of shared meaning-making at Horizon Campus -----	166
Chart 5	Evidence and description of professional learning processes at Horizon Campus -----	167
Chart 6	The characteristics of significant new meaning -----	171
Chart 7	Professional learning processes in support of significant new meaning -----	181
Chart 8	A summary of contemporary educational perspectives -----	194
Chart 9	Definition of collective intelligence in schools -----	225
Chart 10	Definition of collective intelligence for creative social capital -----	227

LIST OF APPENDIXES

Appendix 1	Ethics approval from the University of Southern Queensland-----	254
Appendix 2	Ethics approval from Education Queensland -----	255
Appendix 3	Letter of information to school principal-----	256
Appendix 4	Letter of invitation to ISMT members -----	257
Appendix 5	The researcher's invitation for the ISMT to attend a focused-reflection session-----	258