

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

Dilemmas of Educational Innovation

A thesis presented in partial fulfilment of the requirements for the degree of

Doctor of Philosophy

in

Management

at

Massey University, Manawatu, New Zealand



Sajid Khan

2018

Abstract

Education is reported to be in crisis. The needs and demands of learners are continuously evolving due to rapid changes in the socio-cultural and technological landscape, whereas pedagogy is slow to change. Institutions have been admonished that they need to encourage creativity and innovation in educational practices. Yet prior research shows that realising innovative pedagogical solutions is not easy for teachers because it involves complex dilemmas. This research investigated the experiences of tertiary level pedagogical innovators to identify dilemmas they encountered during the innovation process and the strategies they used to resolve them.

Interviews were conducted, either face-to-face or via Skype, with 30 research participants. The participants were all tertiary-level teachers who had led a team-based pedagogical innovation project and who had published about the innovation in peer-reviewed academic journals. In order to explore experiences of innovators, each interview was used to generate a cognitive map, and then the individual maps were combined into an aggregate map using *Decision Explorer*. The aggregate map was then explored and analysed to identify the dilemmas of innovators and the strategies used to resolve them. These findings were then reviewed, interpreted and discussed in the light of relevant literature.

Overall, the findings of this study reaffirm that pedagogical innovators encounter a range of dilemmas while realizing their innovations and the effective management of these dilemmas enables them to progress toward their intended pedagogical goals. Effective management usually involved the “through—through” thinking advocated by Trompenaars. The main contributions of this research are: the application of cognitive mapping to identification of dilemmas; the identification of thirteen distinct dilemmas that can be managed by educational institutions and innovative educators; and articulation of alternative ways of reconciling dilemmas. The findings may assist educators with choosing an appropriate course of action when facing a dilemma during their innovations.

Acknowledgements

All praise and thanks to Almighty Allah for enabling me to accomplish this research endeavour. Many people walked alongside me during this long journey and I would like to extend my heartfelt appreciation to all of them for their sincere support and encouragement.

I consider myself fortunate indeed to have had the opportunity to conduct this research under the supervision of Dr. Phil Ramsey. Looking back on this research, I can recall many instances when I felt discouraged and exhausted. It was Phil who provided me with much-needed encouragement and guidance to overcome those situations. He has been a supervisor, a mentor and a friend. Without Phil's constructive feedback, continuous support, patience and advice this research would not have been possible. I am also thankful to my co-supervisor, Prof. Lorraine Warren, for her support encouragement and guidance during this research. I would also like to thank Prof. Sarah Leberman, who was my co-supervisor in the first stage of this research work, for her guidance and help in organising my research. Thank you, Phil, Lorraine and Sarah for your unconditional support and endless patience. I sincerely hope that this is not the end of our work, but a new beginning.

Apart from my supervisors, I owe my sincere gratitude to several people who provided intellectual input to my thought processes. I am particularly indebted to Ms. Petra Stein for good discussions and for reading and commenting on my initial drafts. I would also like to thank my cousin Mr. Hameed Khan, no less than a brother, who read the first completed draft of this research work and provided a very useful feedback. I am also thankful to my examiners Prof. Lynn Jeffrey, Prof. Lisa Harris and Prof. Trish Corner, for their time and feedback. Their thought-provoking and highly useful suggestions assisted me to clarify my work and put my scholarly contribution into perspective.

I would like to sincerely thank my research subjects who took time out of their busy schedules to share their wonderful experiences with me. Without their support, this research could never have been completed. Their participation in this research is highly valued and appreciated. Also, I am very grateful to the Higher Education Commission (HEC) of Pakistan for giving me an opportunity of doing this research, and funding it.

I am indeed very grateful to my colleagues and the administrative staff at the Massey Business School for their support throughout my PhD research. Mr. Dilawar Arbab, Dr. Asif Zia, Dr. Anil Kaushik, Dr. Zulfiqar Butt, Dr. Muhammad Shuaib, Prof. Imran Muhammad, Dr. Hanif Qazi, Dr. Lucrecia Gonzales Valero, Mr. Majid Khan, Mr. Omer Benazir, Mr. Asad Razzaq Ms. Michelle Hunt, Ms. Tara Cheung, Mr. Turk Abdul Alzahrani, Mr. Saad Alhajri, Mr. Kefah Wali Al-Anizi, Ms. Rahizah Binti Sulaiman, Mr. Vincent Morgan, Mr. Vishwajit Gaikwad and Dr. Lei Ye are some of the most wonderful friends I made in New Zealand. I am greatly privileged and thankful for their friendship, encouragement and support.

Most of all, my greatest gratitude goes to my parents, brothers, sister, wife and children for their love and support throughout this research journey from the beginning to its completion.

Dedication

This thesis is dedicated to my parents, Farid Khan and Rabia Farid, to whom I owe everything.

Table of Contents

Contents

Abstract	iii
Acknowledgements	iv
Dedication	vi
Table of Contents	vii
List of Tables.....	xi
List of Figures	xii
Chapter 1. Introduction to the Thesis	1
1.1 Motivation for the Study	1
1.2 The rationale and importance of the study	2
1.3 Research Question and Objectives	5
1.4 Research Design	6
1.5 Structure of the thesis	7
1.6 Summary	8
Chapter 2. Educational Innovation	9
2.1 What is innovation?.....	9
2.2 Innovation in Education	11
2.3 The Process of Innovation.....	13
2.4 An Overview of Innovation Types	19
2.5 Top Down or Bottom Up.....	23
2.6 The Role of a Teacher in Relation to Educational Innovation	25
2.7 Factors Impacting Teacher’s Behaviour for Innovation.....	28
2.7.1 Teacher’s Knowledge.....	28
2.7.2 Teacher’s Self-Efficacy Beliefs	33
2.7.3 Student Response to Innovation.....	33

2.7.4	Institutional Factors.....	35
2.7.5	Characteristics of Innovation	37
2.8	Conclusion.....	43
Chapter 3.	Educational Innovation	44
3.1	What is Dilemma?.....	44
3.2	Why focus on dilemmas?	46
3.3	Dilemma Theory and dilemma management	48
3.4	Previous Studies on Teacher Dilemmas	52
3.4.1	Dilemmas in educational change	53
3.4.2	Dilemmas in day to day work	65
3.4.3	Dilemmas in team-based innovations	72
3.5	Summary of the chapter and research gaps	73
Chapter 4.	Research Methodology	76
4.1	The Aim of the Research.....	76
4.2	Research Question.....	76
4.3	THT Framework.....	80
4.4	Sampling Technique.....	82
4.5	Instrumentation.....	88
4.5.1.	Pilot-testing	89
4.6	Ethical Considerations.....	91
4.7	Interview procedure and the role of researcher	92
4.8	Data analysis.....	93
4.8.1	Cognitive Mapping	94
4.8.2	Guidelines for creating a cognitive map	96
4.8.3	Extracting and representing mental models	97
4.8.4	Aggregate Map.....	100
4.8.5	Explore Concept.....	101

4.8.6	Thematic Analysis.....	103
4.9	Conclusion.....	104
Chapter 5.	Dilemmas and Resolutions.....	106
5.1	Spontaneous thinking vs. organised thinking.....	107
5.2	Realisation of innovation vs. attainment of competencies	111
5.3	Competency needs vs. desired design	112
5.4	Authoritative management vs. participative management	114
5.5	Diversity of opinions vs. agreement on ideas.....	115
5.6	Technology vs. pedagogy	118
5.7	Students' learning needs vs. students' expectations and Teacher's performance score	120
5.8	Managing risk vs. radical innovation	123
5.9	Job responsibilities vs. innovation development.....	125
5.10	Revealing innovation vs. hiding innovation.....	127
5.11	Innovators interests vs. university/agency interest.....	131
5.12	Thematic analysis	135
5.12.1	Empathy with students	135
5.12.2	Perseverance: Not Giving Up.....	137
5.12.3	Love and hate responses from students.....	140
5.12.4	Passion and Enthusiasm Help Sell the Innovation.....	141
5.12.5	Overarching Theme: The two-edged sword of emotions.....	143
5.13	Chapter Summary	144
Chapter 6.	Discussion	146
6.1	Organised versus Spontaneous Pondering.....	147
6.2	Realisation of Innovation versus Attainment of Competencies	153
6.3	Competency Needs versus Desired Design.....	155
6.4	Diversity of Opinions versus Agreement on Ideas.....	156

6.5	Authoritative versus Participative Style of Team Management.....	159
6.6	Technology versus Pedagogy Development	161
6.7	Students' Learning Needs versus Students' Expectations	164
6.8	Professional Reputation versus Students' Learning Needs.....	167
6.9	Job Responsibilities versus Innovation Development.....	170
6.10	Managing Risk of Innovation Failure versus Realisation of Large Scale Radical Innovation	172
6.11	Revealing Innovation to Obtain Required Support versus Hiding Innovation to Avoid Opposition	175
6.12	Innovator's Interests versus University's or Funding Agency's Interests	179
6.13	The two-edged sword of emotions	182
6.14	Conclusion.....	186
Chapter 7.	Conclusions and Implications	189
7.1	Summary of the Thesis.....	189
7.2	Answering the Research Question	193
7.3	Contributions to theory.....	194
7.3.1	Implications for Methodology	195
7.3.2	Implications for practitioners	196
7.3.3	Implications for University Administration and Policy Makers.....	199
7.4	Limitations and implications for future research	201
7.5	A Final Word.....	204
References	206
Appendices	263

List of Tables

<i>Table 2.1</i> Models of educational change.....	16
<i>Table 3.1</i> Dilemmas of teaching by Berlak and Berlak (1981).....	66
<i>Table 3.2</i> Possible responses to dilemmas.....	74
<i>Table 4.1</i> Journals reviewed.....	85
<i>Table 4.2</i> Short profile of innovators interviewed.....	86
<i>Table 5.1</i> Dilemmas experienced during innovation process.....	107
<i>Table 6.1</i> Different labels used to denote spontaneous and organised thinking	149

List of Figures

Figure 2.1 The innovation process	19
Figure 2.2 TPACK Framework	30
Figure 3.1 Either-or approach	49
Figure 3.2 Both-and approach	50
Figure 3.3: The dilemma helix	51
Figure 4.1 THT framework to reconcile dilemmas	80
Figure 4.2 The Reconciliation Grid	81
Figure 4.3 Example of a cognitive map	96
Figure 4.4 Description of converting process of identified casual statements into a coded map.	99
Figure 4.5 Cognitive Map	102
Figure 4.6 Explore Concept on Increase in Violent Criminal Behaviour	102
Figure 5.1 Idea conception process	109
Figure 5.2 Spontaneous pondering vs. Organised pondering	110
Figure 5.3 Team development	111
Figure 5.4 Realisation of Innovation vs. Attainment of Competencies	112
Figure 5.5 Pursuing desired design of innovation	113
Figure 5.6 Maintaining control of the innovation vs. Partnering with experts	113
Figure 5.7 Leading innovation process	114
Figure 5.8 Authoritative vs. Participative Style of Team Management	115
Figure 5.9 Agreement among team members	116

Figure 5.10 Diversity of Opinions vs. Agreement on Ideas	118
Figure 5.11 Technology-Pedagogy dilemma	119
Figure 5.12 Technology vs. Pedagogy	120
Figure 5.13 Managing Reluctant Attitude of Students	121
Figure 5.14 Students Needs vs. Students Expectations	122
Figure 5.15 Professional Reputation vs. Student Needs	123
Figure 5.16 Managing high risk of failure	124
Figure 5.17 Minimizing Risk vs. Realising Radical Innovation	125
Figure 5.18 Managing increased workload	126
Figure 5.19 Job responsibilities vs. Innovation development	127
Figure 5.20 Managing colleagues opposition to innovation	128
Figure 5.21 Revealing Innovation vs. Hiding innovation	130
Figure 5.22 Obtaining support from university or funding body	132
Figure 5.23 Innovator's interest vs. University's or external agency's interests	134
Figure 5.24 Emotionally charged vs. Emotionally neutral	144
Figure 7.1 The dilemmas, their resolution and key areas of innovation process	192
Interviewee Maps 1–30	311–340

