A Study of the Formation & Nature of a Community of Learners within a blended, part-time, graduate, Higher Education Programme.

A thesis submitted in fulfilment of the requirements for the award of Doctor of Philosophy

2015

By

Timothy Savage B. A. (U. E. A.), H. Dip. (DUB), M. Sc. (DUB)

Declaration

I declare that this thesis has not been submitted as an exercise for a degree at this or any other university and it is entirely my own work. I agree to deposit this thesis in the University's open access institutional repository or allow the library to do so on my behalf, subject to Irish Copyright Legislation and Trinity College Library conditions of use and acknowledgement.

_____

Timothy Savage

Summary

This study uses a grounded theory approach to develop a theoretical understanding of the formation, nature, and impact of a blended community on the educational experience of part-time higher education students.

Within a blended community, learners interact, share information and develop their knowledge simultaneously in both a traditional face-to-face environment and a computer-mediated community space. This distinct form of community is increasingly being posited as a beneficial and desirable integration of ICTs into the learning experience of traditional higher education students, however little is known of how such a community forms or how learning is facilitated by it. Even less is known about these processes for part-time higher education students whose characteristics of maturity, vocational experience, time poverty and multiple commitments results in them potentially having the most to benefit from such a community whilst paradoxically having the most challenges in forming one.

This study is located within the context of the changing nature and challenges to higher education arising out of a range of contemporary factors. These include the impact of globalisation and the knowledge economy on the demand for higher education, funding concerns, the impact upon all of the stakeholders of the rapid and pervasive rise of ICTs and the potential of ICTs to facilitate new and enhanced models of higher education teaching and learning.

The need for a theoretical understanding and the availability of a successful blended community of part-time higher education learners guided the selection of a grounded theory methodology. The community investigated was that arising from an academic year of the Masters in Technology and Learning at Trinity College, Dublin University. The research analyses data from a number of sources including; over 2,400 archived online interactions within their community forum, a series of in depth interviews with students, and two questionnaires administered (to 26 students) at critical points in the process. Further data sets include statistical data arising from existing large-scale student surveys and research into part-time higher education. Using constant comparison and theoretical sampling, the stages of open, axial and selective coding were conducted to arrive at theoretical hypotheses and insights.

The research findings are presented in the form of two substantive theories that explain the formation process of this type of community and the nature and impact of the community on their learning experience. The first theory explains the distinct process of blended community formation of part-time higher education students and identifies the interplay and relationships between the range of causal, contextual and intervening conditions. It highlights findings that differ from those of the more widely reported online learning community formation processes and also those that differ from the limited research into full-time blended community formation. The second theory demonstrates how a blended community can successfully leverage the advantages part-time higher education students bring to their studies whilst also ameliorating some of the challenges this cohort face.

Acknowledgements

I wish to acknowledge and thank the following people for their freely given and much appreciated support, encouragement and advice during this journey:

- My supervisor and colleague Brendan Tangney whose patience, encouragement, advice and good humour have kept me going.
- The students on the Masters in Technology and Learning at Trinity College, Dublin, who were the participants for this study and also those in subsequent years. They have been an inspiration to me and a joy and an honour to work with.
- My family, specifically my parents, who have also shown great faith and support in all of my education.

Table of Contents

1 Introduction 1

1.1 The Background and Context 2

1.2 Personal Motivation - The “Itch” 5

1.3 The Research Problem 7

1.3.1 Preliminary Research Questions 7

1.4 The Context of This Study 7

1.5 Research Methods 8

1.5.1 Grounded Theory Methodology 9

1.5.2 Implications of adopting a Grounded Theory methodology 9

1.6 Key Findings 10

1.6.1 The Formation of a Blended Community of Part-Time Learners 12

1.6.2 The Nature of a Blended Community of Learners 14

1.6.3 Part-Time Higher Education and Blended Community of Learners 15

1.6.4 Contribution 15

1.7 The Structure of This Thesis 16

2 Literature Review 19

2.1 Introduction 19

2.2 Rationale, Purpose and Form of the Review 19

2.2.1 Grounded Theory and Literature Reviews 20

2.2.2 Methodology of the Literature Review 23

2.3 Higher Education 25

2.3.1 Globalisation, Changing Demographics and the Knowledge Society 25

2.3.2 The Changing Nature of Higher Education Students 27

2.4 Part-Time Higher Education 28

2.4.1 The Irish Context 29

2.4.2 The Problem of Definition 32
2.4.3 The State of the Literature 32
2.4.4 The Characteristics and Learning Experience of Part-Time Higher Education Students 34
2.5 E-learning and Higher Education 40
2.5.1 Community and Sociocultural Learning 43
2.5.2 The Process of Community Formation 50
2.6 Conclusion 53
3 Methodology 55
3.1 Introduction 55
3.1.1 Analysis of the Requirements for the Methodology 56
3.2 Philosophical Orientation 58
3.2.1 Reasoning and Research 58
3.2.2 Positivism in the Social Sciences 59
3.2.3 Interpretive or Naturalistic Approaches within the Social Sciences 60
3.2.4 The Nature of Educational Research 61
3.2.5 Theory-Building 64
3.2.6 Positionality 67
3.3 The Selection of a Grounded Theory Approach 69
3.4 A Grounded Theory Approach 72
3.4.1 The Constant Comparative Method of Qualitative Analysis 73
3.4.2 Division and Development 76
3.4.3 The Selection of a Systematic Approach for This Study 78
3.5 The Systematic Approach to Grounded Theory 79
3.5.1 Stage One – Identification and Preparation 80
3.5.2 Stage Two - Data Collection 80

3.5.3 Stage Three – Data Analysis 82
3.5.4 Stage Four – Theory Generation and Validation 84
3.6 Research Design 86
3.6.1 Managing the Data 87
3.6.2 Narrative of the Process of Data Collection and Analysis 91
3.6.3 Stage One – Identification and Preparation 92
3.6.4 Stages Two and Three – Data Collection and Analysis 94
3.6.5 Stage Four – Theory Generation and Validation 108
3.7 Conclusion and Summary 109
4 Data Analysis – Open and Axial Coding 110
4.1 Introduction 110
4.2 Overview and Nature of the Categories 111
4.3 Open and Axial Coding 114
4.3.1 Category One - Coming Together 116
4.3.2 Category Two -Doing the Course 124
4.3.3 Category Three – Interacting in the Community 131
4.3.4 Category Four – Being a Part-Time Higher Education Student 141
4.3.5 Axial Coding between Categories 148
4.4 Conclusion and Summary 161
5 Data Analysis – Selective Coding and Theoretical Development 162
5.1 The Process of Theory Building 162
5.2 The Identification of the Core Category 162
5.3 The Theory 164
5.3.1 Part-Time Higher Education Blended Community Formation 165
5.3.2 The Nature and Impact of the Community 169
5.4 Operationalization of the Theory 173

5.4.1 Facilitating a Blended Community of Learners 173
5.4.2 The Nature of a Blended Community of Learners 174
5.5 The Theory and the Literature 176
5.5.1 Engagement and Community Formation 176
5.5.2 The Nature and Impact of the Community 182
5.6 Generalizability, Validity and Rigour 183
5.6.1 Confirmability 184
5.6.2 Dependability 184
5.6.3 Internal Consistency 185
5.6.4 Transferability 185
5.6.5 What Grounded Theory Is Not 187
6 Discussion and Conclusions 189
6.1 Review of Findings 189
6.1.1 Contributions 190
6.1.2 Significance of This Research 190
6.1.3 Limitations of this Research 191
6.2 Implications for Higher Education 191
6.3 Future Research 193
6.4 Reflections on a Grounded Theory Approach 195
6.4.1 When It Didn't Make Sense 195
6.4.2 Glaser, Strauss and Corbin, and Axial Codling Paradigms 196
6.4.3 Grounded Theory Is Not Easy 197
References 198
Appendix 1 – Example of Initial Questionnaire 205
Appendix 2 – Example Student Interview Excerpt 207
Appendix 3 – Discussion Board Data Table 209

Appendix 4 - Example of Environment Failure Questionnaire 211

Appendix 5 – Case Specific Context Variables 213

Appendix 6 – Example of Axial Coding Paradigm 214

Appendix 7 – Example of Conditional/Consequential Matrix 216

List of Figures

Figure 1 - Emergent Theories 11

Figure 2 - The Process of Blended Community Formation of Part-Time Learners 13

Figure 3 - Irish Part-time and Full-time Enrolments 2010-2011 (HEA, 2012) 30

Figure 4 - Recommendation of the HEA report (HEA, 2012) 31

Figure 5 - Dimensions of a PTHE Course (Adapted from Tight, 1991) 32

Figure 6 - Age breakdown of FT and PT HE students in Ireland (%, 2009/10) 35

Figure 7 - Three levels of Situated Learning (adapted from Mayes & de Freitas, 2007) 46

Figure 8 - Community of Inquiry Framework (Garrison et al., 1999) 47

Figure 9 - The 5 Stage Model (Salmon, 2004) 52

Figure 10 - The General Method of Theory Building in Applied Disciplines (S. Lynham, 2002, p. 231) 66

Figure 11 - The Axial Coding Paradigm (Strauss & Corbin, 1998) 77

Figure 12 - Stages of Grounded Theory 79

Figure 13 - Example of Themes from the Initial Questionnaire 94

Figure 14 - Discussion Board Data Analysis 98

Figure 15 - Process Memo on Theoretical Sampling 100

Figure 16 - Timeline of Data Collection and Analysis 103

Figure 17 - Theoretical memo 104

Figure 18 - Sketch accompanying theoretical memo 105

Figure 19 - Final Category Set 106

Figure 20 - The Emergent Categories 112

Figure 21 – Categories in Relation to Structure and Process 114

Figure 22 - Interplay of Structure and Process 122

Figure 23 - Analytical Questions 149

Figure 24 - The Axial Coding Paradigm 150

Figure 25 - Part-Time Higher Education Students' Causal Conditions 152

Figure 26 - The Development of Routines 158

Figure 27 - Linear versus Overlapping relationship of Formation to Impact 164

Figure 28 - Initial Blended Community Formation 167

Figure 29 - The Interactivity/Community Process Model (Lear, Ansgore, & Steckelberg, 2010) 177

Figure 30 - The Process of Community Development (Brown, 2001) 180

Figure 31 - The 5 Stage Model (Salmon, 2004) 181

Figure 32 - The General Method of Theory-Building Research in Applied Disciplines (Lynham, 2006, p. 231) 194

List of Tables

Table 1: Structure of the Thesis 17

Table 2- A Summary of the fundamental arguments (McGhee et al., 2007, p. 336) 22

Table 3 – Literature Review Structure vis-à-vis Cooper's Taxonomy 24

Table 4 - Typology of Lifelong Learners (Slowey & Schuetze, 2012, pp. 15-16) 28

Table 5 - Analysis of inductive/deductive approaches vis-a-vis this research 71

Table 6 - Interview Data 88

Table 7: Category One - "Coming Together" 116

Table 8: Category Two - "Doing the Course" 125

Table 9: Category Three - "Interacting in the Community" 133

Table 10 : Category Four - "Being a Part-time Higher Education Student" 142

Table 11 - Operationalized elements of a successful blended community 175

Table 12 - Quality and Rigor Related To the Stages of a Theory-Building Research Life-Cycle (Gasson, 2004, p. 90) 183

Table 13 - Contextual Factors in Transferability 186

1 Introduction

This thesis utilises a grounded theory approach to investigate and generate a theoretical understanding of the formation, and nature of, a successful blended community of learning of part time students in higher education.

A blended community of learners is one that combines the traditional face-to-face classroom community with a computer-mediated online community to create a separate and distinct form of learning community, one that simultaneously operates and interacts in both the online and face-to-face spaces. This research provides insights into the processes at work, and structure within which such a community forms and the impact it has on the learning and the higher education experience of the participants.

It is situated at the point of confluence between a variety of factors which provide the background and broader context. These factors include the changing nature and context of higher education, the development of social theories of learning, and the development and proliferation of online communities supported by the rapid rise and pervasion of information and communication technologies (ICTs).

Using a successful blended community of part-time higher education learners as the context of the study, theories are generated that provide insights, of both a practical and theoretical nature, into the formation and function of such a community. The particular context (part-time higher education) provides an opportunity to explore this form of community among a growing sector of higher education.

This introductory chapter presents the setting for this thesis starting with the background and context in terms of broad themes encountered when moving into the field, and the major theoretical and methodological issues upon which this thesis is built and conducted. Adopting a grounded theory study has implications both for the structure and conduct of this study and these are discussed. The author's own motivation is presented along with the guiding research problems. By situating this research within this broad context, attention is drawn to the importance and contributions of this work to the wider educational and research community.

1.1 The Background and Context

The last few decades have seen a significant increase in demand for higher education globally which has been driven by a range of factors. The rise of the knowledge society has resulted in top-down and bottom-up pressures on higher education (Tight, 2003). Governmental policy initiatives have been implemented to increase participation in higher education on the societal level while at the same time individuals, aware of the need for higher education for job security and promotion, are increasingly accessing higher education (Slowey & Schuetze, 2012). A significant number of these entrants are mature individuals in employment who are looking to access learning outside of the traditional full-time higher education paradigm through more appropriate modes such as part-time or online higher education. These shifting paradigms in terms of modes of delivery and access are set to continue (Johnson, Adams, & Cummins, 2012). This growth in demand for part-time higher education has not been matched by a commensurate rise in the quantity and quality of research into the part-time higher education experience.

At the same time there has been a rapid and pervasive rise in ICTs across all areas of business and social life. The growth of the Internet and the World Wide Web have provided in excess of a 2.7 billion people with computer mediated communication and computer supported social interaction channels (ITU, 2013), up from 1 billion in 2004 (Plant, 2004). These channels provide the infrastructure upon which individuals create and maintain communities outside of the traditional sociological definitions and with profound effects on human communication (Luppicini, 2006).

The rise of ICTs has implications for the increased provision and quality of higher education (Swail, 2002). ICTs have the potential to address many quality concerns through the enhancement of existing pedagogical strategies and the facilitation of new approaches to learning, both largely focussing on the twin elements of community and inquiry (Garrison & Vaughan, 2008). Similarly, well designed and implemented online learning offers great potential for increasing the access to, and provision of, higher education.

The increase in the use of ICTs and their ubiquitous nature has changed the manner in which many learners access higher education. Imbued with the social web and ease of access to networked resources these so called Digital Citizens, or New Millennial Learners,

are increasingly social, highly pragmatic, easily bored and results focussed (Conole, Laat, Dillon, & Darby, 2008; Mossberger, Tolbert, & McNeal, 2008; Pedró, 2006). Many higher education institutions have adopted online learning as a strategy to increase access and participation with mixed results.

More recent developments have included the rise of Massive Open Online Courses (MOOCs). These massively scalable open access courses allow tens of thousands of learners to access a structured course, designed and led by a faculty member or members and utilising a range of web technologies for the delivery of content (P. Hill, 2012). Though at this stage they are not for credit, there are initiatives currently being developed to provide formal higher education credit recognition.

More recently, however, there has been recognition of the potential of ICTs to enhance the learning experience within the traditional face-to-face modality (Garrison & Vaughan, 2008).

The application of pedagogy to e-learning and ICT enhanced teaching in higher education has seen a development over time away from more behaviouristic models towards more situative theories such as Community of Inquiry, Community of Practice and social constructivism (T. Mayes & de Freitas, 2007). The development of these sociocultural theories of learning (Bandura, 1977; Vygotsky, 1978) provide pedagogical understandings which are carried forward into the sociological and anthropological study of how people learn in ever-changing forms of community (Lave & Wenger, 1991; Resnick, 1987; Wenger, 1998). These authors emphasise social learning and the construction of meaning through communication and collaboration among peers. ICTs, and specifically the socio-technical infrastructure underlying the social web, have the potential to facilitate the creation of a blended community where face-to-face learners also interact, communicate and collaborate online thereby facilitating and enhancing the capacity for sociocultural learning.

The development and impact of a strong sense of community among learners therefore is an increasing focus among researchers in learning in higher education (Rovai, 2002; Rovai & Jordan, 2004). This focus recognizes the importance of social interaction in the development of cognition and draws upon the range of social learning theories (Bandura, 1977; Vygotski & Cole, 1978).

The integration of ICTs into the teaching and learning processes within higher education has resulted in the emergence of the blended learning approach as a hybrid of traditional face-to-face education and purely online or distance education. Blended learning can occur anywhere along the spectrum from a predominantly online experience with some face-to-face interaction to a predominantly traditional learning experience supported by online resources and communication facilities. There is currently a deficit of research in the development and impact of a strong sense of community in blended learning environments (Garrison & Vaughan, 2008; Rovai & Jordan, 2004).

There are existing models to facilitate the process of encouraging engagement with an online community however they focus primarily on the distance education or purely online model (Palloff & Pratt, 1999; Salmon, 2000). How applicable these models are for understanding of the development of a blended community is open to question.

Developing any online community for learning is a challenging enterprise, whether it is for distance learning or blended with a face-to-face modality. The focus is on facilitating the emergence of a community and ensuring healthy participation and interaction. However many challenges exist including a range of structural conditions (from providing access and motivation) to process conditions (such as effective moderation and the facilitation of the development of a functioning set of norms and values for the community) (Salmon, 2000).

The development of a blended community within a face-to-face modality has proved particularly difficult. While the now near ubiquitous institutional virtual learning environment (e.g. BlackBoard, Moodle) has the necessary socio-technical infrastructure upon which a blended community can form, the development of an effective healthy blended community for learning is proving to be elusive in many cases. In most instances the institutional virtual learning environment is used primarily as a resource repository (Jenkins, Browne, Walker, & Hewitt, 2011; Stiles, 2007). More specifically, the role of face-to-face interaction in the formation and nature of a blended learning community is unclear.

“More research into the importance of face-to-face contact and community building is needed” (Bikowski, 2007).

While the development of a blended community for learning in the traditional face-to-face modality can be viewed as difficult or elusive, little is known of the development of such a community among part-time higher education learners as evidenced by little published research in the area.

The need for lifelong learning and the substantial increase in participation are both closely aligned with the provision of part-time higher education (Schuller, Raffe, Morgan-Klein, & Clark, 1999; Slowey & Schuetze, 2012; Tight, 2003). As a cohort, part-time higher education students are characterised as not only being more mature than traditional students but also having a broader range of ages often within the same cohort or class(Yorke & Longdon, 2008). They are often in employment and have family commitments which result in a range of pressures that can hinder their studies and reduce their engagement in social interaction with their student peers(Bridge, 2006; Schuller et al., 1999). While these factors can be seen as disadvantages for the learning experience of part-time higher education students, they also have distinct advantages. Their motivations for study often differ from traditional students and they are usually highly committed to their studies. Their choice of area of study is commonly related to their employment and as a result they bring to their studies a wealth of practical work-based experience which can be often related to the studies (Bridge, 2006). Their increased maturity provides them with both considerable life experience and a serious and motivated approach to their studies.

This thesis seeks to explore the formation and nature of a successful blended community of learning for part-time higher education students with a focus on three areas:

1. The processes at work in the formation of a blended community of part-time learners in higher education
2. The nature of such a community and how the interactions and activities within it effect the learning and the higher education experience of the members
3. The implications of a such a community for the design and teaching of a higher education course

1.2 Personal Motivation - The "Itch"

Strauss and Corbin suggest four sources of research problems in qualitative inquiries (Anselm Strauss & Corbin, 1998, p. 36). The first source is that which is suggested to the

researcher, normally by a senior colleague with their own research programme and as such the problems are normally well defined and achievable though possibly lacking in intrinsic motivation and interest for the researcher. The second source is those problems derived from the existing literature within a field or discipline either through evident discrepancies or explicitly identified areas for future research. The third and fourth suggested sources for research problems are located within the personal and professional experience of the researcher and it is from this experience that this study arose.

"The touchstone of one's own experience might be a more valuable indicator of a potentially successful research endeavour than another more abstract source." (Anselm Strauss & Corbin, 1998)

Since my appointment as a lecturer jointly between the School of Computer Science and Statistics and the School of Education in Trinity College, Dublin University in 2002 my key teaching focus has been on the part-time Master's in Technology and Learning. In this position I was engaged in implementing online communication systems and encouraging the students to use them in an attempt to provide them with additional channels for both social and collaborative learning activities. Over time the infrastructure to support these activities moved from simple course websites with associated discussion boards through ever evolving virtual learning environments each with enhanced functionality. Similarly specific course activities were increasingly integrated with these online computer mediated communication tools.

I was, and still am, astounded by the range and volume of interactions among the students and the pride and commitment they have demonstrated in establishing vibrant online social and learning communities.

Initially I was naïvely innocent of both the difficulties reported in the literature with establishing such communities and the novelty of including what was viewed as technology enhanced distance education communication tools within a part-time higher education face-to-face class. It is safe to say that much has changed during these years to correct such naïveté and at the same time bring me to two realisations that provide my personal motivation in conducting this study. The first realisation was that what we were doing was working very successfully and providing significant benefits to the students' learning and experience of part-time higher education through their engagement in the

communities that *they* constructed. The second realisation was that I was unsure about how exactly these vibrant communities arose every year out of the context of the course, how the activities undertaken facilitated them, and the impact this form of community had on the part-time learners' educational experience.

To paraphrase the retailer John Wanamaker, "I knew half of our community facilitation and barn raising activities worked; I just didn't know which half." and this was the itch, or irritation which drove me to this investigation.

1.3 The Research Problem

This research focuses on the phenomenon of the emergence of a blended community for learning among part-time higher education students (specifically the processes and contexts at work in the formation process) and the impact of the resultant community on the students' learning and their experience of studying.

1.3.1 Preliminary Research Questions

Research questions

1. **What is a theory that explains the process of community formation in a blended community of part-time learners in higher education?**
2. **What is a theory that explains the nature of a blended community of learners with regard to the impact it has on their learning and on their part-time higher education experience?**

1.4 The Context of This Study

The context for the study is a part-time higher education vocational postgraduate course (Masters in Technology and Learning) at Trinity College, University of Dublin. The data collected for this study was a combination of consciously sought after data (questionnaires and interviews), the artefacts of the community (in excess of 2,500 discussion board messages) and non-technical literature (existing surveys of student satisfaction in their higher education experience and higher education statistics).

1.5 Research Methods

The field of online and blended community for learning is by its nature both interdisciplinary and multidisciplinary. Accordingly one of the features of this field of research is that the research practitioners bring the tools and analytical techniques of their own discipline to the work. This presents a danger as each discipline has its own particular focus or perspective which the disciplinary tools and analytical techniques are designed to reveal or highlight.

"Different social scientists have characterized communities in different ways in order to understand different social phenomena and also based on different underlying social philosophies." (Sasha A. Barab, Kling, & Gray, 2004, p. 6).

This research inverts this process by the conscious selection of the inductive theory generating methodology of grounded theory (Charmaz, 2000; Glaser & Strauss, 2006; A. Strauss & Corbin, 1990; Anselm Strauss & Corbin, 1998). Specifically this approach requires the researcher, to varying degrees, to focus not on the existing theories and frameworks of their discipline, but on the data and to develop sensitivity to what it is saying with regards to a theoretical understanding of the phenomenon under study.

A grounded theory approach is appropriate for this study as the ability to generate a theory *from the data* may overcome the difficulties associated with the range of disciplines which overlap in this context (online community, higher education, educational technology, sociocultural learning). It has the analytical power to answer the preliminary research questions posed in Section 1.3.1 Preliminary Research Questions

The paucity of theory and literature within this area further supports a grounded theory approach as it has the ability to generate theory that focuses on the specific context and phenomenon.

"A researcher does not begin a project with a preconceived theory in mind (unless his or her purpose is to elaborate and extend existing theory). Rather, the researcher begins with an area of study and allows the theory to emerge from the data. Theory derived from data is more likely to resemble the "reality" than is theory derived by putting together a series of concepts based on experience or solely through speculation (how one thinks things ought to work)" (A. Strauss & Corbin, 1990, p. 12).

1.5.1 Grounded Theory Methodology

The goal and *raison d'être* of a grounded theory study is to inductively generate a theory about a phenomenon through the detailed examination and analysis of a specific context. Grounded theory therefore is "a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon" (A. Strauss & Corbin, 1990). A theory within this context is a conceptual framework, with exploratory and predictive power as well as demonstrating how process knowledge of how something works (S. A. Lynham, 2002).

Grounded theory distinguishes between formal theory and substantive theory. This thesis establishes a substantive theory that is one that emerges from immersion within the data during the course of a single research study. Formal theory emerges over time and from a range of similar substantive theories (Glaser & Strauss, 2006, p. 32). The shift from substantive to formal theory is seen by Glaser and Strauss as part of the process of generating theory.

The data collection, analysis, and theory generation stages are seen to be reciprocal and inter-related. This approach places the data at the core of the methodology, allows for the emergence of the processes that lie at the heart of the phenomena, and through the application of rigorous analytical techniques, inductively generates a theory to explain the processes at work within the phenomena and how the processes interplay with the structure, or conditions, within which the phenomenon is situated (Anselm Strauss & Corbin, 1998, p. 165).

1.5.2 Implications of adopting a Grounded Theory methodology

Grounded theory presents two challenges to the researcher when conducting a graduate study. Firstly grounded theory does not represent the traditional hypothetico-deductive research model which is dominant in doctoral studies (Luckerhoff & Guillemette, 2011) and secondly the *discoverers* of grounded theory, Barney Glaser and Anselm Strauss diverged significantly in their perspectives on the approach subsequent to their initial work, The Discovery of Grounded Theory: strategies for qualitative research (Glaser & Strauss, 2006). Nevertheless, grounded theory has become an accepted methodology in a variety of educational Doctoral studies (R. E. Brown, 2000; Haavind, 2006; Warburton, 2006).

The rise in the adoption of grounded theory in academic research at all levels has brought it into conflict with the more traditional hypothetico-deductive methods. Grounded theory is an inherently iterative method which consciously avoids existing theoretical constructs and collects data not by some predetermined research plan, rather by the needs of the emerging theory (Luckerhoff & Guillemette, 2011). As a result the presentation of a doctoral study which utilises this methodology does not provide a traditional literature review (in order to maintain theoretical openness), has the challenge of presenting an iterative process within a linear documentary form, and has to justify in detail the emergent research design and path.

As a result of the divergence between Anselm Strauss and Barney Glaser, it is imperative to justify which approach this study broadly falls under and, at the stages when the divergence is particularly acute, demonstrate and justify the path chosen.

This study utilises the approach of Anselm Strauss and Juliet Corbin as it is argued that this approach has been used successfully in educational research, provides more support and structure for a new grounded theorist than that of Barney Glaser, is more attuned to the requirements of a doctoral study, and is aligned with my personal philosophy of knowledge.

These divergences between the two main approaches are most notable in the role of the literature within a grounded theory study, and the data analysis techniques in the formation of the categories and subsequent theoretical development. At these stages in this report, the implications of the divergences are discussed (Section2.2.1 - Grounded Theory and Literature Reviews and Section 3.4.3 - The Selection of a Systematic Approach for This Study).

1.6 Key Findings

The goal of grounded theory is to provide a substantive theory that explains the structure and processes at work within the phenomenon under study. Structure represents the conditions that provide the context for the theory (such as the nature of the course or the characteristics of the participants) and the process represents the actions and interaction within the phenomena (such as sharing information or routinely posting online). The process element of the theory can either be over time (such as in the context of community formation) or within time (such as in the context of the nature and interaction

within a formed community). The complex interplay between structure and process is one of the key challenges of conducting and presenting grounded theory.

A grounded theory emerges around a central or core category among the range of categories that develop through the analysis In this study the central category that emerged was that of Coming Together (in its *in vivo* sense) which represented the processes (interaction, strategies, routines) and the structure (causal, contextual and intervening conditions) underlying the formation, operation and nature of a blended community of part-time learners in higher education. This central category was examined and utilised to generate two related substantive theories, one concerning the formation of a blended community of part-time higher education learners and the other concerning the nature and impact of such a community on the learners and their educational experience (see Figure 1 - Emergent Theories below). The relationship between the theories arises from how the emergence (or not) of certain community characteristics from the formation stage effects the nature (and thus the impact) of the community that develops.

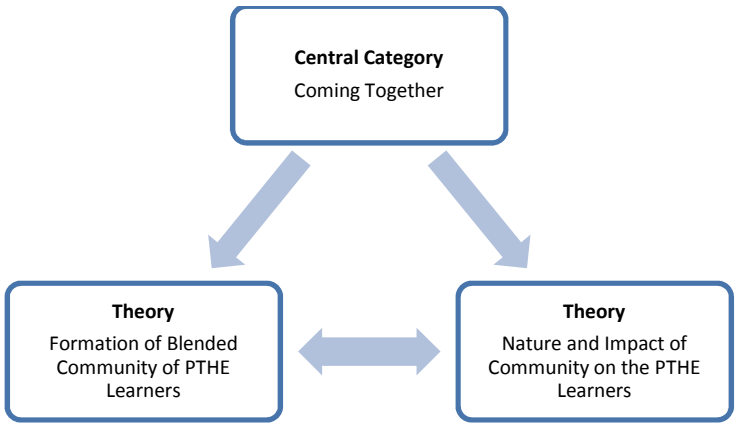


Figure 1 - Emergent Theories

1.6.1 The Formation of a Blended Community of Part-Time Learners

In terms of the community formation, the theory which emerges from this study provides a framework that identifies the key structural conditions and processes that impact (either positively or negatively) on the development of a healthy blended community of part-time learners. The theory goes on to explain the interplay between structure and process.

There are a range of structural factors that can facilitate or hinder the development of a blended community of part-time learners. These fall within the themes of the course structure and nature, the course assessment and grading formats, logistical issues and the nature of the participants.

The course structure and nature has a considerable impact on the structural conditions within which a community may emerge. The disciplinarity of the course has a considerable impact, for example in an interdisciplinary or multidisciplinary course there are students with a broader range of experiences and backgrounds. This can cause issues for community formation due to the lack of disciplinary homogeneity among the potential participants; it is also more of an imperative for such a community to form due to the large sociocultural learning benefits that arise from the sharing of a wide range of opinions and experiences.

The nature of the course assessment and grading also plays a significant role. A course that contains assignments that are structured, but open in that the student is required to answer questions on or research a domain of their choice, promote community development. Similarly a course that has a final pass/fail grading structure is perceived as less competitive by the students and promotes sharing and community development.

Logistical issues such as class size, the physical face-to-face environment, the amount of face-to-face time and its composition (spread out or concentrated) all have an impact on community formation. The nature of the learners themselves, their employment status, their willingness to forge and maintain relationships, their age in absolute terms and the age range of the class also impact on the community formation.

A substantive theory of blended community formation emerges that explains the phenomena in terms of both structure and process (see Figure 2 - The Process of Blended

Community Formation below). Several themes emerge from this analysis of the process including understandings of how students come to *know* each other and the *just-in-time* nature of successful blended community formation. Particular attention is paid to the transition from a broad social community to a social and cognitive learning community.

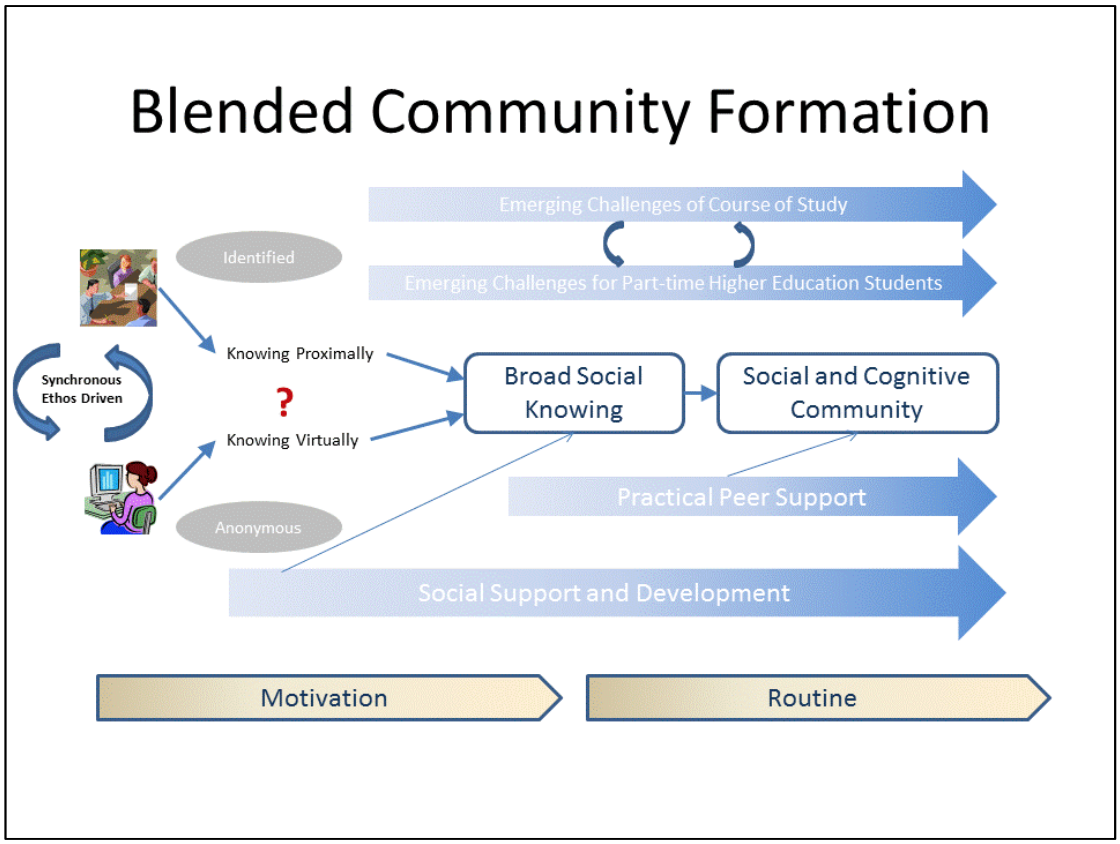


Figure 2 - The Process of Blended Community Formation of Part-Time Learners

The simultaneous social and cognitive activities allow the participants to come to *know* each other proximally (through the face-to-face space initially) and virtually (through the online space). The proximal knowing is deeper than the virtual knowing but has a tendency to create relationships among small sub groups of the class based on physical proximity which can result in cliques. The virtual knowing has a tendency to be broader (among the wider class) but shallower. These two aspects of knowing within the class combine as students transfer the virtual relationships to the face-to-face space and *vice versa*. The result is a broad community that forms quickly and a tendency to have fewer cliques.

A temporal aspect emerges where the processes of community facilitation appear to capture and leverage the initial high motivation of students to engage with the course and its activities. This initial leveraging supports the development of the social aspect of the blended community upon which the sociocultural learning benefits can build. As course activities and assignments begin, the students' anxiety and concerns arise which can reduce their motivation however the establishment of a social community by this point allows for peer sociocultural support and learning. This *just-in-time* aspect results in a further fillip to the community's development and fosters further commitment to it.

1.6.2 The Nature of a Blended Community of Learners

A blended community of learners represents a sociocultural learning community which can be viewed as a situated community of practice where the practice domain is a combination of the domain being studied (the content domain) and the learning and assessment of the course content (the course domain). The interactions and sharing therefore are about how to create and complete the assignments and activities of the course domain **and** discussions and the negotiation of meaning around the wider content domain itself.

The students develop their own culture of learning alongside the culture of the content domain. The distinction between these two areas becomes increasingly blurred as their identity-in-practice develops. Through sociocultural learning processes, the students create their own language, values and mores that are on the one hand unique and distinct to their community but also representative of the broader content domain.

At the lower level of cognitive functioning, information exchange occurs where students share resources (content domain) and give advice on how to complete assignments (course domain). Over time these accumulate and become a resource facilitated by the persistent nature of the online community interactions as stored in the socio-technical infrastructure. At the higher level of cognitive thought students share their ideas for assignments with the community in order to receive feedback and advice. This represents interactions in both the content domain and the course domain.

The online community allows the learners a sense of connection to the course and their peers by extending the face-to-face contact with both outside of the face-to-face time. This plays a vital role in maintaining the social aspect of the community upon which all

else rests. For example, students spoke of having comfort from knowing that the other members of the class were under similar pressures and had similar anxieties.

In terms of the processes at work within a blended community, the study finds that once formed the community is nurtured by the students through maintaining a consistent level of interactions through the course. The content of these interactions changes in that during key learning stages of the course (such as approaching assignment submissions) the interactions are based around the course content. At what would be considered *slack* times, the interactions are replaced with more social interactions.

The face-to-face and online interactions play complementary though different roles in the learning facilitated through participation within the course community.

1.6.3 Part-Time Higher Education and Blended Community of Learners

A blended community of learners in a part-time higher education course can ameliorate the challenges faced by part-time students and leverage the advantages they possess in terms of their learning and their higher education experience. The benefits to a part-time higher education student of a blended community of learners include:

- Reduced marginalization through forming stronger peer social bonds than those occurring within a purely face-to-face modality.
- Peer support, in both practical and social dimensions.
- Reduced impact of a lack of time through productivity gains such as the persistent online presence of qualified and relevant resources.
- Enhanced sharing of their vocational and life experience.
- The development of identity-in-practice.

1.6.4 Contribution

The theoretical contribution of this study is that it provides two substantive theories, grounded in practice, on the formation, nature and impact of a blended community of part-time higher education learners. These theories explain the formation process and describe the sociocultural nature of the resulting community and how learning benefits accrue to the participants.

Of particular interest is the phenomenon of the emergence of a sociocultural community alongside an instructivist course and the tensions and supports that emerge between them. Similarly the focus of the community on the two domains of the content (domain practice) and the learning (learning practice) have implications for course design.

Contributions arise from the practical and practice-based strategies which are derived from this theoretical understanding in order to assist practitioners in the facilitation, development, evaluation and moderation of a blended community of part-time higher education learners. Similarly the implications for course design and activities are elaborated.

A further contribution arises with regard to the nature and educational experience of part-time higher education learners and demonstrates how such a community leverages this cohort's advantages in life and domain experience while also ameliorating some of the specific challenges they face such as isolation and marginality. The theory outlines how the ability to leverage the positive and ameliorate the negative are closely interrelated and part of the same complex dynamic at work. An additional contribution lies in the exploration of the part-time higher education experience that adds knowledge and theory to this poorly represented area of higher education research.

1.7 The Structure of This Thesis

Reporting on qualitative research has been variously described as representing a journey (Walliman & Buckler, 2008), a dance or a story (Alvermann, O'Brien, & Dillon, 1996). The range of analogies demonstrates an acceptance that the act of reporting qualitative research is in itself a challenge above and beyond the research itself.

Reasons for this difficulty include the notion that the writing itself is an act of analysis (Richards, 2005) which can lead the researcher into a spiral of ever decreasing circles. A further tension arises as many qualitative studies, including this one, seek to generate theories while at the same time locating their work within broader more substantive and accepted theories (Alvermann et al., 1996) thus providing the challenge of including both levels of theory as well as relating one to another.

Perhaps the most fundamental difficulty lies in reporting in a linear fashion on what has been a fundamentally iterative research process as outlined above. There is insufficient

space to describe each cycle and step in the "dance", however a particular emphasis has been placed on providing examples, where appropriate, to illustrate the steps.

Whilst recognising the challenges outlined above, the overarching structure of this Thesis was derived with regard to Philips and Pugh's description of the *form* of a Ph.D. thesis (Phillips & Pugh, 2005). They contend that, in its most abstract form, a Ph.D. consists of four elements: background theory; focal theory; data theory; and contribution (see Table 1: Structure of the Thesis below).

Chapter		**Form**
1	Introduction	Focal Theory
2	Literature Review	Background Theory
3	Methodology	Data Theory
4	Data Analysis – Open and Axial Coding	Focal Theory
5	Data Analysis – Selective Coding	Focal Theory/Contribution
6	Discussion and Conclusions	Focal Theory/Contribution

Table 1: Structure of the Thesis

The *Background Theory* refers to the field within which this research is located and requires an awareness of the current state-of-the-art as demonstrated in Chapter 2 - Literature Review. The inclusion and role of a literature review within a grounded theory study is a subject of much debate and is one of the fundamental distinctions between the Glaserian and the Straussian approaches. As a result of this it is appropriate that Chapter 2 - Literature Review opens with a discussion of this distinction and the justification of the selected approach which in turn serves to define the scope and nature of the review that follows. The review then sensitises the reader and the study with the major themes of part-time higher education (with regard to the changing nature of higher education, the role of ICTs and the experience of being a part-time higher education student) and online and blended communities for learning. The purpose of this review therefore is to provide sensitivity to the substantive theories within the field yet still remain within the confines of the role of literature within a grounded theory study constructed along Straussian guidelines.

The *Data Theory* addresses both the method and methodology to support this work and is addressed in Chapter 3 - Methodology. This chapter initially outlines the process by which Straussian grounded theory was selected in terms of its ability to reconcile the inductive/deductive paradox, the nature of the phenomenon under study and the aims of the study itself. The chapter then outlines the principles and key techniques of conducting a grounded theory study in order to provide validity to the results.

Chapter 4 - Data Analysis – Open and Axial Coding represents *Focal Theory* in that it demonstrates the use of data and analytical techniques in the examination and generation of hypotheses and theory. The chapter presents the outcomes of the open and axial coding stages of the approach with examples of the processes. The overview of the process of analysis is deemed necessary in order to demonstrate the validity of the analysis and go some way to addressing the issues of reporting qualitative research identified above.

The *Contribution* is first addressed in Chapter 5 - Data Analysis – Selective Coding and Theoretical Development which also represents focal theory, where the two substantive theories are outlined in a variety of ways. This chapter opens with selective coding of the output of the open and axial coding stages and demonstrates the theory building process. A narrative form of the theory is presented to provide a broad overview of the final theory in the areas of blended community formation, the processes at work within the community and the impact the community has on the part-time higher education students' learning experience. This is followed by a focussed examination of fundamental aspects of the theory in order to provide frameworks and guidelines for the formation of a blended community of higher education students. Chapter 5 continues with an analysis of the theories against existing literature. The validity and generalizability of the theory are addressed.

Chapter 6 - Discussion and Conclusions concludes the study by providing a review of the findings and a discussion of the implications of this research for part-time higher education. A reflection on the experience of conducting a grounded theory study is presented. Finally areas for future research are suggested.

2 Literature Review

2.1 Introduction

This chapter begins with a discussion of the rationale and purpose of this literature review within the grounded theory methodology used in this study. This is required not only as the role of such a review is different than a review in a more traditional hypothetico-deductive study, but also because of the divergence of opinions among grounded theory practitioners concerning the role and scope of a literature review. This discussion informs and justifies the broad nature of the review which follows and the methods utilised.

The review itself focuses on the changing paradigms within the areas of higher education (and part-time higher education in particular), pedagogy and ICTs with a focus on the interaction between them. This review broadly synthesises these areas before discussing the role, nature and issues surrounding blended community of learners and a justification of this research in terms of its significance, practical applications and necessity for the field.

2.2 Rationale, Purpose and Form of the Review

Educational research can be considered the "hardest science of all" (Berliner, 2002) in that research in this domain is full of context, limited generalizations and theories. As such it has been argued that is requires a more "thorough, sophisticated review of literature than in most other fields and disciplines" (Boote & Beile, 2005).

In more traditional hypothetico-deductive methodologies, a key role of the literature review is to demonstrate a thorough understanding of the theoretical background to the area under study (including trends and weaknesses), to propose theoretical approaches to be examined, to identify areas that are unresolved and to inform the research questions amongst other rationale (Cooper, 1988; Cresswell, 2002; Phillips & Pugh, 2005; Randolph, 2009).

A literature review can be considered secondary research within the primary research that makes up this study. It was conducted and is presented in an approach proposed by Randolph and presented below (Randolph, 2009):

a) A rationale for conducting the review.

b) Research questions or hypotheses that guide the research.

c) An explicit plan for collecting data, including how units will be chosen.

d) An explicit plan for analyzing data.

e) A plan for presenting data.

Point a) is covered in this section and the following section – Section 2.2.1, Grounded Theory and Literature Reviews. The remaining points are covered in Section 2.2.2, Methodology of the Literature Review.

2.2.1 Grounded Theory and Literature Reviews

Grounded Theory is an emergent and iterative methodological approach and as such the researcher themselves must remain open to the data and emerging patterns without being constrained by pre-existing notions or models (McGhee, Marland, & Atkinson, 2007). This challenges the traditional role of a literature review within a research study which is to inform the researcher of the nature and form of these same pre-existing notions or models.

Both of the originators of grounded theory, Barney Glaser and Anselm Strauss, agree that the role of a review of the literature was primarily to compare the resultant theory and constructs of the grounded theory process with existing theory and beliefs (Glaser & Strauss, 2006, p. 37). The literature should be consulted **during** the analysis phase (in order to prompt questions of the developing theory) and **after** the analysis phase in order to integrate the literature with the emergent theory in terms of their similarities and differences. This therefore represents a temporary suspension of referencing to the theoretical frameworks, not a denial or dismissal (Luckerhoff & Guillemette, 2011). Where Glaser and Strauss disagreed was whether or not the literature should be consulted **before** the analysis began.

Glaser's position is that in order for the researcher to maintain objectivity, the professional literature should not be consulted until after the data analysis had begun and the initial codes and categories were beginning to emerge (Glaser, 1992). An initial review of the literature prior to entering the field and collecting data could contaminate what should be a truly emergent process of codes, categories and initial theoretical insights. His concerns are that consciously or unconsciously the researcher, in their pivotal role

between themselves the data and their memos, will become "inhibited", “stifled" or even “contaminated" by the assumptions contained within the literature.

Glaser further supports his position on delaying a review of the literature by pointing out that if a truly emergent process has been adhered to, then the researcher is most likely unaware in the initial stages of which "substantive field" their theory will relate to. As such it would make an initial literature review difficult if not impossible.

Strauss however believed that an earlier additional review was essential to assist in the selection of the methodology and identification of the area under study as valid and capable of contributing to the body of knowledge of the domain (Anselm Strauss & Corbin, 1998). In addition this initial review can, through sensitising the research to the domain, assist in the analytical processes though caution is still recommended.

Strauss and Corbin use the need for theoretical sensitivity as an argument for conducting an initial review of the literature prior to entering the field though they assure researchers that an extensive review is not required. They believe that a familiarity with the literature can allow the researcher to more readily identify concepts within their data that are prevalent within the literature. In addition familiarity with the literature will provide the researcher with concepts that can be used comparatively with concepts arising from the data in order to more fully develop properties and dimensions.

In addition to these desirable supports provided by an initial review of the literature, Strauss and Corbin contend that an understanding of the concepts within the relevant domain can supports the initial stages of data collection and analysis. Such a review may prompt initial questions, provide a secondary source of data, guide early theoretical sampling, and in the case of descriptive publications, enhance sensitivity.

They caution that, “the important point for the researcher to remember is that the literature can hinder creativity if it is allowed to stand between the researcher and the data. But if it is used as an analytical tool, then it can foster conceptualisation" (A. Strauss & Corbin, 1990, p. 53).

To some extent the key criteria within the debate between Glaser, and Strauss and Corbin in determining just when to consult the literature rests upon the ability of the researcher to be consciously self-aware of the impact and influence of concepts and hypotheses recorded in the literature upon their own analysis of the data. The centrality of the

researcher within this process makes this an imperative. For Strauss and Corbin the benefits of an initial review of the literature are considerable enough, provided the researcher is suitably reflexive, to outweigh the risks. For Glaser the risk appears too considerable.

Other factors that need to be considered in this decision include the researcher's existing knowledge and background, their level of experience with grounded theory methodology, and external considerations related to the purpose of the study (McGhee et al., 2007). Grounded theory studies focus upon that "which is relevant and problematic for those involved" (Glaser, 1978, p. 93). A familiarity with the problem space is therefore assumed and the researcher is therefore not coming into the field in a state of *tabular rasa*. Helen Heath for example points out that Glaser himself was well-equipped with a broad knowledge of social theory prior to the development and use of grounded theory and suggests novice researchers need an understanding of the key concepts within their area to reproduce the required sensitivity during data analysis (Heath, 2006). The argument can be summarised in the table presented by McGhee, Marland and Atkinson (2007) below.

Arguments for a literature review before developing research categories	*Arguments against a literature review before developing research categories*
To provide justification for the study	To be strictly in keeping with a post positivist ontology
To meet the requirements of Local Research Ethics Committees	To prevent the researcher being constrained, contaminated or inhibited
To avoid conceptual and methodological pitfalls	To prevent recognized or unrecognized assumptions
To discover the extent of previous knowledge and therefore assess whether grounded theory is an appropriate method	To prevent generating a focus from the literature rather than from the emerging data
To be 'open minded' but not 'empty headed'	To promote 'telling it as it is' rather than 'telling it as they see it'

Table 2- A Summary of the fundamental arguments (McGhee et al., 2007, p. 336)

Within the context of this study it was decided to conduct an initial literature review for the following reasons:

1. The researcher had been actively researching the area prior to commencement of this study and it would be artificial and disingenuous to pretend otherwise.

2. Part of the researcher's own academic background includes a qualification in sociology where reflexivity and value neutrality in research and analysis were core components therefore providing some belief in the ability not to allow the literature to stand between the researcher and the data.

3. As part of the purpose of this study is to achieve a doctoral award, it was considered necessary to provide some framing context in the early part of the document for the readers and also to more closely follow the traditional structure of a traditional hypothetical deductive thesis.

4. Having assured himself of his own ability to diminish the potential negative aspects of a prior literature review, the researcher wished to take advantage of the benefits for early-stage analysis of an initial literature review as identified by Strauss and Corbin.

2.2.2 Methodology of the Literature Review

Having established the rationale for the inclusion of a literature review, the type of review needs to be established. This is achieved through an analysis of the nature of a Straussian literature review as compared and contrasted against Cooper's taxonomy of literature reviews (see Table 3 – Literature Review Structure vis-à-vis Cooper's Taxonomy).

Characteristic	**Categories**	
	All possible categories	**Categories used within this study**
Focus	Research outcomes Research methods Theories Practices or applications	Research outcomes Research methods Theories Practices or applications
Goal	Integration a) Generalization b) Conflict resolution c) Linguistic bridge-building Criticism Identification of central issues	Integration a) Generalization Identification of central issues
Perspective	Neutral representation Espousal of position	Neutral representation
Coverage	Exhaustive Exhaustive with selective citation Representative Central or pivotal	Representative Central or pivotal
Organization	Historical	Conceptual

	Conceptual Methodological	
Audience	Specialized scholars General scholars Practitioners or policymakers General Public	Specialized scholars General scholars Practitioners or policymakers General Public

Table 3 – Literature Review Structure vis-à-vis Cooper's Taxonomy

The review does not have a research question in the manner described by Randolph as the purpose is not explanatory or inquiry focussed (Randolph, 2009). The goal of this review is to sensitise and inform the researcher and therefore has a purpose rather than a question.

This purpose informs the inclusion and exclusion criteria. The inclusion criteria were kept broad in line with the aim of sensitivity:

- Studies in any of the key areas identified in the broad areas identified at the start of this chapter.
- Studies that focused on the key contextual areas within this research.
    - Part-time higher education students.
    - Blended communities of learners.
- Studies that was more recent to reflect the current state of ICTs.
- Studies that utilized a grounded theory approach in any of the key areas or areas closely related.
- Studies that were widely cited and therefore central to the areas.

Despite the decision to conduct a broad literature review, concerns still existed about the potential impact of existing theories upon the emergence of the grounded theory. The initial background and contextual literature were considered significantly less likely to influence the emergence of a grounded theory from the data as opposed to the influence of the more specific literature on the formation and nature of a community of learners. Accordingly a greater emphasis is placed on the background literature and less on the specific literature relating to the focus of this study.

The studies were identified through keyword searches of the Trinity College library database. The studies were compiled and analysed primarily for the broad generalizable understandings that could be discerned. Coding was not conducted except in terms of the methodologies used within the key areas. The sequencing of the presentation of the

review followed a standard approach which addressed the broad context first before moving into the sub areas with a focus on where they overlapped (Walliman & Buckler, 2008, p. 135).

In summary the focus of this review is on the outcomes, methods, theories and practices within the literature. The goal is on a generalised integration of the literature and the identification of the central issues. It will use a neutral perspective and have a representative and not an exhaustive coverage with a focus on central or pivotal works. It will be organised conceptually and is written for a broad audience.

2.3 Higher Education

2.3.1 Globalisation, Changing Demographics and the Knowledge Society

Globally the demand for higher education is at an all-time high and this trend is set to continue representing what Swail describes as an "historic shift" (Swail, 2002). This demand is fuelled by the factors of globalisation, the growth of the knowledge society and economy and a changing population demographics.

"New players, new pedagogies, and new paradigms are redefining higher education. The rules are changing and there is increased pressure on institutions of higher education to evolve, adapt or desist" (Swail, 2002, p. 16).

The numbers of students enrolled in tertiary education rose from 68 million in 1991 to 132 million in 2004. This trend has been accompanied by an increased diversity in the forms of provision and an increasing heterogeneity among the student population with an increase in female participation and mature students (OECD, 2008).

Globalisation impacts higher education institutions in terms of increasing both demand and supply. Within the global market for higher education many institutions are leveraging ICTs to deliver education in countries different to their own physical location thus swelling the supply. On the demand side, higher education is perceived as being required by individuals to achieve employment in a global knowledge economy (Carnoy, 2005). Trans-national demand for higher education is growing rapidly as the domestic supply of higher education in developing economies is not sufficient to meet the demand

(OECD-CERI, 2009). Similarly the rise of democratic ideals within globalization has increased pressure to reduce the elite nature of higher education and provide access to those groups who traditionally would not have had access.

“In developed countries, the last few decades have witnessed a move from a reliance on elite systems of higher education, involving only a small minority of the population, to mass systems (Scott 1995), in which the assumption is becoming that most people will participate on more than one occasion. Behind this trend lies, of course, the rise of the so-called ‘knowledge society’, technological developments, globalization and increasing international competition” (Tight, 2003, p. 4).

The impact of the change in demographics on higher education institutions is influenced by globalisation and presents a complex picture. If trends continue as they do, the global participation in higher education will continue to rise though may contract in specific countries (OECD-CERI, 2008). For example, Europe is experiencing negative population growth but this does not equate to a decrease in demand for higher education as the globalised higher education market is being targeted by European higher education institutions. Similarly the change in the age structure in Europe is predicted to have an impact on citizens’ life cycles with regard to higher education by challenging the traditional sequencing of primary, secondary and tertiary education prior to entering the workforce. The focus on lifelong learning and lifelong access is a further policy pressure which Swail predicts will positively impact both the demand and provision of higher education(Swail, 2002).

Lifelong learning as a concept has its roots in the 1970s and arose from the broader debate on educational participation and inclusion from a social justice perspective (Slowey & Schuetze, 2012, pp. 6-7). It was given further impetus in the 1990 as a necessary requirement for the development of the knowledge economy (p.7), however “overall, higher education has been slow to adapt its mission, structures and understanding of knowledge and learning … to the demands for a more open, flexible and egalitarian system” (p. 4).

The response by the higher education institutions has been to focus on providing more access. More recently however there is an increasing focus on student retention and

completion as many of the new entrants accessing higher education are from backgrounds that are less likely to complete (Swail, 2002).

The globalisation of higher education has also resulted in a focus on the quality of higher education, for example through quality assurance mechanisms (OECD, 2008). This focus on quality assurance is a response to the rise in trans-national higher education and the rapid rise of private higher educational institutions and reflects the market-driven model.

In summary, "Higher education drives and is driven by globalisation" (OECD-CERI, 2009, p. 13).

2.3.2 The Changing Nature of Higher Education Students

The raised demand for higher education is not only from the traditional constituency but increasingly from a range of students who are historically under-represented in higher education such as those from low socio-economic background or mature adult learners. Both driving this demand and as a result of it, there has been an increase in accessing higher education through alternative modes such as part-time or online courses (OECD-CERI, 2008). These two factors of non-traditional students and non-traditional access are a response to the pressures of globalisation and the rise of the knowledge economy largely driven by the rise in ICTs.

"The mix of the student population will be more varied, with greater numbers of international students, older students and those studying part-time, etc." (OECD-CERI, 2008, p. 13).

This heterogeneity is further exacerbated by the range of motivations, particularly in relation to lifelong learners. Slowey and Schuetze have developed an typology of sub-categories that further demonstrates the heterogeneity of these non-traditional students and their non-traditional access routes (2012, pp. 15-16) (see Table 4 below).

Sub-Category	Characteristics
Second change learners	Lacking traditional entry requirements, enter via special means
Equity groups	From traditionally under-represented socio-economic or other groups
Deferrers	Those that defer entrance because of other activities
Recurrent learners	Those returning for higher degrees for a variety of motivations from vocational to a

	love of learning
Returners	Those returning to higher education via the increased flexibility on offer
Refreshers	Those refreshing knowledge and skills
Learners in later life	Third or fourth age learners primarily motivated by personal development

Table 4 - Typology of Lifelong Learners (Slowey & Schuetze, 2012, pp. 15-16)

These sub-categories are no mutually exclusive and can be viewed as a range of dimensions or characteristics that captures the nature of the heterogeneity of lifelong learners in higher education.

The range of motivations was explored in a literature review of the area conducted by Alice Bennion, Anna Scesa, and Ruth Williams (Bennion, Scesa, & Williams, 2011). Their analysis identified extrinsic motivations (financial goals via job acquisition or job enhancement) and intrinsic motivations (personal enrichment and the learning of new skills) which were closely related. The primary motivations for the selection of a part-time modality were financial (remaining in employment) with convenience and family (particularly for lone parent families) also featuring (Bennion et al., 2011, p. 153)

A further challenge arising from the growth of ICTs in society is the changing nature of the students themselves. Labelled as "New Millennial Learners" among other terms, these students are imbued with the social web and digital technology and have developed sophisticated informal modes of learning through ICTs (Pedró, 2006). While the impact of this on higher education is still uncertain and the generalised assumptions about their learning styles are not borne out by the empirical evidence, it is apparent that these learners want technology in higher education teaching and learning where it will enhance the process (Kennedy, Judd, Churchward, & Gray, 2008; Pedró, 2009). They are characterised as social, highly pragmatic, easily bored and results focussed. When faced with a learning challenge they are as likely to ask their online social network as access information resources.

2.4 Part-Time Higher Education

The context of this study is a cohort of higher education students accessing their studies through a non-traditional access form outlined above, namely part-time. The requirements of lifelong learning to fulfil the on-going professional development and up skilling required by an information age society are closely aligned with the provision of

part-time higher education (Schuller et al., 1999, p. 9). Demand and provision are rising and the trend is for this to continue.

The benefits of part-time higher education reflect the motivations (outlined in Section 2.3.2 above) and are a combination of economic and social (Bennion et al., 2011; Swain & Hammond, 2011). On the economic side, successful part-time students can expect increased personal income and enhanced career prospects, the acquisition of a range of generic skills and a positive perception towards them from their employer (Bennion et al., 2011; Darolia, 2014; Swain & Hammond, 2011). There are also a range of social benefits that arise, which are more prevalent among those learners who take part-time education for the love of learning as opposed to more direct financial reason. These benefits include personal development and an increase in self-confidence and self-belief(Swail, 2002; Swain & Hammond, 2011).

The literature on part-time higher education students is problematic in terms of definition and focus. Part-time higher education students, as a cohort, tend to be defined in terms of what they are not, i.e. traditional higher education students (Schuller et al., 1999). Also the majority of the research into part-time higher education has been driven by the twin policy priorities of widening access and increasing participation (often focussed on specific socio-economic groups) and also quality of provision (Callender & Feldman, 2009). As a result the existing literature is fragmented with little focus on the learning experience within part-time higher education.

2.4.1 The Irish Context

Within the Irish context, in 2008/2009 part-time higher education students represent around 10% of the total undergraduate population (Slowey, 2012, p. 67). This figure rises to 34.5% for postgraduate degrees. At postgraduate level the trend over recent years for part-time higher education has been a steady rise (HEA, 2009). These postgraduate figures represent both a demand from students and a policy initiative vis-à-vis the knowledge economy.

“The overall growth in postgraduate numbers reflected both increasing demand, and a National Development Plan which – in seeking to position Ireland as a leading Knowledge Economy – reaffirmed an objective to double the number of Doctoral students in the system” (Slowey, 2012, p. 67).

	Institutes of Technology	Universities/ Colleges	All HEA	Other/Private HEI's	Total
UNDERGRADUATE					
Part-time	20%	12%	16%	34%	17%
Full-time	80%	88%	84%	66%	83%
Total UG	74,401	88,028	162,429	10,084	172,513
POSTGRADUATE					
Part-time	52%	36%	39%	32%	39%
Full-time	48%	64%	61%	68%	61%
Total PG	5,696	29,936	35,632	2,172	37,804
Total	80,097	117,964	198,061	12,256	210,317

Figure 3 - Irish Part-time and Full-time Enrolments 2010-2011 (HEA, 2012)

The latest figures available demonstrate that, across the entire Higher Education sector in Ireland, 39% of postgraduate students are part-time (HEA, 2012). Of these students, 92% are defined as mature students (over 23 years of age).

This rise in part-time higher education must be seen within the broader context of rising participation in higher education among all cohorts with numbers doubling between 1992 and 2010 however the levels of participation were not proportionate with only 7% of undergraduates being part-time and low levels of mature student participation (Walsh, 2014, pp. 47-48). This was highlighted by an OECD examiners report in 2004 which noted that Irish Higher Education Authority predictions for rising participation were overly focussed on traditional full-time students. They recommended that an increase in part-time participation be included in the policies and that financial supports available to full-time students be extended to part-time ones (OECD, 2004) though John Walsh outlines that the recommendations around widening participation were the least acted upon (Walsh, 2014, p. 48).

From an Irish policy perspective recent developments are addressing the part-time provision in a more proactive manner. January 2001 saw the publication of the National Strategy for Higher Education to 2030, a strategy group report under the chairmanship of Colin Hunt (Hunt, 2011). This report has subsequently been accepted as a blueprint for Higher Education policy in Ireland. Its references to part-time education are focussed on the financial elements and specifically the proposal that funding opportunities open to full-time students be extended to part-time students.

As part of the implementation plan of the Hunt report, in 2012 the Higher Education Authority of Ireland published Part-Time and Flexible Higher Education in Ireland: Policy, Practice And Recommendations For The Future (HEA, 2012). This report highlights the current provision and outlines 9 recommendations which include addressing the financial provision issues laid out by the OECD and Hunt reports (see Figure 4 below).

	Recommendation
1	By 2016, full equality of provision and support will have been achieved for all learners in Irish higher education, regardless of time, place or pace of study. A range of indicators will be developed to measure achievement of this goal, with a review of progress before the end of 2014.
2	Colleges of higher education review and further develop their policies and systems, drawing on good practice guidelines, to ensure that all students have equal access to the highest quality of teaching and learning, services and pastoral supports.
3	An accessible, co-ordinated applications system(s) is developed for all students in higher education.
4	Guidance is established as an integral, comprehensively delivered element of the higher education experience for all students.
5	Proposals are developed to provide targeted financial support for under-represented students who wish to participate in higher education on a part-time/flexible basis.
6	As part of development of the HEA funding model, equal access funding is adapted to support the entry and participation of all higher education students.
7	Specific proposals are developed to ensure people with disabilities can participate equally in higher education, regardless of mode or duration of study.
8	Data collection and evaluation systems are further developed to strengthen the evidence-base on background and routes of entry of part-time students.
9	New national and local targets are set for part-time/flexible learning as part of the strategic dialogue process being introduced by the HEA.

Figure 4 - Recommendation of the HEA report (HEA, 2012)

The impact of this research on policy will be returned to in the final chapter.

2.4.2 The Problem of Definition

Schuller et al. (1999, p. 48) identify two themes from the literature in terms of defining the field of part-time higher education; that the full-time/part-time distinction is as a result of the development of higher education and that, as a result of the diversity of the part-time higher education sector, there is no such thing as an ideal or typical part-time student. Not only are there no typical part-time higher education students, there is no single type of part-time higher education course. Tight (1991, p. 3) identified a range of dimensions upon which any part-time higher education course can be mapped.

Figure 5 - Dimensions of a PTHE Course (Adapted from Tight, 1991)

As a result, "Part-time higher education should not be thought of as a single or homogenous entity. On the contrary, it comprises a very varied field of activity" (Tight, 1991, p. 2).

Definitions of part-time higher education that do exist have a tendency to refer to what it is not. For example in the UK higher education system part-time higher education courses are defined as a course of study that does not meet the conditions of full-time course (Williams & Kane, 2010). This arises from the largely homogenous nature of full-time higher education students as compared to the highly heterogeneous nature of part-time higher education students. This in turn causes considerable issues from a research perspective in the light of the on-going changes in higher education (Williams & Kane, 2010).

2.4.3 The State of the Literature

The existing body of research into part-time higher education has been largely driven by educational policy needs and therefore focuses on the areas of demand, provision and quality (Schuller et al., 1999, p. 11). In their comprehensive review of the literature into

part-time undergraduates in higher education, Callender and Feldman (2009) noted that most studies focussed on widening participation and barriers to access as a result of this policy focus but at the expense of research into the part-time student experience of study in higher education.

“Although the policy pressure which has informed recent attention to part-time study has been primarily in relation to issues of funding and cost, as well as barriers to entry, there are relatively few studies, which consider wider issues that affect part-time students.” (Callender & Feldman, 2009)

Studies on the demand for part-time higher education have as emphases the nature of the learners, their motivations for participation, the interplay between the learners and their employers, and the structural changes to the provision of part-time higher education and that impact on demand (Schuller et al., 1999, p. 11).

The diversity of part-time higher education students is reflected in the nature of participants sampled in the research in the area. Most studies concentrate on distinct subsets of this diverse population (primarily that of students on a part-time primary degree) and as a result many of the conclusions and findings cannot be easily transferred within the whole of the part-time higher education population (Callender & Feldman, 2009; Schuller et al., 1999).

This tendency to focus research on distinct subsets of the part-time higher education population combined with a policy driven research agenda concentrating on widening participation and access has resulted in a high proportion of the existing studies being conducted with higher education students from low socio-economic backgrounds or minority ethnic backgrounds, and their experience of identity and transition (Callender & Feldman, 2009; Williams & Kane, 2010). This perspective extends into studies that investigate the pedagogical aspects of part-time higher education students.

“However, studies that addressed pedagogy from the students’ point of view were, with the exception of Schuller, invariably concerned with students from underrepresented groups” (Callender & Feldman, 2009, p. 12).

According to Williams and Kane approximately half of the part-time population in higher education in the UK, for example, are from traditional backgrounds (Williams & Kane, 2010) and yet their educational experience has not been researched in the same manner

(Callender, Wilkinson, & Mackinon, 2006). Gorard et al suggest that the lack of focus on traditional part-time students can be explained by the lack of available datasets compared to full-time students in higher education, and the diversity of the part-time higher education population (Gorard et al., 2006).

Research that does exist into the experience of part-time higher education students from traditional backgrounds can be subdivided into provision studies and quality studies. Provision studies seek to understand how part-time higher education provision is managed and planned for in institutions especially in relation to the provision of full-time courses. These studies investigate how part-time courses are organised including the practical issues within institutions of facilitating or running such courses (Callender et al., 2006). Quality studies focus primarily on standards within part-time higher education and how part-time students rate their experience particularly in comparison to their full-time counterparts. Also within the category of quality studies is research that explores the "distinctive educational characteristics of part-time study" (Schuller et al., 1999, p. 12).

What is clearly lacking in the literature are studies on the learning experience of part-time higher education students. Such research would complement the existing research into issues of access and participation and studies into specific student groups from non-traditional backgrounds (Callender & Feldman, 2009).

2.4.4 The Characteristics and Learning Experience of Part-Time Higher Education Students

Part-time higher education students, in general, have to manage a broad range of factors that influence their learning experience. These fall into two categories, their personal circumstances and characteristics, and the manner in which part-time higher education is delivered within the education system. Combined these two factors largely determine their higher educational experience. In this section the general characteristics of part-time higher education students (vis-à-vis full-time students) are outlined and the implications for their learning experience discussed.

2.4.4.1 The characteristics of part-time higher education students

Part-time higher education students have certain broad characteristics (such as maturity and being in employment) that contribute to conditions such as having more

commitments than the majority of their full-time counterparts. These characteristics have a significant impact on their experience of higher education.

Maturity

According to the Higher Education Authority of Ireland statistics, 65% of part-time higher education students were aged 30 years or over (see Figure 6 below) as compared to only 10% of full-time higher education students. In the UK a 2005 survey of part-time undergraduate students showed that 68% of the cohort were 30 years of age or older (Callender et al., 2006). A survey also in the UK of part-time students the following year across, though not restricted to undergraduate courses, showed 65.7% of the cohort were 31 years of age or older (Yorke & Longdon, 2008).

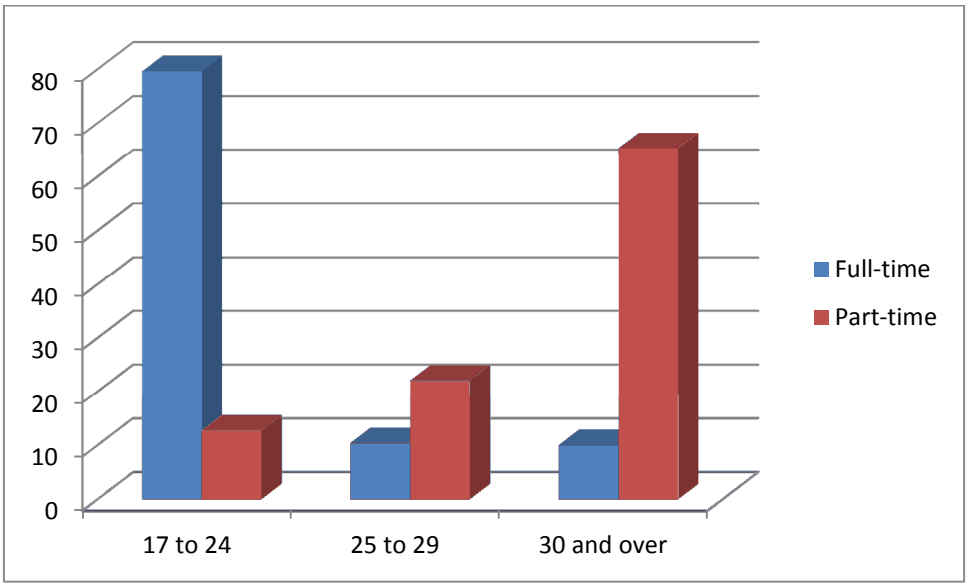


Figure 6 - Age breakdown of FT and PT HE students in Ireland (%, 2009/10)

A study identified that the part-time higher education tutors and lecturers identified this maturity as potentially providing key advantages. “Part-time students impressed with their motivation, seriousness and willingness to participate in class; moreover they had the ability to learn from their own and from others’ experiences” (Schuller et al., 1999, p. 144).

Increased maturity among part-time higher education is an underlying or causal factor that influences the other characteristics. For example the consequences of being older may result in the students being more likely to be in employment or more likely to have a family.

In Employment

Part-time higher education students are more likely to be in employment and more likely to select courses based on vocational need which results in a strong sense of purpose and motivation (Tight, 1991). Being in employment does provide a stable income however it is also one of the multiple commitments a part-time higher education student has to manage. Employment provides a daily and weekly structure which may be associated with the ability to organise their studies and the ability to apply their studies to their own vocational context (Darolia, 2014).

Vocational motivation is an increasingly important context in what these students choose to study which has changed over the past 30 years according to Will Bridge, "...their basic motivation has changed significantly – towards the vocational and career-orientated" (Bridge, 2006, p. 58).

The impact of being in employment has an element of directionality. For some students their work helped their studies and for others their study helped their work. The reality is that if the course is vocational and the content relevant, then there is dimension of bi-directionality at work whereby both their studies and their employment can benefit (Schuller et al., 1999, p. 157).

While being in employment can both be a challenge and also a benefit to a part-time student's experience, the level of employer engagement (through financial support) has changed in recent years in that since the economic downturn, financial support has reduced (Mason, 2014).

Family

The higher age profile of part-time students results in many students having family pressures and responsibilities. Most students in Schuller's study reported that their family was a support (84%) but that finding time to conduct personal study was restricted due to family responsibilities. The solution, according to those students, was to form habits within the routine of the family (Schuller et al., 1999).

The factors of maturity, employment and family life have both advantages and disadvantages for part-time higher education study. The ability to relate their studies to their employment and to bring their vocational knowledge and experience into their

learning is certainly positive. Family life may provide emotional support and the structure and habits of family and employment, coupled with maturity and a high level of personal and professional motivation may provide a solid foundation for purposeful learning. On the other hand the multiple commitments of personal and professional life, coupled with the time required to both attend classes and complete personal study result in significant time poverty among this cohort.

"The pattern of any student's life is a function of the interaction between classroom and personal study, employment and domestic responsibilities" (Schuller et al., 1999, p. 159).

2.4.4.2 The part-time higher education experience

Studies based on longitudinal part-time higher education student surveys have demonstrated that their experience is a combination of their personal characteristics and the manner in which the institution responds to them and organises their course of study (Tight, 1991; Williams & Kane, 2010).

"... their experiences as part-timers were naturally influenced by a very complex, and often unpredictable, set of factors, only some of which fell within the purview of the education system or institution" (Schuller et al., 1999, p. 173).

Two studies, 20 years apart, provide very similar findings with regards to the part-time higher education experience. This demonstrates that, despite the significant changes in the higher education sector and society in general, the experience of part-time higher education has not changed.

Malcolm Tight (1991) analysed the results of national surveys and student evaluation questionnaire studies in order to understand the part-time higher education experience. Williams and Kane (2010) analysed three student satisfaction surveys over an eleven year period and presented the students' self-perceptions of the issues pertinent to part-time students under a set of categories.

Both studies reported significant issues around the area of multiple commitments and balancing work and family. Similarly there was a level of dissatisfaction with access to facilities within the institution such as libraries and canteens. There was a strong level of dissatisfaction with the institution itself and a reported lack of communication from the institution and a belief that their interests were not adequately considered. There was a

desire for more flexible learning, better assessment and feedback and concern at a lack of social life or networking opportunities among the students.

What these studies indicate is that the institutional response to part-time higher education is poor across a range of domains. The institutions are failing to take into account the distinct characteristics of these learners in terms of facilitating access to facilities and communicating with them. The result of this lack of response is a strong sense of marginalisation and lack of support among the students.

Marginalisation can occur at two levels according to Schuller (Schuller et al., 1999). It can occur within the course where a part-time student is taking modules alongside full-time students and also in relation to the social activities and sense of belonging a student may have with their peers (p. 151).

Where a module or programme has both part-time and full-time students, the part-time students can become marginalised within the class. Through not sharing the full-time students' experience, part-time students can miss out on the social opportunities afforded to the full-time students at such times as shared coffee breaks leaving them less a part of the class community. There may also be issues of a pedagogic nature in such a mixed class. A lecturer or tutor may have preconceptions that all of their students are similar and all have, for example taken common modules beforehand. This can leave the part-time student without the required or assumed prerequisite material and knowledge. They can also be "out of the loop" in terms of last minute changes to timetables or assignments. The culture within many educational institutions is that full-time study is the normal model and as such tutors may regard the part-time student as marginal to the core culture within the institution.

Marginalisation from their peers is potentially more damaging in terms of their learning experience. One study focussed specifically on a sense of belonging as a lens to investigate attrition from part-time courses at higher education (Kember, Lee, & Li, 2001). They focussed on the four logical foci of a sense of belonging to their peers, the teaching staff, the department and the university. Their results show a decreasing sense of belonging along this spectrum, feeling most connected with their peers and least connected with the institution.

With regard to their peers, the study identified a strong sense of belonging among the class cohorts (where a clear cohort was present) which was treasured by the students and recognised as promoting learning. A key factor identified in contributing to this sense of belonging was a smaller class size though this was constrained by the lack of time.

“Assimilation into groups could also be a powerful technique in promoting learning, through students learning from one another. The in-class learning extended to out-of-class learning through both group projects and less formal activities” (Kember et al., 2001).

The sense of belonging with regard to the teaching staff was reliant on the attitude of the individual teacher in promoting the students’ sense of belonging. When considering the sense of belonging to either the Department or the Institution, they identify few positive responses and conclude:

“The arrangements of part-time study are perhaps not conducive to developing a sense of belonging to an intangible body such as a university” (Kember et al., 2001).

This lack of connection to their peers is particularly damaging. For example in terms of a lack of peer support, a study of the coping mechanisms of part-time students when faced with the competing demands of work, family, self, and social life did identify difficulties among the study participants in developing a new circle of friends with their fellow students due to the common characteristic of lack of time among part-time students (Yum, Kember, & Siaw, 2005). This lack of social support or a poor social experience can fundamentally alter the higher education experience. As one respondent in Schuller et al’s (1999) study noted, it can be the difference between a university education and university training.

“Due to the heavy demands of work, family and part-time study, students found it hard or did not attempt to develop new friendships. Nevertheless, through the advent of new technology they can maintain a certain degree of contact with their fellow students through media channels” (Yum et al., 2005).

Benefits of Part-Time Higher Education

2.5 E-learning and Higher Education

Due to its reliance on the rapidly changing nature of ICTs, e-learning is a difficult concept to define at any specific time. The definition adopted for the purposes of this thesis is that of Laurillard (2006, p. 72) as "the use of any of the new technologies or applications in the service of learning or learner support."

E-learning has the potential to significantly improve the higher education experience for learners from skill mastery to their enjoyment of learning (Laurillard, 2006). She assesses the impact of e-learning across four domains; cultural, intellectual, social and practical. The cultural aspects of e-learning are concerned with the alignment and familiarity of these technologies with today's learners. The intellectual impact arises from new forms of engagement with material and other students. The social aspect leverages online networking and the desirability of students taking increasing responsibility for their own learning. The practical impacts relate to the ability to reuse electronic resources and the ubiquitous access of online technologies.

The rise of ICTs globally has had a specific impact on higher education in addition to that arising from increasing globalisation. This has resulted in a range of governmental policy responses such as that of the United Kingdom who in 2009 revised their 2005 strategy for learning and teaching through technology with a focus on three areas:

- Efficiency (existing processes carried out in a more cost-effective, time-effective, sustainable or scalable manner).
- Enhancement (improving existing processes and the outcomes).
- Transformation (radical, positive change in existing processes or introducing new processes) (Plenderleith & Adamson, 2009).

The effect of government policy is hard to distinguish though the focus has increasingly been on the learner experience. On the ground most innovation through integrating e-learning into the teaching and learning processes have been initiated by individual teachers within their own modules (Terry Mayes, 2009). These champions may have an effect on the practices of their peers through affecting the subjective norm (Hua, Clark, & Mab, 2003).

“The enhancement strategies of the UK funding councils are now essentially all in agreement with the point that improving the quality of the learners’ experience should be the driver for change, not technology.” (Terry Mayes, 2009, p. 46)

Correspondingly there has been a shift in research into the use of ICTs in higher education towards that of learner experience research in addition to the previous focus on the instructors, pedagogy and technology (Sharpe, 2009). This mirrors what David Boud describes as the increasing focus on learner-centred higher education (Boud, 2006).

ICTs in recent decades have changed rapidly with developments in both processing power and the rise of the internet and World Wide Web. Higher education institutions have developed initiatives that align the policy directives with the changing nature of ICTs. Connolly and Stansfield (2007) have outlined three generations of technology driven initiatives in higher education that map this development.

1. First generation – passive use of online resources and basic tutor-student interaction and feedback.
2. Second generation – rich media and virtual learning environments.
3. Third generation – collaborative learning environments resulting in online access with and among groups of learners.

The first and second generations of e-learning in higher education do represent significant enhancements to the traditional teaching methods employed (Laurillard, 2006) but fail to realise the transformative potential of the third generation.

Despite the role and actions of champions in technology and learning in higher education, the most common institutional response has been the promotion of use of the institutional virtual learning environment (VLE) among the teaching cohort (Terry Mayes, 2009). The VLE-driven approach was hoped to engage the teaching cohort in pedagogical innovation in technology and learning (Stiles, 2007), however surveys have demonstrated that for many, the VLE became the end of the involvement with technology and learning rather than the beginning. A 2005 Joint Information Systems Committee (JISC) survey in the UK demonstrated that for two thirds of the modules reported on, the VLE usage was restricted to notes and assignments rather than any pedagogic innovation or e-learning. This trend continues with the results from a 2008 survey in the UK that concluded that the

technology was embedded within higher education but not having a transformative effect (Jenkins et al., 2011).

Initially the growth of ICTs, and the online modes of learning that they facilitated or enabled, were viewed by some higher education institutions as a means of addressing the twin issues of increasing access at the same time as teaching more students. This approach soon floundered due to the unsatisfactory quality of the learning experience and the fact that online learning is not a cheap alternative.

"The mistake of most traditional campus-based institutions was to see the potential of online learning in terms of access and serving more students instead of serving current students better" (Garrison & Vaughan, 2008, p. 7).

Currently the focus of research in this area is on the identification and implementation of new pedagogical strategies that leverage ICTs to enhance and transform the higher education experience of all students, not only distance or online students. Accordingly this aligns with Connolly and Stansfield's third generation e-learning collaborative learning environments that leverage Laurillard's social dimension (networking and student ownership of their learning) and cultural dimension (the familiarity of today's learners with social technologies) (Connolly & Stansfield, 2007; Laurillard, 2006). This represents a shift in the approach to e-learning and its integration into higher education.

"For the traditional campus-based higher education institution, the breakthrough came when online learning was no longer regarded as a substitute but as an integral and valued component to address the need for a new pedagogy" (Garrison & Vaughan, 2008. p. 7).

Many of these new pedagogies focus on the twin aspects of community and inquiry as essential elements of high quality higher education which aligns with the third generation capabilities and approaches of Connolly and Stansfield (2007).

"Community, on the one hand, recognizes the social nature of education and the role that interaction, collaboration, and discourse play in constructing knowledge. Inquiry, on the other hand, reflects the process of constructing meaning through personal responsibility and choice" (Garrison & Vaughan, 2008, p. 9).

In this model of higher education teaching and learning, the *unit* changes from the learner to the class and learners are encouraged to seek help from their peers as opposed to

working individually (McConnell, 2006). The mechanisms by which learning is recognised as a socio-cultural process are outlined in the following section - 2.5.1 Community and Sociocultural Learning.

“Over the last few years e-learning has begun to place more and more emphasis on a pedagogy based on learning relationships. Such an approach supports the development of discussion boards, chat rooms, instant messaging and forms of communication that include the more exotic web-based tools that are collectively referred to as ‘social software’ (T. Mayes & de Freitas, 2007, p. 20).

The concept of a community of learners is aligned with the higher order learning goals of higher education focussing, as both do, on interaction, discourse, and collaboration:

“Higher education has consistently viewed community as essential to support collaborative learning and discourse associated with higher levels of learning” (Garrison & Arbaugh, 2007).

The challenge to higher education is therefore to understand how to bring this concept into the internet connected age. Students are expecting not only a higher quality of educational experience, but also one that plays to the characteristics of their “connected” generation (Garrison & Kanuka, 2004, p. 96). For Garrison and Kanuka this explains “the emerging trend in higher education to blend text-based asynchronous Internet technology with face-to-face learning” (Garrison & Kanuka, 2004, p. 96). This represents a specific perspective on the much debated term of Blended Learning which itself seeks to encompass a range of strategies and approaches to teaching with technology which is distinct from a “traditional” face-to-face paradigm and a purely online learning experience. Rather than focussing on what constitutes the blend in blended learning, Garrison and Kanuka focus on the potential of the Internet to provide interaction and engagement with a community through the use of communication technology.

2.5.1 Community and Sociocultural Learning

The Cognitivist revolution of the 1960s is often seen as a response to the earlier dominance of behaviourism in the field of learning theories. This approach perceives changes in behaviour not as learning *per se* but rather as an indicator of an internal change in the learners’ schema or knowledge construction. This information processing

model did recognise the importance of participation in activity to change internal schema but focussed largely on the individual and their learning and less on the impact of the social sphere despite notable exceptions such as Social Learning Theory of Albert Bandura (Bandura, 1977).

More recently there has been a shift to a belief that knowledge is a concrete understanding that is situated within the context in which it was learnt or is used in practice. In her Presidential Address to the American Educational Research Association Lauren Resnick drew upon research from the fields of Cognitive anthropology, sociology, and psychology to provide insights into how practical everyday intelligence differs from that taught in a traditional schooling paradigm (Resnick, 1987). She identified the use of tools and artefacts within a cooperative framework as being the defining features of learning "in the real world" and compared this to individual mentation within the school setting. This recognition lies at the heart of theories of situation cognition and situated learning.

2.5.1.1 Sociocultural Theories of Learning

The current understanding of situated learning and cognition were developed from two distinct strands; the anthropological and the psychological (S.A. Barab & Duffy, 2000) but are constructed upon the foundations of the social constructivist view of learning developed largely from the influential work of Lev Vygotsky and his insights into the role of social interaction in cognitive development. For Vygotsky social learning precedes cognitive development as the learner interacts with a "More Knowledgeable Other" who may be a teacher, a peer, or a group of peers. What is learnt on the social level is subsequently internalised as cognitive development.

"Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological)." (Vygotsky, 1978)

The anthropological approach to learning in communities argues that abstract knowledge should be situated within the activity, context, and culture of where it is used and developed (Lave & Wenger, 1991). Within this paradigm learning is often unintentional and is dependent on social interaction and collaboration as learners engage with the authentic, situated community of practice. Over time the peripheral members move

towards a more central location within the community as they adopt and engage with the culture of the knowledge domain. Practice and culture are strongly related. The importance therefore of social learning and interaction with a “More Knowledgeable Other” as well as the adoption of the culture of the domain is in alignment with the work of Vygotsky.

John Seely Brown, Allan Collins, and Paul Duguid also argue that knowledge is situated within the activity, context, and culture where it is used and developed (J. S. Brown, Collins, & Duguid, 1989). Within their psychological approach they focus on the activity that lies at the heart of the learning process within the context of interaction with a domain expert as a form of cognitive apprenticeship. They argue that knowledge and doing are fundamentally reciprocal and that knowledge develops through activity. Within this paradigm concepts are viewed as tools to be used and manipulated within practice that itself is a complex social and cultural reality. They believe that education should learn from the traditional craft apprenticeship model and developed a model for these cognitive apprenticeships that recognise the social and cultural complexities of knowledge and learning.

Their focus is upon learning as a function of being a part of a community while the emphasis of Lave is upon "developing an identity as a member of a community and becoming knowledgably skilful are part of the same process" (Lave, 1993, p.65).

Terry Mayes and Sara de Freitas (2007) describe this perspective on situated learning as being at cultural/socio-anthropological level (p. 19). It accounts for how people learn and develop the authentic practice in stable communities. They distinguish this level of situated learning from the learning group which exhibits the same characteristics and learning processes but the practice is the learning itself within a specific educational setting and focussed on the social context.

“Almost all learning is itself embedded in a social context – the classroom, or the tutorial group, of the virtual computer-mediated communication discussion group or even the year group. The learner will usually have a strong sense of identifying with such groups, and a strong need to participate as a full member” (p. 20).

The final level of situatedness is based around the individual relationships between members of such communities.

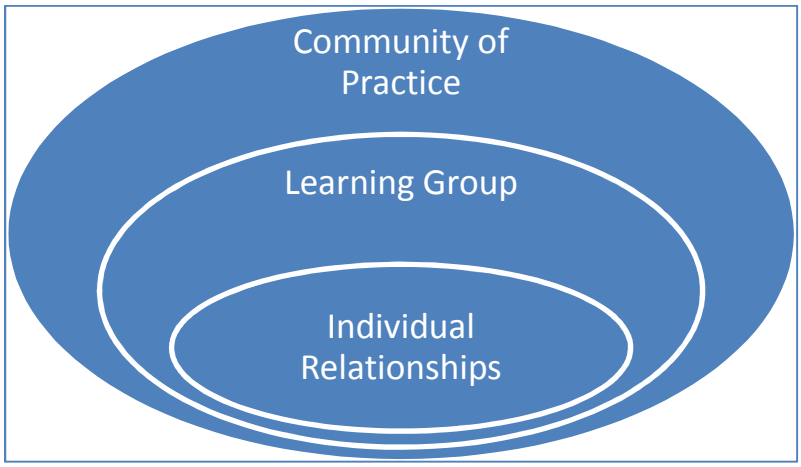


Figure 7 - Three levels of Situated Learning (adapted from Mayes & de Freitas, 2007)

"While there have been many studies of learning in informal settings (e.g. Resnick 1987), there are comparatively few ethnographic studies of real groups in educational settings to compare with the many studies of group dynamics in work organizations (see Greeno *et al*. 1998)" (T. Mayes & de Freitas, 2007, p. 20).

Within the literature there are two predominant models of learning that focus on socio-cultural learning: Community of Practice and Community of Inquiry. A key distinction between them is that the community of inquiry model was developed as a research tool and the authors clearly state that their work is not an inductive model but a deductive one (Garrison & Arbaugh, 2007). The community of practice model however is an inductive model, arising from the anthropological study of how apprenticeship results in learning (Lave & Wenger, 1991).

A community of practice can be seen as the social context within which situated learning can occur. Three core characteristics represent such a community; a shared domain, a community, and a practice. The community aspect of a community of practice reflects the need for mutual interaction and action among the members who themselves have a sense of commitment and conscious engagement with the domain. They assist each other directly and also discuss informally, retelling their experience through stories. They learn from each other through interaction and the creation of knowledge artefacts whether they are anecdotal narratives told over coffee or formalised repositories of the knowledge of the community. Over time and through sustained interaction, the community develops

a shared practice, a mutually created and dynamic sense of how the community conducts itself within a domain. Learning within this paradigm may not be the focus of the community but must occur for the community to be realised as a community of practice:

“Learning can be the reason the community comes together or an incidental outcome of member's interactions”.

Garrison, Anderson, and Archer (1999) proposed a conceptual framework, the Community of Inquiry model, as a research tool for understanding the processes and elements that interact in creating a successful Higher Education learning experience when computer mediated and face-to-face communication are co present (Garrison, Anderson, & Archer, 1999). Their analysis and research was further developed to propose the Community of Inquiry model within a more blended learning paradigm in Higher Education where they extend their initial model to include online learning, face-to-face learning, and a blend of the two forms (Garrison & Kanuka, 2004).

The Community of Inquiry model identifies three elements that are prerequisites for a successful higher education learning experience: cognitive, social, and teaching presence (see Figure 8 - Community of Inquiry Framework below) (Garrison et al., 1999).

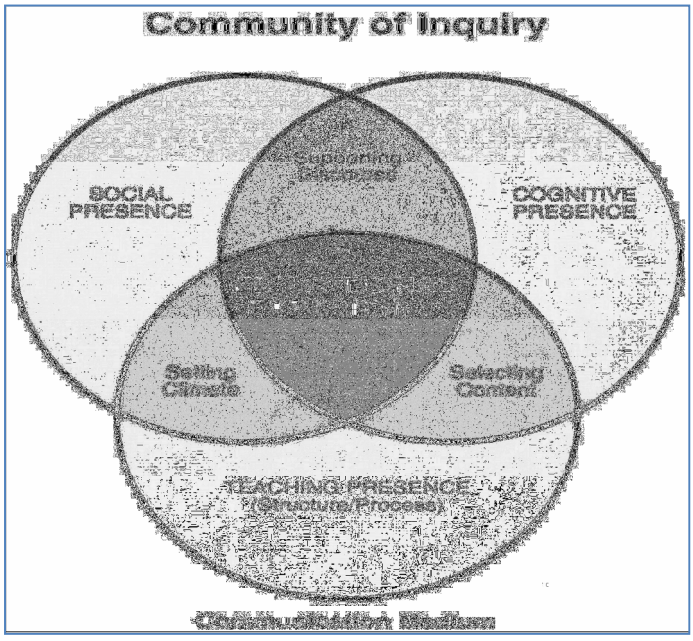


Figure 8 - Community of Inquiry Framework (Garrison et al., 1999)

Social presence is concerned with the ability of the learner to “project” themselves within the community and to form and maintain meaningful relationships with other members of the community. In turn these abilities are transformed over time into the three core aspects of open communication, effective communication, and group cohesion (Garrison, 2006).

Cognitive presence within a Community of Inquiry is defined by Garrison (2006) as “the exploration, construction, resolution and confirmation of understanding through collaboration and reflection in a community of inquiry.” Firmly rooted within the reflective tradition of Dewey (Dewey, 1933), cognitive presence describes the inquiry process within the community when encountering a “triggering event”. The process focuses on movement through the stages of exploration, integration, and resolution though Garrison identifies that in practice many communities struggle to progress beyond the exploration stage.

The final element within the Community of Inquiry model is teaching presence which within the Community of Inquiry model has three key components: design, facilitation, and direct instruction. Drawing again on the research literature from online learning, Garrison cites evidence identifying the importance of teacher presence in fostering the sense of community, student satisfaction, and perceived learning.

Research into the Community of Inquiry model has focussed on qualitative and quantitative analysis. The studies have used coding and theming techniques applied to transcripts alongside survey instruments (Akyol & Garrison, 2010). The model itself was derived from an analysis of existing research on primarily online learning and is not inductive theory building. As such the premise that this model is a research tool for analysis and understanding is openly declared and in part supported by the interpretavistic techniques of qualitative transcript analysis (Garrison et al., 1999).

A comparison of these two approaches identifies key differences. The Community of Practice model is appropriate for understanding how learning occurs within an existing self-organising community. This is reflected by the focus on the domain and the practice. Within the community, learning is a product of activity and participation and there is little research that addresses the impact of a formal course of study alongside such a community or how specific learning objectives can be achieved within such a framework.

Learning is a result of social interaction and immersion with the authentic community and emerges which can be seen at odds with the formal requirements of higher education.

The Community of Inquiry model does focus on a more guided approach to community learning in higher education. There is a requirement for tutors to structure, guide and trigger events in order to lead their students to the required understanding. While this has a more significant appeal in terms of achieving or supporting specific learning objectives, it may suffer from a lack of authenticity of practice (whether the practice is that of the domain or that of learning about the domain) and the emergence of student ownership of their studies and their learning.

These distinctions can be seen as a result of the differing inductive and deductive approaches that underpin them. The inductive Community of Practice model provides insights into how people learn in existing communities and the deductive Community of Inquiry model focuses on how to structure learning in designed for communities.

Sociocultural learning describes the learning that occurs within a community of learners as they interact with each other and the content of their studies and the practice domain. It combines the Vygotskian ideals of the More Knowledgeable Other with the situated processes of developing identity and practice in a learning community whose focus is on a content domain. The predominant models of Community of Practice and Community of Inquiry address the issue and processes of learning from a common ground but with differing perspectives and outcomes. This does not diminish the potential of developing and facilitating sociocultural learning processes within higher education, it merely identifies space for the development of theory that can reconcile these approaches.

"*Community-based learning* is used here as a concept to describe processes of collective and collaborative learning, which are based on sociocultural learning concepts and focus on the role of group membership or community participation for (collective and individual) learning" (Fischer, Rhode, & Wulf, 2009, p. 77).

Sociocultural theories of learning are particularly appropriate for educating learners to face the problems of the globalised knowledge society. In this paradigm the issues are open ended and multidisciplinary and require the learners to be self-directed, active, collaborative and open to multiple perspectives (Fischer et al., 2009).

2.5.2 The Process of Community Formation

As community has changed through societal development it is more difficult to identify, and therefore identify with and connect to communities to fulfil the socio-emotional human drive to "belong" to a community and in modern society individuals make a conscious commitment to a community – *a conscious community* (Shaffer & Anundsen, 1993).

The rise of ICTs and globalisation has fundamentally changed what is thought of as community. The formerly key aspects of physical locality and proximity in community identification and formation has diminished, largely as a result of modern transportation systems and the growth in both adoption and development of information and communication technologies (Preece & Maloney-Krichmar, 2005), leading Palloff and Pratt to conclude that "Our communities today are formed around issues of identity and shared values; they are not place-based" (Palloff & Pratt, 1999).

This section discusses several models on how to facilitate community formation among a cohort of learners. It must be noted that most of these models are focussed on distance learning and therefore are not completely applicable to the blended community formation process.

Gilly Salmon's model of online learning community formation arose from her action research studies. This widely adopted model has five stages, each of which requires certain interaction and skills development among the participants (both students and tutors) (Salmon, 2000).

Stage one (see Figure 9 - The 5 Stage Model (Salmon, 2004) below) combines access to the community environment (ensuring the participants have the required skills and computer access) and motivation. Motivation is required in order to encourage the participants to engage and to help them overcome any initial technical difficulties or fears. It takes the form of outlining the benefits of the online communications and their role in the students' learning. The motivation at this stage should appeal to the individual student's own interests before appealing to a more common or group interest in the next stage.

The second stage addresses online socialisation and the development of a specific culture and a sense of belonging among the group of learners. The tutors must provide

opportunities for social interaction and support and encouragement for those less willing to project themselves into the online community as well as emphasising the value of the community. Over time the group will develop its own shared norms and values.

The third stage, information exchange, is where the participants share information on themselves and the course itself. Participants will share web based or personal resources that are relevant to the course or pose questions seeking clarification on course requirements or assignments. This sharing represents a clear benefit to the learners in engaging with the community though does run the risk of causing information overload also. Strategies to deal with this can be supplied by the tutors.

Stage four, knowledge construction, moves away from simple information exchange and represents a deeper cognitive engagement with the community as evidenced by deeper and richer online discussions. Students are creating and negotiating meaning through the community environment.

The final stage, Development, represents the community taking ownership of the community and its ongoing development through activities such as requesting more enhanced features or communication systems or the ability to structure the environment according to their needs.

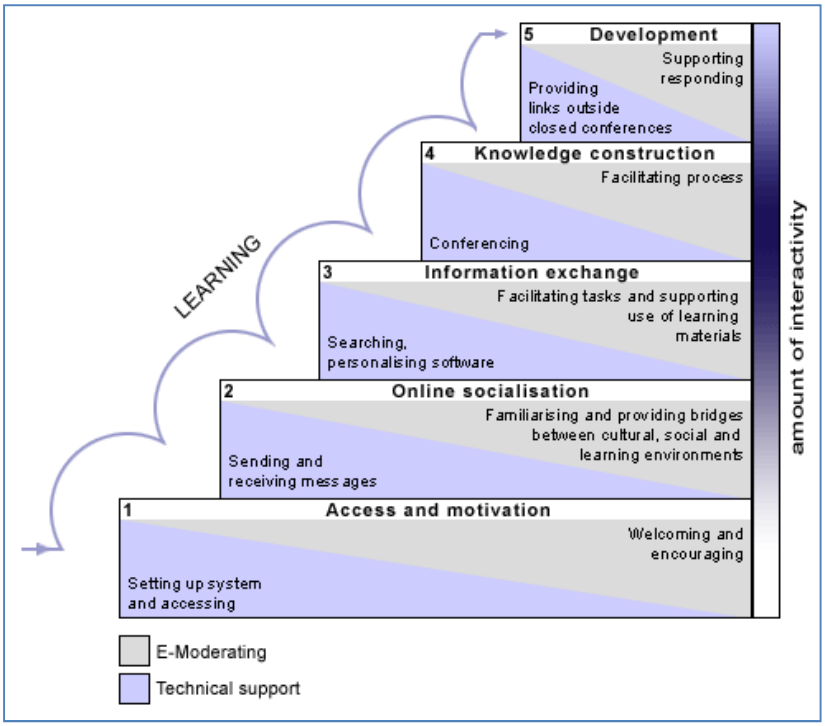


Figure 9 - The 5 Stage Model (Salmon, 2004)

The appeal of Gilly Salmon's model lies in two factors: the linear process and the grounding in action research. Other models of community formation focus on key themes which can be aligned to Salmon's model.

The social aspect is consistent among other models. Caroline Haythornthwaite (2002) identifies three types of exchange that need to be facilitated in order to form a successful community of learners; information exchange, social support and task support. For her the social support offered within a community helps the students through stresses and crises but more importantly underlies a sense of belonging. For Paloff and Pratt (1999) the social aspect is fundamental in building a sense of community and avoiding a sterile and unappealing space. They also highlight the psychological benefit of a community in terms of friendship and well-being as being of great importance.

The emphasis on the social aspect can be seen as the development of social capital. A community with high social capital communicates often and effectively and has a strong sense of reciprocity where members contribute to the community in the knowledge that they will receive benefit from it in return (Nahapiet & Ghoshal, 1998).

In their work on blended learning, Garrison and Vaughan (2008) address the issue of creating a blended community by identifying how to support the social and cognitive elements of their Community of Inquiry model. While they do not provide a linear model they do recognise both the challenge of creating social presence and also the importance of it for the development of a successful community of learning. They focus on creating an open climate and the process of shifting from a social environment to a cognitive one. These are espoused in two principles for the design of blended community.

Principle: Plan to Establish a Climate That Will Encourage Open Communication and Create Trust (p. 33)

Principle: Sustain Community by Shifting to Purposeful, Collaborative Communication (p. 39)

What is clear from these models and studies is that a community of learners has an initial and on-going requirement for social engagement and developing social capital. This social aspect not only provides benefits to the participants in terms of social and psychological support but also becomes the bedrock upon which information exchange, cognitive engagement and development can arise.

The research is sparse on forming a blended community of learners and that which does exist focuses on specific elements such as the impact of face-to-face contact and interactions on online interactions and vice versa. These aspects are consciously excluded from this review as their role will be to support theoretical development at a later stage in the grounded theory process and immersion in them at this stage may influence the analysis on these areas.

2.6 Conclusion

This review has established the changing context of higher education as one facing challenges from globalisation, changing demographics, the rise of ICTs and the changing nature of the learners themselves. Within this broad context, part-time higher education students are a growing cohort that are increasing in numbers as a necessary response to the rise of the knowledge society on an individual and societal level. They bring with them a range of challenges and potential learning advantages.

Sociocultural learning theories are particularly appropriate for learning within the knowledge society. While the basic processes of community-based learning are understood there are gaps in understanding in how communities function within a formal learning context and how sociocultural learning processes can align to the learning objectives of higher education institutions. The community-based learning approach leverages the potential of e-learning to facilitate student ownership and peer negotiated understanding while also aligning learning activities and interactions to their own social learning characteristics.

This study seeks to contribute a theoretical understanding of how blended community-based learning of part-time higher education students occurs in order to provide guidelines and insights for practitioners and institutions in the higher education field. To accomplish this it focuses on the areas of part-time higher education blended community formation and nature, as well as the impact of such a community on the specific challenges and advantages of this growing cohort.

In keeping with the grounded theory methodology, this review has been broad in nature. The emphasis has been on the context of the study and the broad area of learning in communities. Other relevant literature will be referred to in the course of the study as required, particularly in the theory generation and validation stages.

3 Methodology

3.1 Introduction

This chapter represents the data theory element of the thesis (Phillips & Pugh, 2005) and is located at the traditional point in a hypothetico-deductive dissertation however this does present an issue with regard to circular referencing. The aim of this chapter is to present the process of identification of an appropriate methodology for this research, in this case grounded theory. However, a grounded theory approach has already been adopted in the literature review which precedes this chapter. This is a further instance of the challenges of presenting a grounded theory study for a Doctoral dissertation as outlined in Section 1.5.2 - Implications of adopting a Grounded Theory methodology.

This chapter is divided into two sections. The first section discusses the identification of grounded theory as the most appropriate research methodology for this study. This is demonstrated through a process of analysis that begins with the central guiding questions identified in section 1.3.1 - Preliminary Research Questions. The philosophical underpinnings of this thesis are presented (Section 3.2 - Philosophical Orientation) in order to justify the research paradigm which in turn guides the selection of grounded theory as the most appropriate methodology (Section 3.3 - The Selection of a Grounded Theory Approach). The methodology is then outlined (Section 3.4 - A Grounded Theory Approach) and the specific form or type of grounded theory is justified (Section 3.4.3 - The Selection of a Systematic Approach for This Study). A description of the structured grounded theory approach is provided (Section 3.5 - The Systematic Approach to Grounded Theory).

The second section presents the research design (Section 3.6 - Research Design). In a traditional hypothetico-deductive Doctoral dissertation this would entail a formal structured research design arising from the methodology; however the emergent and iterative process of grounded theory development precludes this. Instead this section outlines the actuality of the process as it occurred. It attempts to convey the authentic circularity of data collection and analysis with justifications for the actions taken.

The research problem that this thesis addresses is to generate a theory that explains the processes at work in the formation of a blended community of part-time higher education

students, and that explains the impact (both positive and negative) of this in terms of the students' learning and the challenges and advantages that characterise this cohort of students (see 1.3.1 - Preliminary Research Questions). The focus is therefore on understanding an inherently complex and social phenomenon. This research problem can be rephrased as a Purpose Statement.

The purpose of this thesis is to generate and formulate a theory (or theories) that explains the formation process of a blended community of part-time higher education students and explains the community's impact on their learning and upon the challenges and advantages that characterise these students.

3.1.1 Analysis of the Requirements for the Methodology

This study aims to understand the complex phenomena of blended community formation and impact on part-time higher education students learning. It aims to generate a theory that takes account of the complexity of the conditions, circumstances and outcomes. As identified in Chapter 2 - Literature Review, both blended community of learners and part-time higher education are areas that suffer from a lack of theoretical understanding. Therefore the methodological approach must be theory generative.

Within this research, the process and impact of community formation is itself the overarching unit of analysis. As such a key requirement of the methodological stance is that it must be able to represent the complexity of conditions and interactions inherent in such a process. It must also place an emphasis on the individual's relationship with the community and move beyond a quantitative analysis of their interactions in order to account for the psychological sense of community that operates at the individual level (J. L. Hill, 1996). In brief, the methodology must place the student experience at the heart of the study.

The complexity of the context, the focus on social actions within a community of learners, and my own personal view of knowledge support the requirement of an interpretavistic or phenomenological philosophical approach.

A key consideration in the selection of a suitable methodology is that "Different social scientists have characterized communities in different ways in order to understand different social phenomena and also based on different underlying social philosophies"

(Sasha A. Barab et al., 2004). The prevalence of the hypothetico-deductive approach in the social sciences, it can be argued, brings to the process of analysis the propositions inherent within the discipline of the analyst. In response to this there is a requirement that the methodological approach is inductive in nature as this would ameliorate the impact of the analyst's discipline and capture the phenomenon of community formation and nature in a more complete fashion.

The inductive requirement is further supported by the lack of theory in the area of blended community of part-time higher education learners. The deductive approach starts from a theory which is then tested by (typically) empirical data collection, however if the initial theory state is incomplete then guided data collection is likely to miss key elements of the phenomena. However, the inductive approach with its broad data collection and reliance on causal inferences likewise suffers from its inability to assuredly capture all aspects of the phenomena and the subjective interpretation of causality and relationships (Parkhe, 1993).

Accordingly an approach that is either solely inductive or solely deductive will be inadequate, however, Parkhe points out that the actuality of research is different.

"In reality, of course, there is no competition, but rather an essential continuity and inseparability between inductive and deductive approaches to theory development. Bourgeois (1979) correctly pointed to the complementarity between the induction and deduction, insisting that the process must continuously weave back and forth between them." (Parkhe, 1993)

This chapter has so far identified the following requirements for the methodology to be used in this research:

- The ability to generate a theory about a complex phenomenon.
- An approach that places the participants experience at the heart of the analysis and theory generation.
- An approach that diminishes the impact of a single discipline on the research.
- The ability not to resolve, but to combine both an inductive and deductive approach.

3.2 Philosophical Orientation

Before the selection of a relevant methodological approach can begin, it is important to demonstrate the broad philosophical underpinnings of the analytical process behind the identification of the methodology adopted in this study. This process begins with an overview of two key philosophical approaches to research within the social sciences. The analysis and identification of an epistemological viewpoint is necessary at this stage as it influences or even determines decisions surrounding key methodological considerations from the choice of problem through to the methodology and research design (Cohen, Manion, & Morrison, 2000).

This analysis takes as its starting point an overview of two dominant philosophical orientations towards research within social sciences, the positivist and the interpretivist orientations. These philosophical orientations are outlined and the implications for the study of blended community of learning of part-time higher education students are identified. The rationale for the selection of the more appropriate philosophical stance will be based upon the research problem identified in Chapter 1 and the researcher's personal view of knowledge within this context.

Once established, the philosophical orientation will be used to help inform not only the choice of the methodological approach but will also influence subsequent decisions such as identification of data, analytical processes, and influences on theory development.

3.2.1 Reasoning and Research

In their broad sense, reasoning and research are the methods by which scientists make sense of the world around them as opposed to the less rigorous process of common-sense making (Cohen et al., 2000, p. 3). Reasoning refers to the thought processes that relate one idea to another. The principal division within logical reasoning is between deductive and inductive reasoning. Deductive reasoning is the process whereby conclusions about a particular phenomenon can be deduced from valid general rules. As such deductive reasoning has long been associated with the generation of testable hypotheses in order to validate theories. Inductive reasoning turns this approach on its head. Bacon's approach proposed in the 1600s was to examine multiple cases from which would emerge hypotheses which in turn can generate generalizable theory (Cohen et al.,

2000, p. 4) while avoiding *a priori* assumptions. While presented as a dichotomy, most reasoning within educational research utilises both approaches (Cresswell, 2002, p. 8).

Research itself is a systematic and controlled process with the aim of discovering truth. It focuses on the relationships between and within natural phenomena and is empirical in that it focuses its attentions on experience (Cohen et al., 2000).

The two philosophical traditions (the positivist and interpretivist or phenomenological approaches) differ in how they view the reality they are attempting to make sense of. This in turn influences their differing perspectives on research and reasoning.

3.2.2 Positivism in the Social Sciences

Positivism represents a philosophical position that advocates the primacy of natural scientific techniques and methods of verification in the search for knowledge in interpreting social reality (Carr & Kemmis, 1986; Cohen et al., 2000). The term is attributed to Auguste Comte who, in the 19th century, developed this position as a reaction against what he perceived to be the influence of religious and philosophical explanations as the basis of knowledge (Bilton et al., 1988). The positivist approach is built upon the premise that there is an objective social reality which can be understood or *known* using the same techniques employed by the natural sciences. This approach therefore calls for the processes of natural science (aims, concepts and methods) to be applied in the study of social reality and the outcomes (models, theories and frameworks) to be presented and verified against the standards of natural science. The belief in an objective social reality and the largely empirical techniques of natural science focuses the researcher into examining that which can be identified and measured in supporting or refuting hypotheses. This process of hypothesis testing allies this approach with deductive reasoning.

Despite the obvious success of natural scientific techniques (such as in medicine, physics and chemistry) positivism in the social sciences came under increasing attack in the latter parts of the 19th century (Cohen et al., 2000). There was a sense from multiple perspectives that the human at the centre of the investigation was being either lost or represented as less than they are. By focusing on the observable and repetitive behaviours, the unique aspects of the individual were being discounted in pursuit of

empirical truths. Anthony Giddens further identified the failure of positivism to leverage off the human ability to explain and interpret social activity (Giddens, 1976).

Proponents of a positivist approach to the study of education argue that it is only through the value-neutral techniques and outputs of natural scientific techniques that a true understanding of what is actually occurring in educational contexts can be arrived at. A common criticism of this approach is that by focusing on that which can be empirically identified and measured, positivism has largely ignored or diminished the influence of values and mores whether they be at the level of the educational system or the individual

Perhaps it is most appropriate to leave the final criticism to the anti-positivist poet William Blake's poem Jerusalem, "The Emanation of the Giant Albion" (1804).

I turn my eyes to the Schools & Universities of Europe
And there behold the Loom of Locke whose Woof rages dire
Washd by the Water-wheels of Newton. black the cloth
In heavy wreathes folds over every Nation; cruel Works
Of many Wheels I view, wheel without wheel, with cogs tyrannic
Moving by compulsion each other: not as those in Eden: which
Wheel within Wheel in freedom revolve in harmony & peace.

3.2.3 Interpretive or Naturalistic Approaches within the Social Sciences

The positivistic approach to social science research held sway until challenged in the 1960s and 1970s by the development of methodological approaches based on the interpretive or phenomenological philosophical orientation. Interpretive philosophy focuses on the subjective meanings of the social actors in order to make their actions intelligible while acting in a socially constructed and subjective world.

The interpretive tradition arose out of increasing criticism of, and unease with, the assumptions concerning human behaviour which were required in order for the application of positivist or natural science techniques in social science. The empirical focus of positivistic research required these researchers to restrict their data sets to the actions of the human actors which could be identified and quantified. The meanings and

intentions that the actors themselves ascribed to their actions were considered unempirical, value laden, and subjective and therefore rejected from the empirical method (Bilton et al., 1988).

The interpretive tradition built upon the belief that social phenomena can only be understood from the perspectives of the actors and the meanings they ascribed to their actions. These fundamental differences between the natural sciences and the social sciences precluded transferring the natural scientific method to the value-laden social science sphere.

For Max Weber there were three key distinctions between the natural and the social sciences that precluding adopting natural scientific approaches (Morrison, 1995). Firstly the subject matter was different in that the natural sciences studied natural events while the social sciences studied human action. Out of this distinction, he argued, a second difference emerged in that the nature of the knowledge being sought was different. The natural sciences were seeking valid laws while the social sciences were seeking knowledge internal to the actors that gave meaning to their actions. Finally the natural sciences focus on observation while the aim of the social sciences is to go beyond observation to understand why human social actions occur (Morrison, 1995, p. 274). As such, interpretavistic or phenomenological approaches are allied to inductive reasoning techniques.

For Weber therefore, social action was more than the observable and empirical focus of the positivistic tradition. Social action encompassed all human behaviour to which a subjective (or social) meaning was ascribed. Therefore to Weber an individual making a conscious decision to refrain from an action was itself a social action with an underlying subjective meaning. These social actions had no external observable characteristics and would therefore be excluded from any positivistic approaches (Bilton et al., 1988).

3.2.4 The Nature of Educational Research

Research in educational settings is a complex undertaking as a result of the social context within which it occurs and the range of interactions that are possible (Berliner, 2002). This, according to Berliner, results in a research area in which it is difficult, if not impossible, to identify universal and valid laws.

“In education, broad theories and ecological generalizations often fail because they cannot incorporate the enormous number or determine the power of the contexts within which human beings find themselves” (Berliner, 2002, p. 19).

The breadth of what is educational research presents difficulties in defining the field though Bassey’s 1990 definition is widely cited:

“Research entails systematic, critical and self-critical enquiry which aims to contribute to the advancement of knowledge” (Bassey, 1990, p. 35)

Bassey presents the purpose of educational research as making “some claim to knowledge” while accepting that there are many forms of educational research ranging from that with a clear focus or question to broad areas for enquiry that are lacking even a clear formulation of the problems (Bassey, 1990, pp. 35-36). Of particular relevance for this study is his recognition that educational research consists of both intervention and non-intervention studies (p. 37). Intervention research seeks to identify the consequences of some novel development while non-intervention studies are those “where no change is made but where the existing situation is studied” (p. 38).

A fundamental issue within education research for Bassey is the impact of the researcher’s discipline on the output of the research (p. 38). The parent discipline of a researcher not only provides the data collection and analytical techniques but also influences the research outputs and makes them less useful to educators who are seeking to improve their practice and their students’ learning.

“Their intended audience is fellow initiates of the discipline. In consequence their papers tend to be perceived as written in obscure baggage (i.e. jargon) and irrelevant to the classroom when read by teachers if they are looking for ideas on improving classroom or school practice” (p. 38).

Wilfred Carr and Stephen Kemmis critique much educational research on the grounds of two major weaknesses (Carr & Kemmis, 1986). In the first place they argue that educational research must be grounded within the concerns of educational practice and yet much research adopts the perspectives of broader social scientific practice thereby providing theoretical as opposed to educationally relevant research.

Secondly they believe that fundamental questions concerning educational research have been obscured by a lack of clarity on two key elements. Firstly there is not sufficient clarity concerning the contribution that social sciences can make to the research of educational problems. Secondly there is not adequate clarity on how much, if any, attention or credence any model or theory of educational research should give to the positivistic or scientific criteria of adequacy and validity. These two weaknesses or failings locate much educational research in the space between positivist and interpretive approaches.

They proceed to identify two important distinctions in their conception of the role of educational research vis-à-vis the positivist or scientific approach and the interpretive social science approach. They believe that the purpose of educational research should not be to test or expand upon existing educational theories (theory testing) or even to identify more effective practices; rather it should seek to make practice more theoretical. This represents an inductive approach. In this way they hope that educational research can challenge many of the current dogmas or preconceptions or assumptions concerning good educational practice while at the same time allowing significant practice-based contributions to the educational community.

"In short, the purpose of educational research is to ensure that the observations, interpretations and judgements of educational practitioners can become more coherent and rational and thereby acquire a greater degree of scientific objectivity" (Page 124).

This focus on scientific objectivity is tempered somewhat by their second distinction. They focus on the subtle distinction between researching of educational problems through the unreflective application of the scientific method as opposed to the scientific investigation of problems based in practice. For them the scientific investigation of problems based in practice opens up the possibility of using social science techniques, aims and methods to provide insights, techniques, and perspectives unavailable to the unreflective application of the scientific method.

For Carr and Kemmis therefore the "only genuine source of educational theories and knowledge is the practical experiences out of which these problems are generated, and that the proper concern of educational research is with formulating theories that are grounded in the realities of educational practice" (Carr & Kemmis, 1986, p. 124).

The nature of educational research therefore provides some clear requirements for the selection of an appropriate methodology for this non-intervention study. It should be an approach that is sensitive to the contexts (Berliner, 2002), not focus on a single discipline (Bassey, 1990), and be able to generate a theory which is grounded in reality (Carr & Kemmis, 1986).

3.2.5 Theory-Building

One of the key requirements of the methodology (and therefore the study) is to generate a theory (3.1.1 above), however “the academic literature on “what is a theory?” offers a plethora of definitions, opinions and criteria” (Gay & Weaver, 2011, p. 24).

Bruce Gay and Sue Weaver note that the problems with definition of what a theory is (and also what it is not) arise primarily from the wide range of epistemologies and perspectives that researchers come from and approach theory building with (Gay & Weaver, 2011).

On a generic level, Kerlinger's definition of a theory is widely accepted particularly within the sphere of social sciences.

"A theory is a set of interrelated concepts, definitions and propositions that present a systematic view of events or situations by specifying relations among the variables in order to explain or predict events or situations" (Kerlinger, 1973).

From this can be seen that a theory must be able to identify the variables and how they interrelate with each other and on the impact upon the conditions in order to have some explanatory or predictive power over the consequences within a social process.

This definition however does not address the range of perspectives that researchers address theory with, and hence a range of taxonomies and typologies exist, or the implications of any approach on the theory that is generated.

Specifically with regard to theory building, Richard J. Torraco conducted a comparative analysis of theory-building research methods for applied disciplines across five methods and the implications for the resulting theory (Torraco, 2002): Dubin’s theory building methodology (quantitative hypothetico-deductive) grounded theory research, meta-analysis research, social constructionist research, and case study research. While all of these methods were analysed alongside Lynham’s model for their contribution to theory building (S. Lynham, 2002), an in depth comparison was conducted between grounded

theory, meta-analysis and case study research methods. This analysis found that grounded theory was powerful in generating theory that was both faithful and authentic (to the data and experience) while also having the ability to generate new and novel insights outside of the current theoretical understanding of a phenomena (Torraco, 2002, pp. 372-373).

Susan Lynham posited that while there are specific research processes inherent within the differing theory building research methods, there is an “inherently generic nature to theory building” which she codified (S. Lynham, 2002, p. 221). The five stage model that arose out her analysis provides both a process and a technique for demonstrating the logic used in the theory construction regardless of the specific research method untilised.

In Lynham’s five stage model for theory building in applied disciplines, she focuses on conceptual development and operationalization as the key theory generative stages (S. Lynham, 2002). Conceptual development is the process of creating the theoretical framework which she describes as "the core explanatory container of any theory" (p. 232). This phase is followed by the operationalization phase where the theoretical framework is distilled into key hypotheses, propositions, and relationships in a form that can be applied in practice or validated by further research.

"Operationalization reaches toward an overlap between the theorizing and practice components of the theory-building research process" (S. Lynham, 2002, p. 233)

According to Lynham (S. A. Lynham, 2002), theory building has two goals. Firstly a good theory should consist of a conceptual framework that contains both explanatory and predictive power. This represents output knowledge which she describes as the "core explanatory container" of any theory (p. 232). Secondly a theory should have process knowledge which demonstrates an understanding of how something works. This operationalization of the conceptual framework represents a bridge between the theoretical perspective and the applied practice and furthermore provides a set of confirmable or observable hypotheses or elements that can be applied and tested.

The general method of theory building has four stages: operationalisation, conceptual development, application, and confirmation/disconfirmation. These are represented as a cycle to denote the iterative and integrative nature of theory building (Figure 10 below).

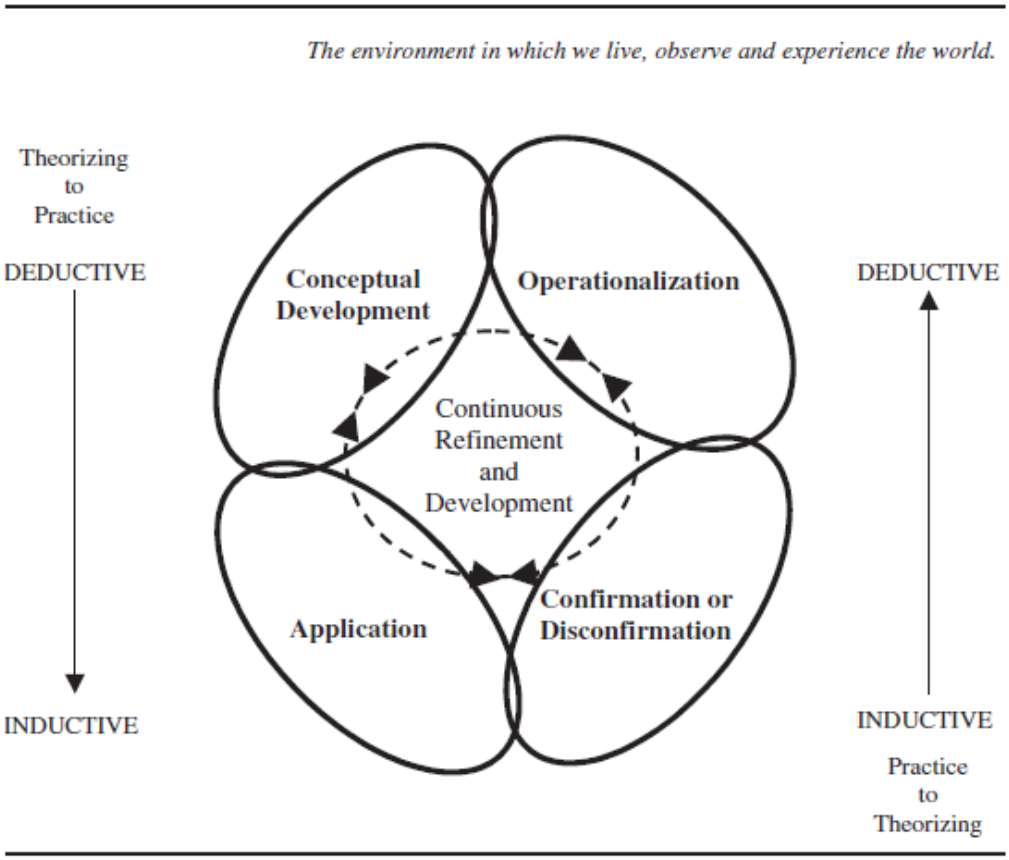


Figure 10 - The General Method of Theory Building in Applied Disciplines (S. Lynham, 2002, p. 231)

Within this method, conceptual development is essential to all theory building as "this theoretical framework is essentially the core explanatory container of any theory" (S. Lynham, 2002, p. 231).

The conceptual development stage is the normal starting point for quantitative research methods such as the hypothetico-deductive approach. This stage represents the development of an informed theoretical framework from which to start inquiry (in a deductive sense). The conceptual framework requires operationalising into hypotheses or testable elements (Operationalisation). Studies and research are then designed and conducted on the hypotheses to confirm or disconfirm them and thereby refining the conceptual framework from which they arose. The final conceptual framework is applied in the real world context (as practice) which allows for further study, insights and inquiry.

Within more inductive theory building research methods, the process begins not in the conceptual development phase but in the application phase. These research methods

such as grounded theory and case study) work inductively from the authentic experience (practice) and largely without the prior conceptual framework that is the starting point for more deductive approaches. The analysis from the inquiry at this stage informs the development (and operationalisation) of hypotheses and relationships that, over time and subject to confirmation and disconfirmation through inquiry, will form the final conceptual framework and hence the theory.

3.2.6 Positionality

Reflexivity and positionality are intertwined concepts, both seeking to address, identify and ameliorate critical subjectivity that can lie at the heart of any qualitative research.

Reflexivity is the "process of reflecting critically on the self as researcher, the "human instrument"" (Guba & Lincolm, 2005) whereas positionality refers to the location of the researcher in relation to the factors such as the research, the process, the methodology, the participants (Day, 2012, p. 73).

An analysis and statement of a researcher's positionality is the process of reflecting upon and explicitly recording one's position with regard to the research study being conducted and reported on. In effect, reflexivity is the process of identifying both a researcher's own positionality and the impact it may have had on the research, particularly where a power relationship exists or is perceived to exist (Day, 2012, p. 70).

"As researchers, it is important to acknowledge positionality, considering how researcher biases may influence the research design, questions, interpretation, and so forth." (Major & Savin-Baden, 2011, p. 10)

In a later work Savin-Baden and Howell suggest three areas that require addressing in order for positionality to be achieved; position in relation to the subject, the participants and the context and process of the research. (Savin-Baden & Major, 2013)

My epistemological position is heavily influenced by my primary degree in Sociology over 20 years ago which had a considerable impact on how I perceive the world to be, and more importantly how I believe others perceive their worlds. Key amongst this development was the seminal social constructionist work, The Social Construction of Reality by Peter L Berger and Thomas Luckmann (Berger & Luckmann, 1966). Their argument postulated that social reality arose from, and was maintained by social

interactions between individuals who share (or believe they share) an approximate common view of reality. Knowledge therefore is subjective and all individuals, whilst sharing an approximate common objective view of reality in fact perceive the world and the knowledge within it from their own intensely individual and therefore subjective perspective. This perspective places me firmly within the interpretavistic paradigm when investigating social processes.

My position with regard to the participants within this study is an example of the requirement for an analysis of a researcher's positionality as I am both their lecturer (and the promoter of the blended community) and the researcher at the same time. This position challenges the traditional dichotomous notion of the insider vs. the outsider in qualitative research (particularly ethnography). Insider research is that which is conducted by someone of the same social group, culture or organisation (Greene, 2014) and has a range of advantages and complications associated with this position (Chavez, 2008). Chavez (2008) does highlight that this distinction is increasingly open to debate but it remains in common use whilst also recognising that a researcher's position is not fixed and can change over time.

A key aspect of positionality is whether it was chosen or pre-determined, yet in this case it was neither. To choose not to do what I had developed as part of my normal practice (the promotion of a blended community) would be disingenuous to the students and yet neither was the action pre-determined in that it was not an intervention study (Carr & Kemmis, 1986). At the same time I was still their lecturer and therefore responsible for the awarding of certain grades which implies a power relationship or potential bias in the student engagement with the community to "please" me.

Explicit actions were taken to ameliorate these reflexive conclusions. The students were assured that the community development was a normal activity within the course and the posting data from previous years was shown to support this. It was stressed that participation was voluntary and no marks would be awarded for engagement with the community nor any influence garnered with me.

The students themselves were mature educational professionals and were engaged in a course of postgraduate study to further their own careers. My own studies resonated with their own motivations which may have positively affected their engagement. At the

same time the course has a strong research focus and therefore they were learning about and conscious of the need for research participants to be true to their experiences.

As part of my practice I was aware that for the community to be effective it had to be theirs and as such my practitioner journey was one of fading i.e. more involvement early on and then fading which is borne out by my posting figures (49 posts over the year, primarily in the first 2 months.

While I was an insider for the community development stage, I was an outsider for the analysis and the nature of the chosen methodology has important as well. One characteristic of grounded theory is the moving away from the raw data, up through a process of increasing abstraction to the generation of a mid-range theory. This process, coupled with a reflexive perspective and theoretical sampling, assisted me in moving away from some of the complications of my insider position as the analysis developed.

As Suzanne Day notes, "Making one's positionality explicit is to give context to the researcher's voice, rather than reproducing the anonymous, de-contextualized voice of authority. In other words, knowing the position from which the author speaks is crucial for our ability to understand what is being said." (Day, 2012, pp. 73-74)

3.3 The Selection of a Grounded Theory Approach

The selection of the most appropriate methodology was guided by the requirements derived from the Purpose Statement as outlined in Section 3.1.1 - Analysis of the Requirements for the Methodology above.

The methodology should:

- Have the ability to generate a theory about a complex phenomenon.
- Be sensitive to the contexts.
- Adopt an approach that places the participants experience at the heart of the analysis and theory generation.
- Contain an approach that diminishes the impact of a single discipline on the research.
- Be grounded in reality.

- Have the ability not to resolve, but to combine both an inductive and deductive approach.

Perry and Jensen identify five research approaches that they consider are capable of addressing the inductive-deductive divide in social research (Perry & Jensen, 2001): ethnography, pure and modified grounded theory, convergent interviewing, and action research. They considered any research approach that involved doing data analysis during data collection as indicative of the combination of induction and deduction.

They first identify ethnography as a qualitative research paradigm that involves a researcher's immersion within the lived context within a specific setting. While the data collection is flexible and responsive to the on-going analysis, the lack of structure (specifically between deduction and induction) limits its ability to generate valid theory and is therefore not appropriate for this research.

The second and third research approaches are that of pure grounded theory and modified grounded theory. Grounded theory seeks to develop mid-range theories, derived from specific social phenomena with an element of generalizability. Similar to ethnography, grounded theorists focus on interviews and observations within the lived phenomena however the methodology contains a structured process of iterative theory development and data collection and analysis as opposed to testing hypotheses. Analysis commences with data collection and in turn guides further data collection through a process of constant comparison and theoretical sampling. Unlike other approaches it has no defined end, rather the process continues until the analysis is *saturated* (i.e. the point at which no further conceptual understanding can be derived from further analysis). Existing theory (such as that espoused in the literature) is avoided until after data collection and theory development is complete when it is compared against the emergent theory resulting from the analysis.

Modified grounded theory uses similar processes to traditional grounded theory with the key difference that existing theory is referred to and consulted prior to entering the field and key elements or characteristics of the research may be identified and sought after. The distinction between so called Pure and Modified Grounded Theory represent the split with between the discoverers of this approach (Anselm Strauss and Barney Glaser) and

their subsequent developments of the approach. For the purpose of this analysis, both pure and modified grounded theory are initially considered one.

The convergent interviews approach has similarities with grounded theory with its emphasis on quasi-induction. After each interview the data is analysed, and a table of topics constructed which itself is then compared to the literature. This process continues for each subsequent interview and focuses on convergence and divergence between each interview subject as the question and explanation becomes increasingly refined. The data analysis within this approach is rudimentary and focuses solely on the list of topics raised by a participant and the extent to which they diverge or converge from other participants. This considerably limits the phenomenological nature required for this research and it is therefore not appropriate.

Lastly action research is also considered as within this approach the literature can enter the research at any of the stages within the action research cycle, where it becomes part of the deductive process required for subsequent planning and implementations however, the focus within action research on practice within a particular context does not lend itself well to the concept of generalisability which is so important in theory development.

Method	Description	Comments
Ethnography	Immersive research with flexible and responsive data collection	Lack of structure limits theory generation
Grounded Theory	Aim is theory generation through flexible study of lived experience with a structured approach to induction and deduction	Both “Pure” and “Grounded”
Convergent Interviews	Quasi-inductive process driven approach with on-going refinement of method and content	Rudimentary data analysis which focuses only on divergence or convergence among participants
Action Research	Iterative and cyclical process of planning, acting, observing and reflecting with structured induction/deduction activities	Focus on practice and context limits theory generation and generalizability

Table 5 - Analysis of inductive/deductive approaches vis-a-vis this research

From the analysis above, it becomes evident that Grounded Theory meets two of the requirements of the appropriate methodology; resolving the inductive/deductive divide, and theory generation.

The two further requirements identified above are also met by adopting grounded theory as an appropriate methodology for this study. The need to place the participants at the heart of the analysis is satisfied by grounded theory as this approach utilises interviews and observations within the lived phenomena and has ethnographic elements. The requirement that the methodology should not be focussed on a discipline or existing disciplinary concepts and constructs is met by the emergent and inductive aspects of grounded theory. The absence of, or limited analysis of literature prior to the analysis diminishes the impact of any one discipline on the theory that emerges.

Based on the requirement criteria and the analysis above, grounded theory was identified as appropriate and chosen as the methodology for the study. The following section will outline the development of Grounded Theory from its origins, to the later divisions within the discipline. This is followed by an outline of the research design which includes justifications, where appropriate, of specific strategies where the divisions have caused differences.

3.4 A Grounded Theory Approach

For Glaser and Strauss a social science researcher has two principal goals: to verify existing theories and to generate new theories. They believed that the first goal of verification had come to dominate their field of Sociology and their 1967 work, The Discovery of Grounded Theory, aimed to redress the balance by providing researchers with a valid and rigorous set of analytical techniques by which new theories could be generated (Glaser & Strauss, 2006).

A theory within social science is an conceptual framework with explanatory and predictive power about a social process (S. A. Lynham, 2002). Kerlinger's definition is oft-cited and encapsulates the systematic and relational nature.

"A theory is a set if interrelated concepts, definitions and propositions that present a systematic view of events or situations by specifying relations among the variables in order to explain or predict events or situations" (Kerlinger, 1973).

In order to generate effective and useful theory, they moved away from the predominant focus on the verification of existing theory and the logico-deductive emphasis by inverting the process. For them, it was only through the "purposeful systematic generation from the data of social research" that new theory could emerge (Glaser & Strauss, 2006, p. 28). In other words, the theory should be "grounded" in, and emerge from, the data and not from existing theories. As such the approach is distinctly inductive to the extent whereby in the original conception of grounded theory, reviewing the existing theoretical literature in the research area was cautioned against in case it influenced the true emergence of theory from only what the data indicated. An implication of the focus on allowing the theory to emerge from the data is the lack of a hypothesis at the start of the research.

"One does not begin with a theory, then prove it. Rather, one begins with an area of study and what is relevant to that area is allowed to emerge." (Anselm Strauss & Corbin, 1998, p. 23)

The emergence and generation of theory from data is not a trivial process. Data itself is descriptive, not theoretical and the process whereby one moves from one to the other involves an intermediate stage, that of conceptual ordering (A. Strauss & Corbin, 1990). Conceptual ordering represents the abstraction of concepts and their classification in order to construct "an explanatory scheme that systematically integrates various concepts through statements of relationship" (A. Strauss & Corbin, 1990, p. 25). This process of moving from descriptive data to conceptual theory is achieved through the process of constant comparison.

3.4.1 The Constant Comparative Method of Qualitative Analysis

Glaser and Strauss (Glaser & Strauss, 2006) described existing approaches to the analysis of qualitative data as falling into two camps. The first approach was the quantification of qualitative data in order to test or verify existing theory through a process of systematic coding of all available data. The second approach aimed to generate theoretical propositions and hypotheses through a cyclical process of data analysis and theoretical integration and development. *The constant comparative method of qualitative analysis* sought to combine the systematic rigour of the first approach with the theory generating cyclical processes of the second.

The constant comparative method has four stages through which the analysis moves. It is important to note that these stages overlap considerably in a process of continuous development and, though presented linearly, they are fundamentally iterative. These four stages are:

1. Comparing incidents in the data applicable to each category.
2. Integrating categories and their properties.
3. Delimiting the theory.
4. Writing theory.

3.4.1.1 Comparing incidents applicable to each category

Through the process of open coding, the analyst codes each incident within their data with as many potential codes as possible. As the analysis continues, each subsequent incident is *constantly compared* to already analysed incidents that contain the same or similar codes. This process generates a broader and deeper understanding of the range and dimensions of theoretical properties of the codes and the aggregate categories that emerge from the data. These insights should be recorded contemporaneously as *memos* while they remain fresh in the mind of the analyst and represent the simultaneous process of theory generation during data analysis.

It is during this stage that a further key characteristic of grounded theory emerges, namely *Theoretical Sampling.* Upon entering the field the analyst collects data based upon a broad perspective of the area or problem under investigation. Once the process of constant comparison has begun, categories and their properties emerge, and the initial theory generation commences. Further data collection is determined based upon the needs of the theory generation whether it is to expand on properties within categories, to investigate or to refute linkages between categories.

"Beyond the decisions concerning initial collection of data, further collection cannot be planned in advance of the emerging theory ... The emerging theory points to the next steps ..." (Glaser & Strauss, 2006, p. 47)

3.4.1.2 Integrating categories and their properties

Over time, the unit of constant comparison changes from incident-to-incident to incident-to- category. Comparing incidents allowed the identification of categories to emerge from the data, and for these categories to be expanded in terms of their properties and their dimensions.

Further incidents allow a deepening of understanding of the properties within categories and potential ways in which these properties might be connected or linked. In addition to linking properties within categories, linkages emerge *between* categories (again recorded as memos).

"Thus the theory develops, as different categories and their properties tend to become integrated through constant comparisons that force the analyst to make some related theoretical sense of each comparison." (Glaser & Strauss, 2006, p. 109)

3.4.1.3 Delimiting the theory

As the theory further develops and solidifies, the analyst focuses on elaborating the properties and clarifying the logic while at the same time reducing the category set based on a more abstract, and therefore generalizable, understanding of the theory itself. In this stage the analyst should start to note *theoretical saturation* which represents the point whereby further incident comparison adds little or nothing to an understanding of its concomitant category or its properties. The process of delimiting the theory serves to both focus the analyst on producing a parsimonious theory and extending the applicability or generalizability of the theory.

3.4.1.4 Writing theory

During the writing of the theory, the analyst has an analytical framework supported by coded data and memos which in turn explain the key themes within the theory. Even at this stage the cyclical and iterative nature of grounded theory remains in that the data can still be consulted and analysed in order to either support elements of the theory, or address gaps that may emerge.

In the intervening four decades since Glaser and Strauss published The Discovery of Grounded Theory: strategies for qualitative research, there has been both division and development of the grounded theory approach into three strands (see following section)

however these four stages are common to all and represent the core features of the approach.

3.4.2 Division and Development

Subsequent to the publication of The Discovery of Grounded Theory, Glaser and Strauss worked independently. Glaser focussed on developing the theory generating aspect of grounded theory in his 1978 work, *Theoretical Sensitivity*. Strauss, in conjunction with Juliet Corbin, worked extensively on systematising grounded theory by expanding and detailing the processes and techniques they saw as essential in building upon the rigour and validity of the approach (A. Strauss & Corbin, 1990; Anselm Strauss & Corbin, 1998) Refs. This drew a heated response from Glaser who produced a detailed critique of Strauss and Corbin's *Basics of Quantitative Research: Grounded Theory and Procedures and Techniques* in his 1992 book, *Basics of Grounded Theory Analysis: Emergence Vs. Forcing.*

There are two important distinctions that underlie this division in the development of grounded theory; the extent that preconceptions can influence theory generation, and the *forcing* of categories into a predetermined framework. These will now be discussed in turn.

For Strauss and Corbin, the notion that a researcher can enter an area, collect and analyse data, and generate an emergent theory with no prior knowledge of the existing body of conceptual work in the area was naïve and unrealistic. For Glaser, a truly emergent theory that was grounded in the data could only arise if the researcher maintained a professional naiveté in this regard. This difference in opinion has implications for conducting a grounded theory study especially in regard to whether the existing literature should be consulted, however briefly, prior to the study.

The second distinction arises from Strauss and Corbin's strategies during the final stages of theory generation (see 3.4.1.3 - Delimiting the theory above). Once the fully saturated categories are identified, their approach requires the analyst to identify a core category around which all the other categories can be aligned within a framework that identifies them as causal, contextual, intervening, strategic, or consequential (see Figure 11 - The Axial Coding Paradigm below). This axial paradigm (Anselm Strauss & Corbin, 1998, p. 127) as it is described, represented to Glaser an artificial framework that required the

analyst to force the categories to fit regardless of the needs of the theory. Glaser further saw the diagrammatic representation of this theory as to be less abstract, and therefore less pure, than his approach.

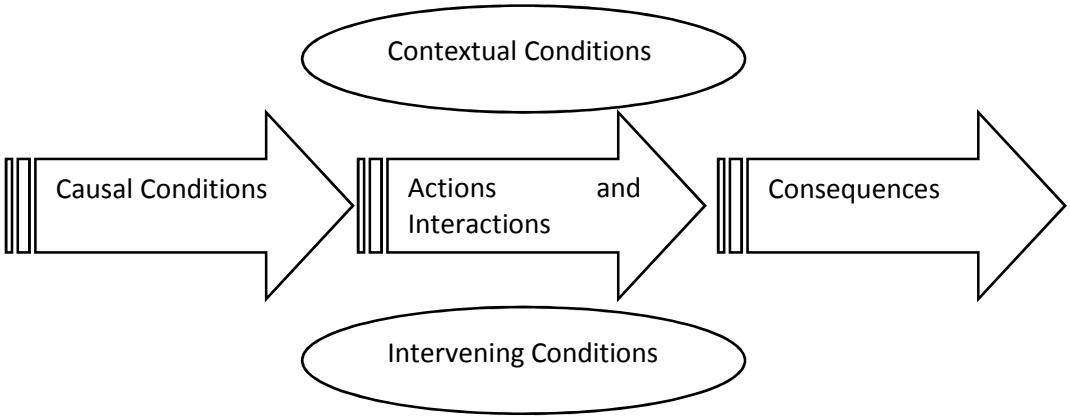


Figure 11 - The Axial Coding Paradigm (Strauss & Corbin, 1998)

The emerging design approach of Glaser and the systematic approach of Strauss and Corbin were further challenged by what has become known as the constructivist approach of Kathy Charmaz (Charmaz, 2000). The constructivist approach focuses on the subjective lived experience of the participants in the study and is more concerned with their beliefs, values, and feelings as a way of understanding their experiences. The researcher is recognised as being central in the process in that they define the categories and bring their discipline with them to the analysis. She further eschews the use of diagrams and frameworks, instead preferring a questioning and suggestive narrative that focuses on the dilemmas of the participants' experiences.

Charmaz's focus on the interpretavistic role of the researcher leads her to conclude that they are the composer of the story and that "The story reflects the viewer as well as the viewed" (Charmaz, 2000, p. 524). She criticises the Glasserian approach for not recognising this influence adequately and therefore not taking adequate measures to reduce or remove its impact (Charmaz, 2006). Strauss and Corbin are more explicit in their recognition of this issue and do suggest some techniques to ameliorate its impact such as keeping a research journal recording the thought processes and extensive memos.

"We know that we never can be free of our biases, for so many are unconscious and part of our cultural inheritances. We find it more helpful to acknowledge that these influence

our thinking and then look for ways to break through or move beyond them" (Anselm Strauss & Corbin, 1998, p. 99)

The role of the researcher as interpreter forms one of the criticisms of ground theory. In particular questioned how a grounded theorist can create sufficient distance or objectivity in their analytical interpretation to allow for the objective emergence of a grounded theory (Thomas & James, 2006, p. 781). Thomas and Jones also question whether the theory that emerges is a true theory considering that it emerges from an interpretative process of analysis (p. 772) and as such whether it is an objective view that can be "discovered" (p. 785). Fundamentally their concern is that the process of conceptualisation and abstraction towards theory results in the loss of the authentic voices of the participants which they regard as the strength of qualitative research.

3.4.3 The Selection of a Systematic Approach for This Study

The approach of Strauss and Corbin was selected as the most appropriate form of grounded theory for this study. This decision was based on a range of considerations which are outlined below.

As a researcher conducting their first grounded theory study, the detailed and rigorous procedures that are outlined in the work of Strauss and Corbin provide structure and support while still leaving scope for creativity. This was felt to be particularly important as one of the aims of the research was to satisfy the requirements for a PhD. One of the challenges identified in the opening chapter of this study is the difficulty in writing and presenting qualitative research in general, and grounded theory research in particular. The systematic approach, with its clearer structure and analytical processes, was considered more appropriate within this context. This is in contrast to the highly emergent nature of Glaserian grounded theory.

The criticism regarding the role of the researcher as interpreter was considered. The author's primary discipline of sociology has resulted in a belief in the futility of pure value neutrality in qualitative research, while still accepting that they are many techniques and critical reflections that can ameliorate prejudices to some extent. With this understanding, as a researcher, the author feels more aligned to the approach of Strauss and Corbin who accept, and integrate, prior knowledge and understanding within a

grounded theory study thereby addressing the criticism in a clearer manner than the approach of Glaser.

Charmaz's constructivist approach was considered but rejected due to the nature of the theory that results. The focus on the subjective lived experience leads to the construction of an explanatory narrative form of theory. The aim of this research is to make a claim for knowledge in a fashion that can be of use to educators (Bassey, 1990). Accordingly the theory must be able to be operationalized in a form that is purposeful and meaningful for the educational community. The approach of Strauss and Corbin has a clear focus on the construction of a framework that considers the range of conditions, actions/interaction and consequences at the heart of the phenomenon which in turn allows for such operationalization.

3.5 The Systematic Approach to Grounded Theory

The process of grounded theory generation proposed by Strauss and Corbin can be viewed as moving through four stages, however to perceive these as purely linear is to misunderstand the iterative nature of the process. Rather, it is more appropriate to consider these stages as broad areas of emphasis as the analysis and theory generation progresses (see Figure 12 below).

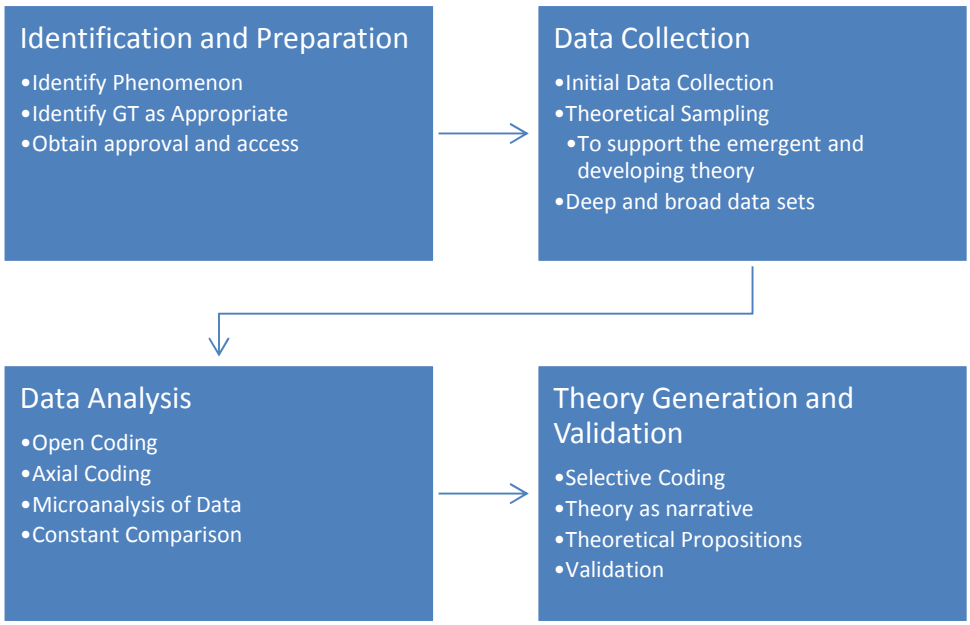


Figure 12 - Stages of Grounded Theory

3.5.1 Stage One – Identification and Preparation

The first stage of a grounded theory study involves identifying the process or phenomenon to investigate and deciding if a grounded theory approach is appropriate. A broad and exploratory literature review is conducted to help in this process. The literature review serves to identify the state of the theory concerning the selected phenomenon with particular emphasis on areas that are unresolved or lacking in theory. It also provides a rationale for the study. These aspects in turn assist in the decision as to whether a grounded theory approach is appropriate. Further actions in Stage One include negotiating access to the participants and obtaining ethical approval for the study.

3.5.2 Stage Two - Data Collection

Theoretical sampling is a core concept with grounded theory and refers to the on-going collection of data determined by the needs of the emerging theory. In grounded theory, data analysis and collection are seen as complementary and simultaneous iterative activities. Analysis commences with the first data collection. It is only when the initial data sets have been analysed and preliminary theoretical insights identified that subsequent data collection can be determined based on the need to deepen and expand the emerging concepts or to fill gaps in the emerging theory (theoretical sampling). Accordingly only the initial data collection activities can be planned in advance.

"Theoretical sampling: Data gathering driven by concepts derived from the emerging theory and based on the concept of "making comparisons," whose purpose is to go to places, people, or events that will maximize opportunities to discover variations among concepts and to densify categories in terms of their properties and dimensions" (Anselm Strauss & Corbin, 1998, p. 201).

3.5.2.1 What Constitutes Data in Grounded Theory?

From the earliest work on grounded theory, Glaser and Strauss took the position that a broader approach to the role of different forms of data was required. They perceived the predominance of interview data and field notes to be a result of the existing social science focus on theory verification, and the use of other documentary resources (such as caches of documentary data) was relegated to providing descriptive and contextual background (Glaser & Strauss, 2006, p. 162). They argued that these caches of documentary data can

be as useful to the analyst in theory generation as interview data and sought to raise the profile of such sources.

Grounded theory aims to provide models of explanation on how social actors interpret reality and as such share many tendencies with phenomenological research, not least of which is a focus on the interview as a means to elicit and record the subjective experience of the social actor. A crucial distinction however is that the aim of phenomenological research is to present a rich description of the subjective experience with as much detail to the nuances of the lived experience. Grounded theory shares this approach but then takes the subjective experience as the starting point for a further analysis to gain an understanding of the social situation under study. Therefore, in contrast to phenomenological studies, grounded theory studies rarely have interviews as their sole form of data collection (Suddaby, 2006).

Strauss and Corbin define these additional forms of data as non-technical literature:

"Biographies, diaries, documents, manuscripts, records, reports, catalogs, and other materials that can be used as primary data, to supplement interviews and field observations, or to stimulate thinking about properties and dimensions of concepts emerging from the data." (Anselm Strauss & Corbin, 1998, p. 35)

The identification and selection of additional forms and sets of data is conducted through a process of theoretical sampling whereby their selection is driven by the need to evolve and develop the emerging theory (see Section 3.5.3 below).

Whichever data sets are decided upon, there is a need for a sufficient scale of data in order to fully identify the concepts and categories and support the development of explanatory theory. Charmaz (Charmaz, 2000) has criticised many grounded theory studies for building theory based on limited material.

In conclusion, the data sets required to conduct a grounded theory study need to be both broad (multiple forms of data) and deep (of a substantial scale).

3.5.2.2 Qualitative and Quantitative Data in Grounded Theory

While Glaser and Strauss believed in "no fundamental clash between the purposes and capacities of qualitative versus quantitative methods or data" (Glaser & Strauss, 2006, p. 17), they did acknowledge that the qualitative method is generally more applicable in the

social sciences. They stressed that the process of generating theory using their techniques is independent of the form of data, asserting that the situation would define on what forms of material the researcher places primacy.

Suddaby (2006) reiterates this in his critique of many of the grounded theory studies he has reviewed. He stresses that a combination of qualitative and quantitative data and methods must represent "some degree of congruence between the research question (i.e. a researcher's assumptions about the nature of reality and how one might know reality) and the methods used to address the question." (Suddaby, 2006, p. 636).

Where both forms of data are considered appropriate, Strauss and Corbin suggest,

"The qualitative should direct the quantitative and the quantitative feedback into the qualitative in a circular, but at the same time evolving, process with each method contributing to the theory in ways that only each can." (Anselm Strauss & Corbin, 1998, p. 34)

3.5.3 Stage Three – Data Analysis

Within the systematic approach to grounded theory, the data analysis stage consists of two phases; open coding and axial coding. Through a process of microanalysis, the data is fractured and labelled before being reconstituted on a more conceptual level into categories and sub categories that define the phenomenon (open coding). These categories represent higher order and analytical constructs that explain conditions, actions, interactions and outcomes relating to the central phenomena under study.

Axial coding is the analytical process of identifying relationships within categories (normally based upon the subcategories that focus on questions such as who, why, where, when and how) and also relationships between categories. The axial coding process begins while open coding is still proceeding and the two processes therefore intertwine. The key distinction is that open coding starts before axial coding, and axial coding continues after open coding has finished.

"The *purpose* of axial coding is to begin the process of reassembling data that were fractured during open coding. In axial coding, categories are related to their subcategories to form more precise and complete explanations about phenomena. Although axial coding differs in purpose from open coding, these are not necessarily sequential analytic

steps, no more than labelling is distinct from open coding"(Anselm Strauss & Corbin, 1998, p. 124).

Throughout these two phases, data is microanalysed for meaning and the text is fragmented and labelled with meaningful codes. These codes are aggregated into categories that represent conceptual perspectives on the phenomenon.

Constant comparison refers to the process of constantly comparing the fractured text segments to other segments labelled with the same code. Similarly the codes as they emerge are compared to other codes and the categories and finally, the categories are compared to other categories. This inductive process moves the analysis constantly from the raw data up to the emerging conceptual understanding and back again, always questioning the conceptual framework.

The process of constant comparison is a key driver behind theoretical sampling. As the researcher compares incidents in the data to other incidents and so on up to categories, gaps are identified. Theoretical sampling is the process whereby a researcher consciously seeks out further data that can fill the gaps that emerge and answer the researcher's questions. In this fashion the research design itself becomes emergent and driven by the needs of the analysis and the theory.

"To say that one samples theoretically means that sampling, rather than being predetermined before beginning the research, evolves during the process. It is based on concepts that emerged from analysis and that appear to have relevance to the evolving theory." (Anselm Strauss & Corbin, 1998, p. 202)

Throughout these activities and phases, insights are common. The researcher develops insights and tentative hypotheses about the theory or about the emerging research design and process. These are recorded in memos and are stored separately.

Once the data is saturated, the codes are formed into categories and sub-categories depending on their characteristics, properties and dimensions. These categories are then interrogated in order to identify relationships within and between them and to identify gaps in understanding (axial coding). The final stage represents the ordering of the categories and concepts into the axial coding paradigm which focuses on understanding the process and the structure of the phenomenon prior to the actual construction of the theory. Within the axial coding paradigm, categories are organised around the central

category according to their nature; causal: contextual, intervening, strategies, and consequential.

The core category seeks "to explain what "this research is all about." (A. Strauss & Corbin, 1990, p 146) and must have the ability to integrate and make sense of all of the other categories and contain within itself analytic power. It does not necessarily have to be a category that was identified and saturated through the open and axial coding stages however (See Section 5.2 - The Identification of the Core Category).

3.5.4 Stage Four – Theory Generation and Validation

The final stage of a grounded theory study is that of selective coding which represents the integration of the concepts identified in open coding and examined and analysed in axial coding into a coherent theory that explains the processes at work around the central phenomena. It pulls together the relationships between the major categories (and their subcategories) along the lines of their properties thus drawing explicitly on the latter stages of the axial coding process. In order to present a coherent theory the analyst must decide upon a core, or central, category around which the other categories or concepts revolve. Similarly to the distinction between open and axial coding, selective coding begins during the axial coding stage and arguably even earlier.

“This continual intermeshing of data collection and analysis has a direct bearing on how the research is brought to a close. When the researcher is convinced that his conceptual framework forms a systematic theory, that it is a reasonably accurate statement of the matters studied, that it is couched in a form possible for others to use in studying a similar area, then he is near the end of his research.” (Glaser & Strauss, 2006, p. 225)

Once the saturated categories have been established and axial coding has provided insights and understanding of how these subcategories within the categories relate to each other, the process of selective coding or theory generation can begin. One of the prime actions at this stage of the grounded theory process is the identification of a core category around which the other categories and concepts revolve. As Strauss and Corbin put it, the core category seems "to explain what "this research is all about" (A. Strauss & Corbin, 1990, p 146). The central category must be able to integrate and make sense of all of the other categories and contain within itself analytic power.

The central category does not necessarily have to be a category that was identified and saturated through the open and axial coding stages as Strauss and Corbin note (A. Strauss & Corbin, 1990):

"The central category may evolve out of the list of existing categories. Or, a researcher may study the categories and determine that, although each category tells part of the story, none captures it completely. Therefore, a more abstract term or phrase is needed, a conceptual idea under which all the other categories can be subsumed. (p. 146)"

The identification (or creation) of the core category is neither trivial nor absolutely objective. Rather it represents the interpretation of the phenomena from the perspective of the analyst themselves and, assuming that the analyst has provided enough detail and background as to how their interpretation was arrived at, this should not be seen as a weakness. It is quite possible that an analyst from a different discipline, for example, would see a different interpretation and this is to be not only expected but also understood as valid.

Difficulties may arise in this process. For example an analyst may lack an adequate abstract conceptualisation due to over immersion in the descriptive data itself. Similarly another common problem is the inability for an analyst to decide between two competing categories. In order to assist in the process of identifying the central category Strauss and Corbin present a list of criteria to guide the analyst (Anselm Strauss & Corbin, 1998, p. 147).

- It must be central; that is, all other major categories can be related to it.
- It must appear frequently in the data. This means that within all or almost all cases, there are indicators pointing to that concept.
- The explanation that evolves by relating the categories is logical and consistent. There is no forcing of data.
- The name or phrase used to describe the central category should be sufficiently abstract that it can be used to do research in other substantive areas, leading to the development of a more general theory.
- As the concept is refined analytically through the integration with other concepts, the theory grows in depth and explanatory power.

- The concept is able to explain variation as well as the main point made by the data; that is, when conditions vary, the explanations still hold, although the way in which a phenomenon is expressed might look somewhat different. One also should be able to explain contradictory or alternative cases in terms of that central idea.

A narrative of the emerging theory is constructed based on the axial paradigm and the memos written throughout the process. Propositions are developed that represent connections through the categories.

There are two forms of theory that a grounded theory process can create, substantive and formal. Substantive theory refers to an identifiable area of empirical inquiry where empirical refers to direct or indirect experience of the phenomenon under investigation. Formal theory arises from a comparative analysis of multiple substantive theories that refer or relate to a specific concept (Glaser & Strauss, 2006, p. 32)

3.6 Research Design

As outlined in Section 3.5 above is a linear four stage process; in reality the process of any grounded theory study is a more nuanced affair where the stages represent more a matter of emphasis than of clear distinction. For example, as data analysis begins with the first data collected, there is a simultaneous start to both activities. As the categories emerge and insights develop, there is need to collect further data determined by the demands of the emerging theory. Ultimately it becomes a personal, creative, and unique process driven by the theory and not the methodology.

What is required, however, is that the individual process is reported in enough detail not to replicate the process but to assess the validity of the process and therefore the theory that emerges.

"(A) way to convey credibility of the theory is to use a codified procedure for analysing data ..., which allows readers to understand how the analyst obtained theory from the data." (Glaser & Strauss, 2006, p. 229).

This then becomes another challenge inherent in the use of a grounded theory methodology in a Doctoral dissertation and the following sections attempt to overcome this by first providing an overview of how the data was managed before presenting a

narrative overview of the process of collection and analysis. The data management section demonstrates the scale and scope of the data sets, the tools used to handle the data, and an indication of the time and effort expended in various activities. The narrative overview of the process of data collection and analysis provides context for the discussion of the data sets that follow. The process of data analysis is presented, with examples. The following chapter, Chapter 4, will present the findings from the analysis and Chapter 5 will outline the theories that emerged.

3.6.1 Managing the Data

3.6.1.1 Data Sets

This section outlines the scale of the data sets collected and analysed in this study. The process of analysis and the timing of their collection are outlined in the data analysis narrative in Section 3.6.2 below.

As befits a grounded theory study, the data sets were not decided upon at the start of the research, rather their selection, collection and use depending on the emerging analysis and the development of understanding. There are five core data sets, three of which were consciously sought by the researcher: the Initial Questionnaire, the Interview Data, and the Environment Failure Questionnaire. Two further data sets were collected; the Discussion Board Data and the UK surveys on part-time higher education.

Initial Questionnaire

An open and relatively unstructured questionnaire was administered in the first week of the course, seeking student responses on topics such as their fears and motivations for the course and their experience. An example of the questionnaire and a student response is provided in Appendix 1 – Example of Initial Questionnaire. 20 responses were received. A description of their analysis and role is provided in Section 3.6.2 below.

Interviews

A series of seven open and unstructured interviews were conducted with students. These were audio recorded. These one-to-one interviews began with a simple query concerning their experience of the course and how they were finding the community aspect of it.

The researcher transcribed the first two interviews before hiring a professional transcription service to complete the remaining five. These five were checked by reviewing the text alongside the audio recording to ensure validity. The scale of the resulting data set is presented in Table 6 - Interview Data below. An example excerpt from an interview is provided in Appendix 2 – Example Student Interview Excerpt

Interview	Word Count	Pages
1	7837	20
2	4937	13
3	8110	21
4	7863	20
5	6016	16
6	6858	18
7	8956	23
Totals	50577	131

Table 6 - Interview Data

Discussion Board Data

A total of 2,403 discussion board messages were posted in the class VLE. These were distributed across 12 forums. The tutor (the researcher) posted 49 times and the students posted 2,354 times (see Appendix 3 – Discussion Board Data Table). The word count is in the region of 190,000 words.

The messages were downloaded from the VLE, using the export tool, and handled in two discrete ways. The message headers were inputted into a series of spread sheets in order to identify such factors as the length of time between posts and responses. The content of the messages was copied into a series of text files for GREP analysis and use in NVIVO (see 3.6.1.2 - Software Tools for Analysis below).

The scale of this data set was challenging yet vital for this research. It provided a rich source of information on the interactions and strategies the students were conducting at different stages in the lifecycle of their community as well as a being a valuable source of data for constant comparison with the other data sets. Coding, recoding and the process of constant comparison with this substantial data set required a large investment of time. A description of its analysis and the role it played in the research is provided in Section 3.6.2 below.

Environment Failure Questionnaire

The class began in October 2005 and the community formed quickly. In September 2006, as the students were preparing to return for the second year of their course, the course VLE became unexpectedly unavailable due to a technical problem for a period of two weeks. This was recognised as potentially a valuable phenomenon to investigate with regards to this research. A questionnaire to investigate the impact of this sudden unexpected loss of the online course environment was devised and sent to the students and 18 detailed responses were received. An example of the questionnaire and a student response is provided in Appendix 4. The responses were collated and edited to be in an appropriate form for inputting into NVIVO.

It sought responses to questions around the impact of the failure of the environment on their learning and their sense of connection with their peers. Additionally it sought information on any alternative communication modes that had been employed. This opportunistic data set proved to be valuable in the analysis as it encouraged the students to reflect on what they had (the community) once it was not available and provided a useful "bookend" to the research.

UK Part-Time Higher Education Survey Data

As the analysis developed and early theoretical models emerged, it became important to review additional data, collected by other researchers, to supplement the data collected through this study. Surveys on part-time higher education students' experience were sought and identified. These survey results played an important role in validating many of the conditions that emerged through this research.

The studies consulted were:

- Callender, C., D. Wilkinson, et al. (2006). Part-time students and part-time study in higher education in the UK. Strand3: as survey of student's attitudes and experiences of part-time study and its costs, Universities UK and Guild HE.
- Gorard, S., E. Smith, et al. (2006). Review of widening participation research: addressing the barriers to participation in higher education. York, HEFCE.
- Yorke, M. and B. Longdon (2008). The experience of part-time students in higher education: A study from the UK. SRHE Conference. Liverpool.

3.6.1.2 Software Tools for Analysis

It was decided early in the research process that because of the large amount of qualitative data, the use of computer assisted qualitative data analysis software (CAQDAS) would be explored. Several packages were analysed and NVIVO (QSR International) was selected due to its ability to code and categorise a significant corpus of data.

NVIVO is a sophisticated software package that supports the process of qualitative data analysis of a range of data types by allowing the researcher to code and organise data before using powerful search and filter functions. The development of patterns and models are supported by visualisation features.

This decision to use NVIVO resulted had two consequences. Firstly, the sophistication of the application lead to a substantial investment of time in learning the application and becoming familiar with its more advanced features. This process of self-training took approximately two months and was supported by Lyn Richards' work, *Handling qualitative data: a practical guide*, which was constructed around the use of NVIVO (Richards, 2005). Secondly, additional effort was required to prepare the data sets in a suitable format to be imported into the application.

NVIVO proved to be a powerful tool in the analytical process and was used for all of the open coding of the interviews, discussion board messages and open questions on the two questionnaires. It is unlikely that the open coding of the 2,400 discussion board messages would have been possible to anywhere near the extent that they were if only manual coding techniques had been utilised.

It was the intention to use the application for the axial and selective coding stages however, despite many attempts, it was found to be personally restrictive for this researcher and more traditional techniques, such as diagrams, written narratives and memos were used.

Other software applications that were used at various stages included Mind Manager (concept mapping software) for aggregating codes into categories, and GREP (a powerful Unix-based plain text search application) for keyword searches within the discussion board data.

3.6.1.3 Time

There are four considerations that influenced the length of time taken to complete this research: the amount of time required for analysing a substantial data set, the immersive nature of grounded theory, unused analysis, and the demands of a full time academic post.

The coding and analysis of 2,400 discussion board messages, 131 pages of interview text, and the results from two questionnaires took much more time than anticipated even with the help of computer assisted qualitative data analysis software. This is further exacerbated by the nature of grounded theory which requires immersion in the data in order to sensitize the researcher and allow for the identification of comparisons, patterns and hypotheses. It was the experience of this researcher that such immersion requires a solid block of uninterrupted time (in days rather than hours), something that was in short supply as a full time academic.

Grounded theory requires an open approach to both data collection and analysis. This can result in a researcher trying out alternative data sets or analytical techniques which do not advance the analysis. Within this research, for example, case specific context variables of the each of the discussion boards were completed as it was anticipated that a formal computer-mediated discourse analysis (CMDA) approach would be required (Herring, 2004) (see Appendix 5 for an example). Upon a deeper understanding of the role of CMDA, it became apparent that the approach was at odds with the emergent approach of grounded theory and more aligned with a traditional hypothetico-deductive approach. As such the characterisations were not used (Herring, 2004, p. 358).

3.6.2 Narrative of the Process of Data Collection and Analysis

It is important to demonstrate the process of the data analysis, in addition to just the output, in order to demonstrate validity and reliability of the process especially as the further theoretical development rests upon this, the opening stage. Thus it will demonstrate (with examples) the range of memos generated and some insights into the *experience* of open coding.

Rather than provide decontextualized examples of the range of analytical techniques it was decided to provide a narrative of the process with examples *in situ* in order to give

insights into the engagement with the grounded theory method. The eight techniques central to grounded theory considered and demonstrated are:

1. Microanalysis of data – open and axial coding.
2. Constant comparison.
3. Memos.
4. Selective coding and refinement of categories.
5. Theoretical sampling.
    a. Including the use of non-technical literature.
6. Identification of the core category.
7. Saturation.
8. Validation.

Through the narrative, the technique descriptions are emboldened.

3.6.3 Stage One – Identification and Preparation

The identification of the phenomenon of blended community formation is outlined in Chapter One, Section 1.2 - Personal Motivation - The "Itch" and was supported by the broad literature review as outlined in Chapter Two - Literature Review. It is interesting to note that initially the part-time higher education context was not considered to be a key axis within this study. It was anticipated that the focus would be the formation of a blended community of higher education learners and it was only once the analysis was well under way that the impact of the part-time nature of the students became central to the study.

3.6.3.1 Participants, Sampling and Ethics

Sampling in grounded theory is unlike the process undertaken in hypothetico-deductive research. The primary distinction is that sampling focuses less on sites and organisations and more on events and phenomena (Anselm Strauss & Corbin, 1998, p. 215). Accordingly the sample criteria should be on identifying a sample where "a researcher can reason that events are likely to be found" (Anselm Strauss & Corbin, 1998, p. 215).

The site and sample selected for this study was the first year cohort of the MSc in Technology and Learning at Trinity College, Dublin University. This is a two year part-time interdisciplinary course, founded in 1999 and the researcher was, and still is, a lecturer.

The first year of the course is taught and is followed by a second year consisting of a research dissertation. The cohort under investigation (26 students) participated in this study from October 2006 to September 2007.

This sample was selected as it was accessible and had developed a healthy blended community in years previous to this study. It was therefore assumed that this would also occur during the course of this research.

This study took place before the establishment of a Departmental Ethics Committee and as such there were no formal institutional requirements in place. Informed ethical consent was sought and received from the class for access to their online discussions and was requested and received for the interviews and questionnaires used in this study.

3.6.3.2 Initial Activities – Entering the Field

This stage of the process was also one of reflection on the process to follow. Entering into a grounded theory study for the first time is a daunting prospect as, to the researcher, there is no guarantee that a theory will emerge which can make such an approach a risk in a Doctoral study. Conceptualising the process of community formation led to the realisation that the students would move from a cohort of individuals to a community, starting from the first week and that data relating to the state of individuals could be of benefit at a later date during the grounded theory analysis stages. If one wants to know what impact a community has had on individuals, surely it is useful to know a little about the group before they were a community.

A short questionnaire (see Appendix 1 – Example of Initial Questionnaire) was devised and sent out to the students by email within the first week of the course. The purpose of this questionnaire was to provide sensitising insights into the initial mind-sets of the students as they entered the course. It consisted of nine questions seeking short answer responses on topics that were anticipated may be of use in the future analysis namely their fears, motivations, and expectations of the course. The answers were analysed using emergent coding and theming techniques and resulted in a total of 48 codes which were subsequently organised into themes. This data was collected prior to the use of NVIVO and as a result it was initially analysed using manual coding and theming techniques in addition to the use of concept mapping software (see Figure 13 below).

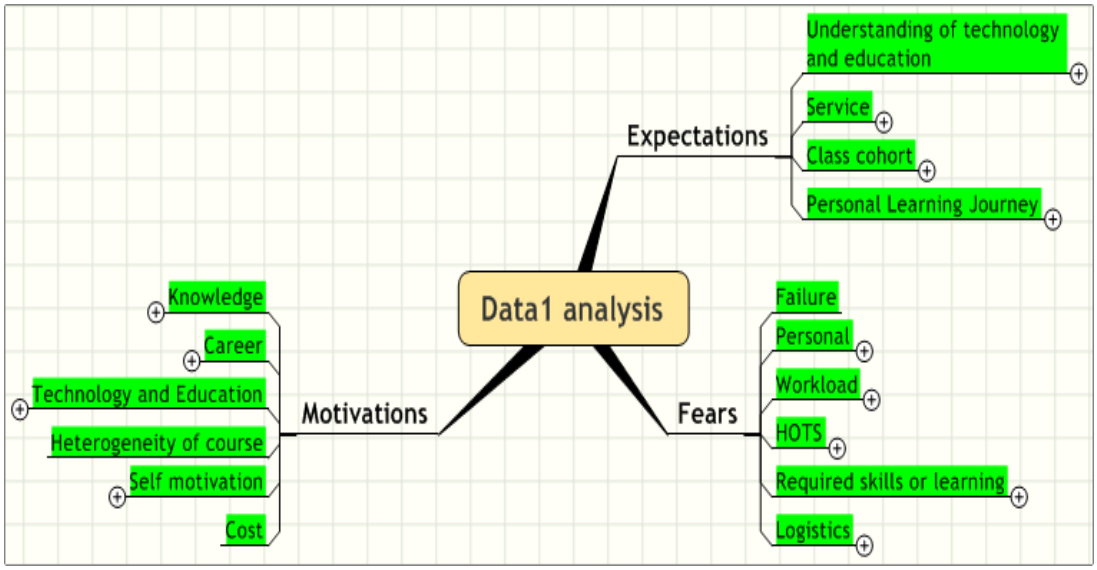


Figure 13 - Example of Themes from the Initial Questionnaire

Once expertise with NVIVO had been acquired it was decided to code the initial questionnaire data again within the application. This allowed for more consistent comparison between all of the data sets.

This data set was anticipatory and proved to be particularly useful in understanding the process of community formation at a later stage in the analysis. It served to confirm many of the characteristics of part-time higher education students particularly the various dimensions of their motivation (such as for career prospects) and also their own recognition of some of their challenges (such as workload and logistics that relate to time-poverty and multiple commitments).

3.6.4 Stages Two and Three – Data Collection and Analysis

The normal community raising activities as previous years were conducted in the first few weeks, namely simultaneous introduction activities within the face-to-face and online environments and a skills session on how to use the online discussion boards.

The data collection and analysis stages began properly with the first interviews which were conducted between week 8 and week 9 of the course. A call for volunteers to be interviewed was circulated to the students and a series of seven open and unstructured interviews were held. The first two interviews were truly open with no predetermined structure or questions. After the completion of these two interviews, the audio file was briefly coded in order to both sensitise the researcher and to identify areas to be explored

in subsequent interviews. The subsequent interviews, whilst primarily open in nature, also contained questions that focussed on emergent processes and potentially noteworthy phenomena identified by the earlier interviews and in particular sought to identify convergence and divergence within these areas. This represents a convergent interviewing approach (Perry & Jensen, 2001) within the overall Grounded Theory approach (see Section 3.3).

The initial open coding was conducted on the interview data and involved a process of **microanalysis** via the microscopic examination of the data line-by-line through the transcript. The audio recordings of the interviews were transcribed and read through in their entirety to further sensitise the researcher prior to the open coding. In many ways this was a somewhat mechanical process in the early stages. Great care was taken to be open to the data and to avoid, where possible, any preconceived ideas or notions to influence the codes and categories. Certain procedures and habits were implemented in order to best achieve this. These include:

- Extensive use of **memos.**
    - Where any idea arose *that was not directly attributable to the data* it was recorded separately for later review.
- A relaxed state of mind.
    - Rather than attempting to force the data to reveal codes, a conscious attempt was made to relax during the process in the knowledge that further re-coding was possible.

What follows is an excerpt from an initial open interview with a student.

> ***Everybody is very helpful, the discussion board especially, like last night we were in the middle of our, our research paper. It was panic stations, yes, everybody was there you know (on the discussion boards). I was just so, so intense last night, I had it, I actually just turned it off like at 11 and went to bed, just gave up, not give up but give up till today. I had a very successful morning, I didn't go into work (laugh) and got loads finished today and I feel so much better about it now. But if I hadn't had that you know feeling that other people were feeling the exact same, then I would have found***

it much harder to start again this morning.

(Underlined section added)

In the section of an interview above initial codes that emerged from open coding included **Peer support** ("helpful"), **Assignment stress** ("panic stations", "intense") and **Same boat** ("other people were feeling the same thing"). As the open coding progressed and the codes developed I became more sensitised to the data and a more analytical process (axial coding) emerged.

Axial coding involved interrogating the data to identify relationships and conditions within it. For example, building upon the open coding above, the following early version of an axial paradigm was constructed.

The requirement to complete an assignment is a causal condition, the successful completion of which (the central phenomena) is mitigated by the intervening condition of the stress the assignment caused to this (and other) students. The strategic interaction of communicating with peers in the ***Same boat*** *online resulted in the consequence of facilitating this student's (and potentially others) ability to work on the assignment. One further consequence of this may be that the strategic interaction of communicating online may become a routine tactic for the student when faced with similar stresses as the course progressed. (Researcher Memo)*

In this way the process of open coding and axial coding were conducted simultaneously and iteratively. It is true to say, however, that there was a degree of emphasis in that during the earlier stages open coding dominated over axial coding. As the analysis progressed, this emphasis reversed.

This process was not constrained by the formal techniques of axial coding (itself a critique of Strauss and Corbin's approach to grounded theory), rather it was focussed on understanding the phenomena under study. The insight into the role of the community vis-à-vis reducing student stress and thereby facilitating work on assignments was recorded as a **memo** to be analysed during further axial coding.

"The important issue is not so much on of identifying and listing which conditions are causal, intervening, or contextual. Rather, what the analyst should focus on is the complex interweaving or events (conditions) leading up to a problem, an issue, or a happening to

which persons are responding through some form of action/interaction, with some sort of consequences. In addition, the analyst might identify changes in the original situation (if any) as a result of that action/interaction." (Anselm Strauss & Corbin, 1998, p. 132)

Throughout both open and axial coding (and the distinction became increasingly blurred) the most basic techniques were the use of questions and **constant comparison**. In the example above the first questions asked were why the assignment is causing stress and also why would communicating online and realising the student was in the **same boat** as others facilitate working on the assignment? In seeking answers to these questions, the process of constant comparison was utilised.

Constant comparison (the process of comparing text segments coded with the same label with each other) served different purposes depending on whether it was within the open coding or axial coding process. For open coding, constant comparison allowed for checks to be made on the consistency of the coding scheme as it emerged. For axial coding it allowed for the construction of properties and dimensions of codes and concepts to be considered which allowed for a deeper understanding of the relationships such as the one identified above.

Constant comparison in relation to the online discussion board data was a persistent operation throughout the open and axial coding. It became apparent that this substantial data set (in excess of 2,400 messages compiled over 12 months) represented a record, or cache, of the lived experience of the online element of the blended community and, as such, was invaluable in developing the codes and categories and in validating or refuting the emergent hypotheses from the axial coding.

The entire set of discussion board messages was coded using NVIVO and while they were aggregated into themes, no attempt was made to form them into categories or subcategories and no attempt was made to develop and identify properties and dimensions. Rather the data set, and the set of codes and themes, served differing purposes throughout the analysis. During open coding, emergent codes from the interviews were searched for and compared against both the raw message data and also the codes and themes that had been identified. This process served to expand and develop the codes, categories, properties and dimensions. The power of the search and filter functions of the CAQDAS software was particularly useful in this process.

Similarly during axial coding hypotheses that emerged were compared against the message threads. For example theoretical memos that referred to the interplay of elements in the community formation process were fine-tuned by reading the message threads that corresponded to the same time period. As such the various levels of analysis from the raw data to the coded data and finally the open and axial coding were a varied and iterative affair (see Figure 14 - Discussion Board Data Analysis below).

The function of the discussion board messages was contrary to my initial expectations. It was anticipated that this data would be fundamental in the development of the theoretical understanding of the phenomena under study but it served more of a role in supporting or refuting the emerging theory rather than defining it.

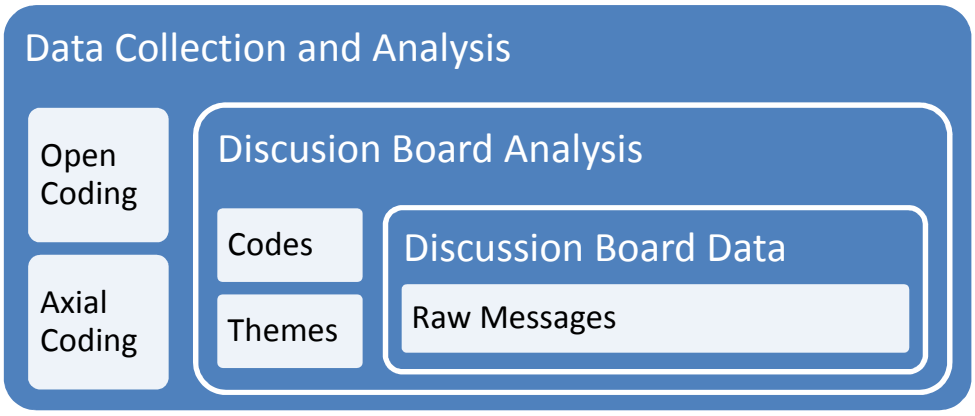


Figure 14 - Discussion Board Data Analysis

This section demonstrates the interplay of open and axial coding, the iterative and emergent process of analysis, the use of questions and the constant comparative technique. The following section will demonstrate theoretical sampling and the use of memos.

3.6.4.1 Theoretical Sampling and Memos

Within grounded theory, in order to refine the early categories (by increasing the opportunities for comparison) and to assist in the building of theory, **theoretical sampling** is required. This is a process of identifying and collecting new data that can "fill in" gaps in the existing schema. Theoretical sampling is not a haphazard process, rather it should be guided by the needs of the analysis.

“To say that one samples theoretically means that sampling, rather than being predetermined before beginning the research, evolves during the process. It is based on concepts that emerged from analysis and that appear to have relevance to the evolving theory.” (Anselm Strauss & Corbin, 1998, p. 202)

Seven interviews were analysed using the processes outlined above (p. 82) which resulted in an initial set of codes (organised into categories that stood for phenomena that emerged through the process) and **memos** that recorded insights and relationships between the concepts that arose from the axial coding processes. The key theoretical perspective or insight that arose from this process was the impact of the blended community on the part-time leaners’ experience. Themes quickly emerged that indicated that the blended community was having a positive impact on their learning (for example by evidence of sharing of resources) which was to be expected. What was less expected was the manner in which the blended community appeared to ameliorate some of their challenges as part-time students (for example by creating a strong social and supportive community) and leverage some of their advantages (for example by the sharing of vocational knowledge).

At this stage a decision was required as to what data would be best suited to expand on this category set and contribute to the developing theoretical perspective of the impact of blended community on part-time higher education students. Two data sets were considered as the focus of the next step in theoretical sampling. The first was the data collected from the online discussion forums (2,400 messages). The second data set was an opportunistic questionnaire delivered to the students during a period when, due to technical issues, their online discussion forums were unavailable for a period of two weeks. This occurred during the end of their academic year. The results of this questionnaire were called the Environment Failure Questionnaire data set (see Appendix 4 - Example of Environment Failure Questionnaire).

“A certain degree of flexibility also is needed because the investigator must be able to take advantage of fortuitous incidents that occur while out in the field such as an earthquake (although perhaps not quite so drastic).” (Anselm Strauss & Corbin, 1998, p. 203)

The decision was taken to consult and analyse the qualitative responses within the Failure Questionnaire data set. This decision was based on several factors. This data set had been read through on several occasions and as such the researcher was sensitised to it and was aware that many of the emergent themes from the interview data could be supported and expanded from within the Failure Questionnaire data set. Additionally it was deemed appropriate as the Failure Questionnaire dataset was collected at the end of the academic year (when the infrastructure failed) and as such provided a "bookend" or a more reflective and output based perspective from the students on the community that had been running for the intervening period.

The analysis of the Environment Failure Questionnaire substantially expanded the categories, the sub categories, the properties and the dimensions of the existing initial Category Set.

There then arose a key decision point in the open coding process which was recorded in a process **memo** which is related here verbatim:

> Interviews → Category Set 1 → Failure Questionnaire → Category Set 2
>
> There is a difficulty/decision point. Do I do DB (**discussion board**) data next or PTHE (part-time higher education) survey data next (as non-tech literature)?
>
> Decide to do PTHE Survey Data next as:
>
> a) Quick read of it makes me realize that it is straight forward
> b) It will move me up the scale to more abstract and generalizable
> c) It will allow the best category set and sensitivity prior to going into the CDMA (**Computer Mediated Discourse Analysis**)

Figure 15 - Process Memo on Theoretical Sampling

The difficulty this process **memo** relates to was which data set to analyse next in the open and axial coding process; the discussion board data or the non-technical literature in the form of part-time higher education surveys relating to the United Kingdom higher education system. As can be seen from the memo the decision was taken to analyse the **non-technical literature** next.

"Ingenious researchers, besides using the usual technical literature, sometimes use various other types of published and unpublished materials to supplement their interviews and field observations... Nontechnical literature can provide questions, initial concepts, and ideas for theoretical sampling. It also can be used as data (both primary and supplemental) or for making comparisons, and it can act as the foundation for developing general theory." (p. 53) (Anselm Strauss & Corbin, 1998)

This nontechnical literature (Callender et al., 2006; Gorard et al., 2006; Yorke & Longdon, 2008) had been sought and identified as it had become apparent from the analysis that the part time nature of the course and the learners was more than just a contextual factor but was rather a crucial axis around which the study was turning. As such **non-technical literature** in the area was located and analysed in relation to the emerging categories, subcategories and codes. This literature could be described as a blend between the Grounded Theory classification of technical and **non-technical literature** as it consisted of surveys of the experience of part-time higher education students (largely from the United Kingdom) which could be described as nontechnical literature accompanied by a theoretical analysis of the same (thereby becoming technical literature).

The **non-technical literature** consulted consisted of two survey studies (Callender et al., 2006; Yorke & Longdon, 2008) and one review of existing evidence-based research on part-time higher education (Gorard et al., 2006) outlined below.

- Callender, C., D. Wilkinson, et al. (2006). Part-time students and part-time study in higher education in the UK. Strand3: as survey of student's attitudes and experiences of part-time study and its costs, Universities UK and Guild HE.
- Gorard, S., E. Smith, et al. (2006). Review of widening participation research: addressing the barriers to participation in higher education. York, HEFCE.
- Yorke, M. and B. Longdon (2008, December 9-11). The experience of part-time students in higher education: A study from the UK. SRHE Conference. Liverpool.

There are limitations in the use of this **non-technical literature** and these were recognised. The studies reviewed and analysed were conducted in the United Kingdom which while not specific to the Irish context was considered close enough if handled carefully. The aims of the studies were also not aligned with the aims of this study in that they were focussing on contributing to the broader debate on participation and access to higher education. Furthermore the majority of the respondents to the surveys were undergoing their primary degrees and not postgraduate work as is the context of this study.

Despite these limitations data from the studies was useful in expanding an understanding of the categories, subcategories, properties and dimensions of the coding at this point. In addition to deepening the understanding, the surveys also served to identify *what was not present* in the existing code and category set which resulted in further theoretical sampling by returning to earlier data sets (the interviews and the Failure Questionnaire) to see if anything had been missed during earlier coding. In this way the use of the non-technical literature was important as it branched the study out of the specific context which is itself a key requirement of grounded theory in order to raise the level of the generalizability of the final mid-range theory as recognised in the Process **Memo**.

An example of how this occurred in practice is the focus on time-poverty of part-time higher education students as a result of family and work commitments. This concept was present in the data prior to consulting the non-technical literature of part-time higher education student surveys but was not pronounced. The surveys in effect asked the question "Why was the focus on time-poverty of part-time higher education students as a result of family and work commitments not strongly evident in the existing category set?" This question resulted in a return to the original interview transcripts and a re-examination of the data this time looking for all aspects around time, work and family. This process identified further properties in the data and resulted in the creation of three new properties and a new subcategory.

The discussion board data set played a pervasive role in the data analysis. As outlined earlier, the data had been extensively coded and themed but was considered more of a cache of the students' interactions. As such it became to be viewed as more observational data. It provided a record of the observable interactions among the students. Its role was in deepening the understanding of, and validating the emergent categories and their

properties. During the axial coding and selective coding stages, where theory was emerging, the discussion board data set was constantly referred to in order to identify whether there were observable examples of the interactions that the theory suggested would be occurring at a specific time. Alternatively, when concepts such as the sharing of information or the emotional support offered by the community to its members emerged from the analysis, authentic examples could be identified and examined.

Ironically the final data set to be considered, that of the Initial Questionnaire, was the first to be collected (gathered from the students in their first week of term). Initially this data set was not considered to be of much use, however the focus from the non-technical literature on the motivation of part-time higher education students neatly coincided with a question on that questionnaire which supported theoretical development of both causal and contextual conditions of the students.

The requirements of the emerging theory and the needs of the analysis drove the theoretical sampling in such a way that the collection and analysis of the data sets were not aligned, with the exception of the non-technical survey literature. The discussion board data set was collected over a period of 12 months and was used in the analytical process at various stages, as described above.

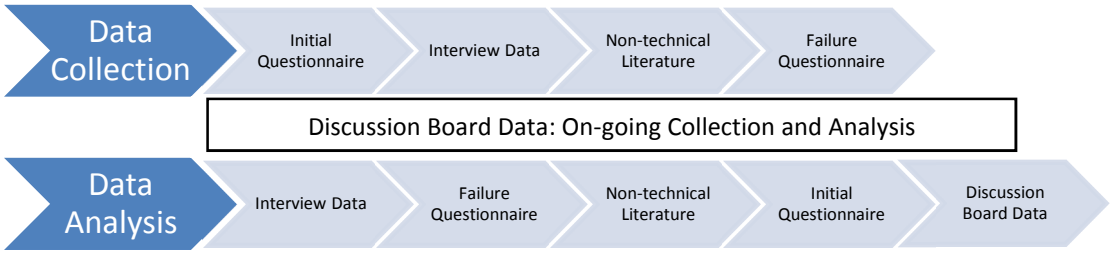


Figure 16 - Timeline of Data Collection and Analysis

While this **theoretical sampling** analysis generated some further understanding at the level of properties and dimensions of the existing Category Set, it was particularly powerful in terms of **memos** and early stage axial coding. Theoretical **memos** became prevalent to such an extent that the final stage of open coding was to return to the combined data sets of the original interview transcripts, Failure and Initial Questionnaires and the discussion board posts in their entirety (in excess of 2,400 messages). Unlike the

earlier open and emergent analysis, this coding pass through the data was focussed more specifically on the existing category set and also to seek theoretical answers to specific questions. An example of this process can be demonstrated by the following theoretical memo recorded verbatim below.

> Investment in a community takes time which is an activity counter-intuitive to time poor pthe (**part-time higher education**) students (due to family and work) so why do they do it?
>
> Possibly time poor students invest time in community development as it creates a social group that replaces their lost social life. The social community then the benefits of a learning community (i.e. information exchange, knowledge construction, others views etc) which saves them time.
>
> So there are 2 questions...
>
> What other features of a community save them time?
>
> How conscious of this were they or was it just the facilitation? How conscious were they of this investment/trade off?

Figure 17 - Theoretical memo

This theoretical memo was accompanied by a sketch reproduced below.

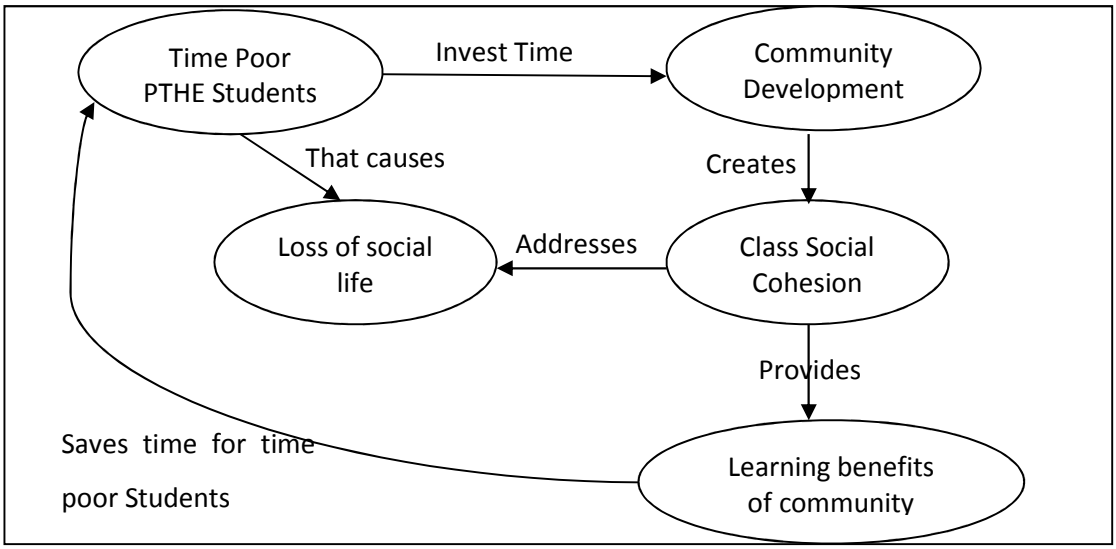


Figure 18 - Sketch accompanying theoretical memo

The **memo** and sketch represent axial coding and demonstrate how the open coding process was by this stage more focussed on theoretical development. The questions that emerged from **memos**, such as the one outlined above, were less focussed on questions such as "What is going on here?" and were increasingly focussed on questions such as "How are the related aspects identified interacting with each other?" Seeking answers to these more theoretical questions formed the focus of the final stage of open coding. The entire data sets, and the analyses that had been conducted upon them, were searched for answers or insights into these theoretical aspects. When no further insights or perspectives could be garnered, it was deemed that saturation had occurred.

Saturation of the categories was reached as the analysis had moved away from open coding and was firmly established in the axial coding phase. There was no clear cut off point between open coding and axial coding, rather it was a matter of emphasis. In crude terms it can be represented as a shift in the amount of effort from time spent analysing the raw data in order to **saturate** the categories (and their component codes, properties, and dimensions) to time spent pursuing relationships within the abstracted conceptual framework that emerged. Activities within the axial coding stage included creating and analysing mini-frameworks, collating and reflecting upon the increasing set of theoretical memos, and identifying the core category in preparation for the construction of the axial coding paradigm.

The final category set consisted of four categories; coming together, doing the course, interacting in a community, and being a PTHE student. Each category consisted of several sub-categories consisting of a range of codes (see Figure 19 - Final Category Set below).

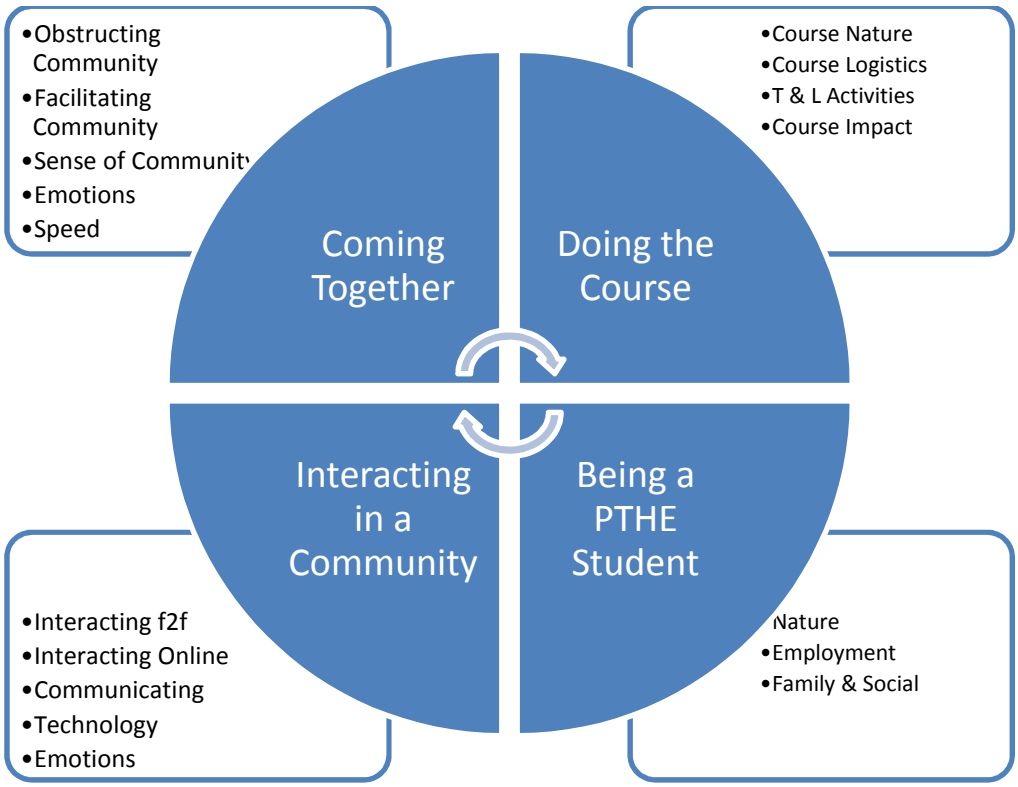


Figure 19 - Final Category Set

At this stage theoretical sampling was still occurring, however the data consulted for these purposes was shifting away from the interview and online interaction data sets and towards the Failure Questionnaire data set. This data was consulted and analysed to provide evidence to support, refute, or elaborate on the emerging relationships and initial theory generation.

After the open coding had resulted in saturation of the categories, the axial coding stage continued with identification of the core category and arrangement of the other categories within the axial coding paradigm. The categories and sub-categories were analysed as to whether they represented structure or process and theoretical hypotheses were generated accordingly. Further theoretical hypotheses, that is statements on how concepts within the category set related to each other, were constructed as relational statements.

A key output of the axial coding process is the **identification of a core category** around which the other categories and concept revolve. It is important to note that the central category does not necessarily have to be a category that was identified and saturated through the open and axial coding stages as Strauss and Corbin note (A. Strauss & Corbin, 1990):

"The central category may evolve out of the list of existing categories. Or, a researcher may study the categories and determine that, although each category tells part of the story, none captures it completely. Therefore, a more abstract term or phrase is needed, a conceptual idea under which all the other categories can be subsumed" (Anselm Strauss & Corbin, 1998, p. 146)

In this study the identification of the central category was a frustrating and challenging process whilst at the same time being a highly reflective and analytical process that clarified much of the emergent theory in my own mind. The difficulties that arose were primarily concerned with choosing one of two possible central categories: the formation of a blended community of part-time higher education students and the nature and impact of a blended community on the experience and learning of the students. This was resolved through the realisation that both categories were in fact related to a single phenomenon and in fact represented two aspects of the same phenomenon; the formation and nature of a blended community.

It is interesting to note that the range of data sets contributed in different proportions to these two aspects. The formation process was significantly influenced by the interviews, the initial questionnaire and the discussion board posts with some input from the non-technical literature and the final questionnaire. The nature and the impact of the community was more influenced by the total discussion board data set, the non-technical literature and particularly the Failure Questionnaire.

At the end of the stages of data collection and analysis the following outputs were moved forward into the theory generation stage:

- Final saturated category set.
- Axial coding paradigms.
- Relational statements.
- Theoretical memos.

3.6.5 Stage Four – Theory Generation and Validation

It is wrong to suggest that the theory generation only begins in this, the selective coding phase. In effect it had been evolving from the earliest analysis of the interviews through the open coding and was particularly active in the axial coding activities. Axial coding is concerned with generating relationship and integrating codes and categories with each other. However, once the core categories of community formation and community nature and impact had been identified, the formal construction and writing of the theory began.

The theory is constructed as a narrative, a process that had begun in some part in the axial coding phase as a way of clarifying whether the categories and relationships were saturated.

The categories, relational statements and memos were read and reread and the process of theory generation began. The theory is presented in three forms; a narrative that describes the processes at work, accompanying diagrams and a set of hypotheses. All three of these forms are interrelated and were constructed simultaneously, in fact it is fair to say that all three of these forms became analytical processes in their own right and assisted in the construction of the overall understanding.

Theoretical sampling continued within the selective coding stage primarily to validate the emerging theory. The discussion board messages, the non-technical literature referring to surveys of part-time higher education students and the Failure Questionnaire were particularly important in this process.

The initial output of the selective coding was:

1. A theory that explains the formation process of a blended community of part-time higher education learners:
    a. As a narrative.
    b. In diagrams.
    c. Summarized as a set of formal hypotheses.
2. A theory that explains the nature and impact of a blended community of part-time higher education learners on their higher education experience and learning:
    a. As a narrative.
    b. In diagrams.
    c. Summarized as a set of formal hypotheses.

Only once these theories were constructed was the literature on community formation, nature and impact consulted. Where the existing literature was broadly in line with the emergent theory, a close examination of the differences was conducted to verify and validate the discrepancies. Where the emergent theories diverged significantly from the literature, a re-examination of the process of data analysis was undertaken and alternative possible interpretations were considered. Care was taken to ensure that discrepancies between the emergent theory and the existing theory were not due to the context within which either theory had emerged. This process resulted in some minor changes in the final theory, mainly in the provision of certain caveats in the formal hypotheses.

3.7 Conclusion and Summary

This chapter has outlined the rationale for the selection of a structured grounded theory approach based on a range of criteria including a philosophical orientation, the requirements of the study, and the researcher's own view of knowledge. The research design demonstrated the application of the range of techniques used in the analysis and the decisions taken in the analytical journey in order to provide insights into the actuality of the process of data analysis. The results of the initial open and axial coding stages are presented in the following chapter.

4 Data Analysis – Open and Axial Coding

4.1 Introduction

4.2 As outlined in the Chapter One (Section 1.7 - The Structure of This Thesis

) there are many challenges in presenting an iterative qualitative research process in a linear form such as a dissertation. To address this challenge the previous chapter demonstrated the range of data analysis techniques (with examples) utilised in this study in order to demonstrate analytical rigour. The challenge in this chapter is to present the data analysis stages of open and axial coding which, while having distinct purposes and some elements of sequencing, are inherently iterative and largely simultaneous.

In order, it is hoped, to provide some clarity on these processes as implemented within this study it was decided not to present the data analysis as a section on open coding followed by one on axial coding before presenting the selective coding. The iterative nature of the actuality of the research meant that, for example, the core category emerged before the end of the axial coding and to present it otherwise would do a disservice to the research. It is also important to present context while outlining the results of the open and axial phases.

With these considerations in mind this chapter is organised into three sections. The first section (Section 4.3 - Overview and Nature of the Categories) presents an overview of the final categories and a brief discussion of their relationship with regard to the distinction between structure and process, a core aspect of grounded theory analysis. The purpose of this overview is to provide a broad context for the in depth description of these category which follows.

The second section (Section 4.4 - Open and Axial Coding) outlines each of the four categories in turn and describes the results of the open coding process and the axial coding process for each. These subcategories, properties and dimensions are presented along with a discussion of how these characteristics interrelate to each other **within** the category. This section concludes with an analysis of the relationships **between** the

categories described above, primarily along the lines of their subcategories and the properties within them.

The third and final section of this chapter (Section 5.2 - The Identification of the Core Category) presents the process of identifying the core category around which the other categories revolve. This core category forms the basis of the theoretical development in the following chapter.

4.3 Overview and Nature of the Categories

Categories in Grounded Theory are not containers that aggregate and collect the codes arising from the open and axial coding process; rather they refer to *phenomena* that are of importance to both the participants and the social processes under investigation. As such category titles should be active. The four categories that emerged from the process of analysis are:

1. Coming Together – the formation of a blended learning community including obstacles and facilitating aspects.
2. Doing the Course – the experience of the course itself in terms of the nature and structure of the course and the teaching and learning activities.
3. Interacting – the patterns, drivers and elements relating to interacting with peers and tutors both online and face-to-face.
4. Being a Part-time Higher Education Student – the nature of the students in terms of their motivation, advantages and disadvantages.

The first category of Coming Together focuses on the phenomena of the formation and, to a lesser extent, the impact and nature of a blended community of part-time higher education learners. It includes subcategories that focus on the properties that facilitate or obstruct the formation process of this form of community, the sense of community that arises and the students' own perceptions of the community.

The second category of Doing the Course refers to the nature of part-time higher education courses in terms of their structure, the institution and the impact the course has upon the learners.

Interacting in a Community is the experience of working with and within a blended community of part-time higher education learners.

Being a Part-Time Higher Education Student relates the experience of the students as a part-time higher education with the challenges, motivation and opportunities for learning and development that that brings.

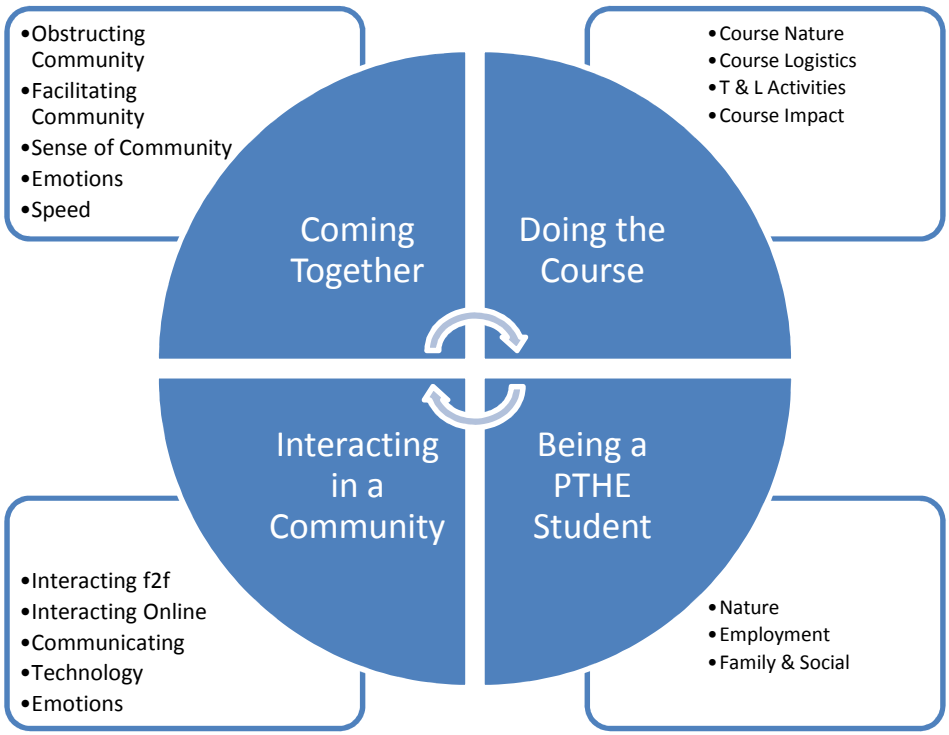


Figure 20 - The Emergent Categories

Grounded Theory is an inherently iterative and dynamic methodological approach. This is demonstrated not only by key characteristics of the process (such as a flexible, dynamic research design) but also by the language it uses (constant comparative method). While the strength of this approach and as the applicability to the research context under investigation is not being questioned here, it is important to note that this researcher found great value in *stepping back* at key moments in order to gain a higher level perspective on the overall process and reflect upon where the analysis has been and where it will go in subsequent stages.

Reflecting on the final category set led to two key understandings. Firstly it was apparent that the categories represented both phenomena (coming together, interacting online and face-to-face, teaching and learning activities) and conditions (course nature and logistics). Initially this was perceived to be a weakness in the analysis to this point,

however upon further reading of methodological works in the literature it became apparent that what was emerging was a distinction between structure and process. One of the strengths of grounded theory is its ability to integrate both structure (why certain events occur) and process (how individuals act and interact). This integration is a key output of the axial coding stage.

Upon closer inspection the four categories that emerged could be defined **broadly** in terms of this distinction between process and structure (see Figure 21 – Categories in Relation to Structure and Process below). For example the category of Doing the Course contains subcategories that were largely structural such as the course logistics (i.e. class size and physical environment) and the nature of the course as defined by the institution and tutors (i.e. the form and nature of assessment and grading). The category of Interacting in a Community however contains subcategories the related much more to process (such as actions and interactions) and consequences (such as the subcategory of Impact on cohesion). These broad categorisations, while crude, do allow for certain understandings to emerge that were to prove vital during the theory construction in the Selective Coding phase.

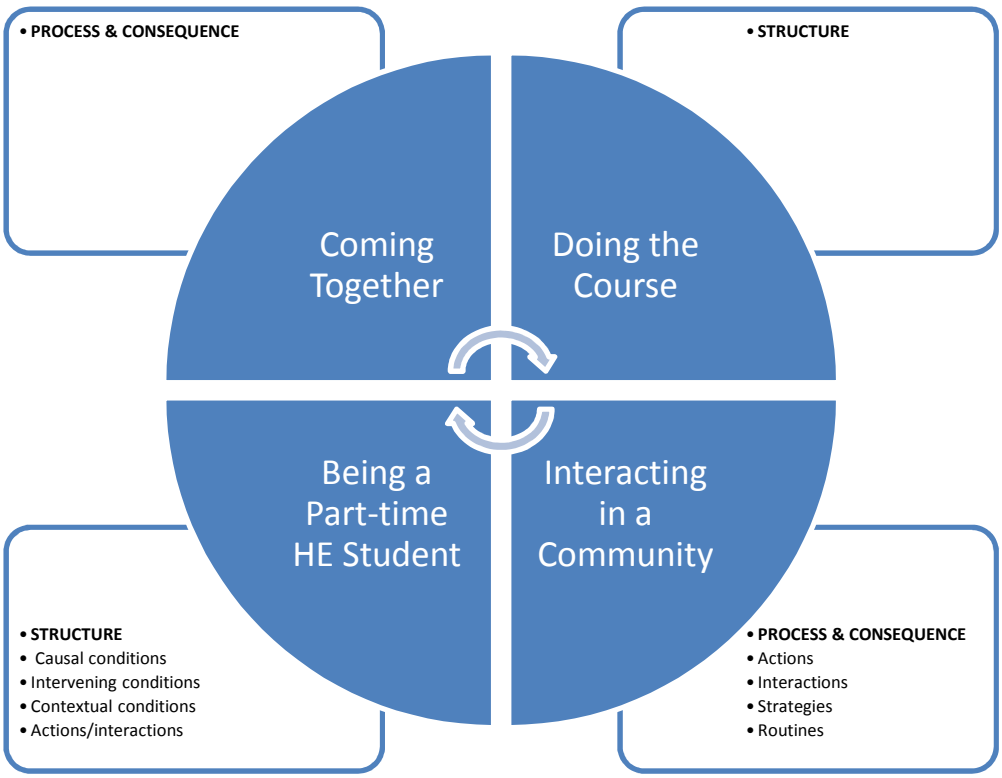


Figure 21 – Categories in Relation to Structure and Process

4.4 Open and Axial Coding

The categories outlined above represent the output of the open and axial coding and data analysis. They developed over time from the first initial coding of the interviews, through the process of constant comparison and theoretical sampling until saturation was reached. The category set itself varied substantially throughout this process and became itself a dataset to be analysed. For example, at one point the category set contained six categories and some codes that did not fit. At that point a major reconfiguration took place in order to find a category set that was coherent, consistent, and had an internal logic to it. The four categories in the final category set not only contain all of the codes that arose during the data analysis process but also represents parsimony.

These stages represent the application, confirmation/disconfirmation and operationalisation stages of Lynham's general model (S. Lynham, 2002). The application is the process of inquiry into the phenomenon (through data collection and open coding), operationalisation is the generation of hypotheses and relationships between codes and emerging categories (through axial coding) and confirmation/disconfirmation is

accomplished through theoretical sampling and identification of gaps or inconsistencies in the emerging conceptual understanding.

In this section each category is discussed in turn. The subcategories, properties and dimensions (including their range) are outlined and described which represents the output open coding (identification of concepts) and the first stages of the axial coding (identification of properties and dimensions). It should be noted that some properties have more than one dimension, for example the property of Community as part of the course ethos (under the Category of Coming Together) has the dimensions of "presence" (i.e. was the community part of the course ethos) and also "overtness" (was the community as ethos overtly stated and transmitted to the students). These multiple dimensions represent separate though related aspects of the same concept. Other properties do not have such multi-dimensional aspects and are therefore more straightforward such as Conflict (under the Category of Coming Together) which only has a range of absent to present.

Following this the final stage of the axial coding process is presented by identifying the relationships between these properties and subcategories **within** each category. In addition there is a focus on the distinction between structure and process within each category. In this way the description of each category demonstrates the move from the raw data towards the development of theory through a process of relating the categories, subcategories and properties thereby raising the level of abstraction in order to broadly address the question of "What is going on here?" (Anselm Strauss & Corbin, 1998) specifically to identifying, separating and aligning structure and process.

4.4.1 Category One - Coming Together

Subcategory	Property	Dimension	Range
Obstructing Community	Peer acceptance	Acceptance of ideas by others	Not accepted to fully accepted
	Disciplinarity		Shared to diverse
	Physical Co-Presence	Time physically co-present	A lot to a little
		Composition	Concentrated to spread out
	Investment in relationships	To form multiple relationships	Willing to unwilling
		To put in required effort	Willing to unwilling
Facilitating Community	Community as part of course ethos	Presence	Absent to present
		Overtness	Implicit to explicit
	Culture of communication	Presence	Absent to present
		Overtness	Implicit to explicit
	Tutor motivation		Not motivating to highly motivating
	Tutor modelling		No modelling to exemplary modelling
	Icebreaker activities	Presence	Absent to present
		Synchronicity	F2f to simultaneous to online
Sense of Community	Feeling part of something	Connection	Connected to not connected
	Concern for the community	Concern	Concerned to unconcerned
	Self to group	Self to group	Feeling without to feeling within
	Conflict		Absent to present
	Cliques	Presence	Absent to prevalent
		Strength	Strong to weak
	Social life	Time socialising	A lot to none
Community Emotions	Pride	A sense of pride	Absent to present
	Reassurance	A sense of reassurance	Absent to present
Speed			Fast to slow

Table 7: Category One - "Coming Together"

From Table 7 it can be seen that under the category **Coming Together** there emerged five distinct subcategories. The first two subcategories, those of *Obstructing Community* and

Facilitating Community are closely interrelated and answer the "how" and "why" questions of axial coding. There may appear to be a contradiction in categorising these two subcategories as separate and distinct from each other especially as properties and dimensions are identified for each. As each dimension represents a range or spectrum upon which an instance can be located, it may be argued that each property can be in either a positive or a negative position on the spectrum and consequences inferred accordingly. The decision to separate these two subcategories was taken as a result of the emphasis derived from the interview participants as to whether the properties were seen to be obstructions or facilitations.

Similarly the subcategories of *sense of community* and *community emotions* have a similar fine distinction.

The subcategory of *Obstructing Community* is composed of four properties. The property of Peer Acceptance represents a concern expressed that the ideas of an individual would not be accepted as valid by the cohort. This acceptance is in the intellectual sphere rather than the social and implies a sense of being considered an individual who makes a contribution of value to the broader intellectual development of the class community. The single dimension of Peer Acceptance has the range from ideas not being accepted to being fully accepted.

Disciplinarity, the second property of *Obstructing Community*, refers to the perceived barrier to community formation arising from the potential members coming from a range of initial disciplines. Disciplines, as represented by primary degrees and working experience, have a shared language, common methodologies, and broad mutual agreement in the way they approach problems. These commonalities align considerably with the characteristics and features of a community and the lack of a shared background in this area can be seen as a potential barrier to the formation of such a community. The range of disciplinarity is therefore from shared to diverse.

The benefits of interdisciplinarity were clearly identified within the community from the earliest stages. In one utterance it was stated explicitly that "there's simply buckets of stuff we can learn from each other" while in two utterances it was expressed in more specific terms of being able to learn from students who had knowledge of the discipline that the author did not come from.

"Please share your teaching knowledge with me." (Discussion Board Post)

"I am the one who will need great assistance from (two specifically mentioned technical class members) in the weeks ahead so if I have anything useful to offer from the education end feel free to ask." (Discussion Board Post)

The third property is that of Physical Co-Presence and refers to the amount of time that the class cohort is physically and synchronously present in the same space. The amount of face-to-face time and its configuration (ranging from many hours on a single day per week to a few hours on more days per week) are the two dimensions within a blended community paradigm. The logical argument is that face-to-face time has a direct positive correlation to community formation. The two dimensional ranges are therefore time physically co-present (with the range of a lot to a little) and the composition of the time physically co-present (concentrated to spread out).

The fourth and final property of *Obstructing Community* is Investment in Relationships which has two dimensions. The *in vivo* code of "willingness" required much reflection within this property and revealed two dimensions. Relationships between class members are viewed as phenomena that required both motivation and effort. The first dimension of investment in relationships is therefore the willingness to invest the effort in forming the relationships in the first instance. This has aspects relating to the reciprocity of community engagement whereby in the early stages potential community members recognise the benefit of investing effort into relationships in the hope and expectation of receiving tangible benefits from it. A subtle distinction underlies the second dimension which is the willingness to form multiple relationships among the class cohort. A common characteristic among courses in higher education is the formation of cliques where small groups of students within the class stick together throughout the duration of the course. This represents an unwillingness to create multiple relationships and can be seen to diminish the formation and nature of a healthy community of learners. Both dimensions share the range of willing to unwilling.

The second subcategory is that of *Facilitating Community* which draws together those properties cited as having a positive influence on the **Coming Together** of a cohort into a healthy functioning blended community of learners.

The first of the five properties under this subcategory is Community as Part of the Course Ethos. This property refers to the extent that the notion of community is imbued and pervasive across all aspects of the course. While this is closely related to the explicit actions that an institution or course team would take to realise the community ethos, it is distinct and refers more to the sense that the community development is a normal function and not something distinct from the other operations and activities on the course. Accordingly the two dimensions of this property are presence of community as part of the course ethos (with the range absent to present) and the overtness of community within the ethos (with the range implicit to explicit).

In a similar way to the notion of community as part of course ethos or culture, the second property is that of a Culture of Communication within a course. It shares the same dimensions as the community property, presents and overtness.

"A collaborative communication culture had been created in the class from the beginning." (Participant Interview)

The third property under the subcategory of *Facilitating Community* is that of Tutor Motivation. This refers to the impact upon the community formation process of the actions and attitudes of the tutors in promoting and motivating the students to engage. It can be seen as being closely related to the property of community as course ethos mentioned above but has more of a personal aspect to it. This relatively intangible property is evidenced less by the direct online interactions (this property itself is dealt with below) and more by a sense of enthusiasm on the part of the tutor for the community itself. This property has a dimensional range of no motivation to highly motivating.

The third property under **Community Facilitation** is that of Tutor Modelling. This refers to the specific actions and interactions and presence within the online space that serves to provide examples and exemplifies of the desired behaviour within the online community. The dimensional range of this property is from no modelling to exemplary modelling. It should be noted that this aspect, regularly suggested in the literature, should not detract from allowing the community to develop its own norms, values, and mores and to determine its own purpose, functions, and acceptable modes of behaviour.

The final property in this subcategory is that of Icebreaker Activities. These are the initial community formation activities that occur in both the online and face-to-face space and include activities such as introducing oneself to the class. There are two dimensions to this property. The first dimension refers to the existence of such activities which therefore has the range of absent to present. The second dimension is relative and refers to the level of synchronicity between these activities in both spaces. This dimensional range runs from face-to-face icebreaker activities first through to online icebreaker activities first with simultaneous online and face-to-face icebreaker activities in the middle of the range. The second dimension has a dependency on the first dimension insofar as the presence of icebreaker activities in both spaces is required.

The third subcategory under **Coming Together** is *Sense of Community* and refers to the "what" or a consequence of blended community formation. This subcategory has five properties which themselves represent a combination of emotional connections and evidences or outputs. The first property is that of Feeling Part of Something. This refers to a personal sense of connection to the community without which the benefits for learning are hard to realise. The dimensional range therefore runs from connected to not connected.

The second property can be seen in some regards as a consequence of the property of feeling part of something. Concern for the Community represents another perspective of a sense of connection to the community. Logically an individual is unlikely to be concerned for the health and development of the community to which they have no personal sense of connection or commitment. The dimensional range of this property is concerned to unconcerned. This was evidenced by the apologies given on the discussion boards by students who were, as they perceived, slow in their initial introductions online.

The third property of the subcategory *Sense of Community* represents a fine distinction of the first and second properties in that it focuses on the perceptions of self to group. Self to Group refers to a sense of feeling within or without the community from an individual perspective. Accordingly the dimensional range of this property is feeling without to feeling within.

The final two properties of this subcategory represent evidences or outputs of community facilitation. The property of Conflict relates to the existence of strongly differing views

within the community and has inherently negative connotations. This has the dimensional range of absent to common. The final property of sense of community is Cliques. From the perspective of an inclusive community of learners, Cliques represent an indicator of a low level of whole class community. There are two dimensions to this, the first being the existence of cliques (absent to prevalent) and the second refers to the strength of these cliques in terms of their inclusivity and exclusivity dimensions (strong to weak).

The fourth subcategory under **Coming Together** is that of *Community Emotions.* The two properties under this subcategory (Pride and Reassurance) represent the emotional impact upon the individuals operating within a community of learners. Pride refers to a sense of achievement in generating a community and satisfaction in the knowledge shared and generated within the community. It has the dimensional range of absent to present. The second property is that of reassurance. This refers to a sense of comfort arising from an understanding that their peers are *in the same boat* (in vivo code) which is arrived at through community interactions and presence.

The final subcategory is that of Speed and refers to the speed with which a blended community of learners is formed. The dimensional range here is relative and is presented as fast to slow. Speed was coded primarily from the forum data and consisted of expressions of surprise at the pace of community development and/or a sense of being impressed at the speed and quantity of postings in this forum.

4.4.1.1 Axial Coding Within Category One

The axial coding occurred simultaneously with the open coding process and was focussed within the category although additional cross-cutting insights between categories were made and recorded as memos for use in the final axial coding stage.

Axial coding seeks to answer questions such as "when, where, why, who, how, and with what consequences" in order to explain the phenomena under study. A closer inspection of these questions shows that these signify an explanatory understanding of both **structure** and **process.**

"Why would one want to relate structure with process? Because structure or conditions set the stage, that is, created the circumstances in which problems, issues, happenings, or events pertaining to a phenomenon are situated or arise. Process, on the other hand,

denotes the action/interaction over time of persons, organisations and communities in response to certain problems and issues. Combining structure with process helps analysts to get at some of the complexity that is so much part of life" (Anselm Strauss & Corbin, 1998, p. 127).

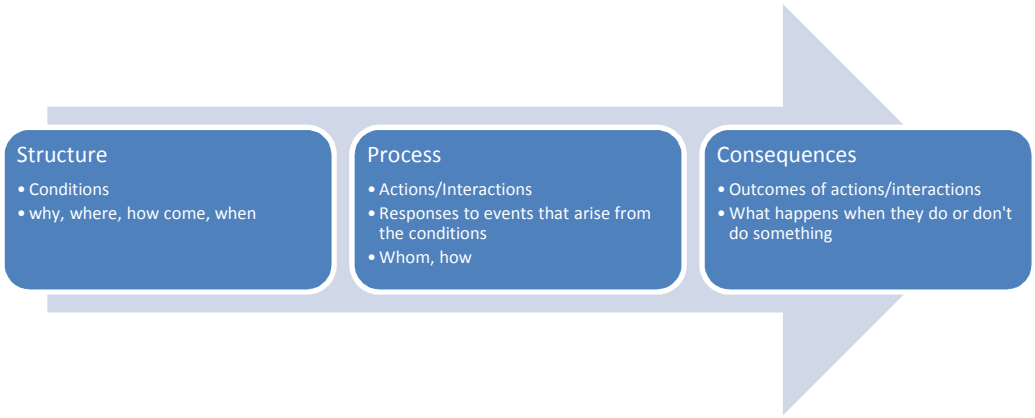


Figure 22 - Interplay of Structure and Process

The category of Coming Together has strong elements of **structure** over **process** as well as consequences of the phenomena of forming a blended community of part-time higher education students.

On the structural side this category highlights some of the conditions (of various types) that provide the circumstances and context out of which a blended community may or may not emerge. The subcategory of facilitating community contains many *causal conditions* such as the role of the tutor in promoting and modelling online community interaction and the promotion of the community as part of the ethos or culture of the course. The structure of physically co-present time is a further *causal condition*.

These causal factors are mitigated or influenced by the *intervening conditions* that reflect interpersonal aspects of the participants (such as concerns over whether they would be accepted by their peers based on their interactions and contributions to the community and their willingness to invest time in forming relationships with them).

Disciplinarity emerges as a concept that can be considered as both a *causal condition* in that it represents a key influencing factor on the phenomena of Coming Together as well as an *intervening condition* in that it alters the process of community formation.

Contextual conditions represent the location of the *causal* and *intervening conditions* along the axes of their properties and dimensions. Within this category the *contextual conditions* are that there was an overt and explicit culture and ethos of a community as part of the course which was modelled and promoted by the tutor with specific community facilitation activities. The course was interdisciplinary and the students' co-present time was moderate and regular.

The key consequences within this category were the fast formation of a blended community which engendered a strong sense of feeling connected with their peers which was both reassuring and sociable, a low presence of cliques, and a strong commitment to the continuing development and health of the community.

What is less clear from this category are the actions and interactions that bridge the conditions and consequences, in other words the process that lies between the range of conditions and the formation of a healthy blended community of part-time higher education learners. Also less clear are the range of consequences, or impact, of the blended community on their learning and broader experience of the class. These aspects emerge in the remaining categories.

4.4.2 Category Two -Doing the Course

The second category, that of **Doing the Course**, refers to the significant phenomena of the students' actual experience of conducting their studies and the organising factors around it. It is organised under the subcategories of *Course Nature*, *Course Logistics*, and *Teaching and Learning Activities*.

Subcategory	Property	Dimension	Range
Course nature	Ethos	Presence	Absent to present
		Overtness	Implicit to explicit
	Reflection	Presence	Absent to present
		Structure	Structured to unstructured
	Community	Locus	Central to peripheral
	Disciplinarity	Disciplinarity	Mono discipline to multidiscipline
	Nature of final Grading	Grading	Ungraded to graded
	Form of Assessment	Assessment nature	Continual assessment to terminal examination
Course logistics	Class size	Number of students	Small to large
		Manageability of relationships	Manageable to unmanageable
	Physical environment	Mobility	Fixed to flexible
	Virtual environment	Availability	Available to unavailable
		Ease of use	Easy to difficult
	Attendance	Compulsion	Required to optional
		Intensity	Moderate to intense
	Interview	Comprehensiveness	Some to all
		Form	Individual to group
Teaching and learning activities	Assignments	Ability to use prior knowledge	Contextualised to decontextualized
		Relevance in their jobs	Relevant to irrelevant
		Group assignments	None to all
	Content	Nature	Practical to theoretical
	Teaching style	Range of teaching styles	Shared to diverse
		In class activities	None to many
		In class activities	Individual to group
	Technology	Integration	Integrated to dropped in
		Pervasiveness	Pervasive to isolated
	Lecturer interaction	Attitude	Open to closed

Subcategory	Property	Dimension	Range
		Enthusiasm	Low to high
		Ability to generate trust	Low to high
		Atmosphere	Open to closed
Course Impact	Loss of social life		

Table 8: Category Two - "Doing the Course"

The subcategory of *Course Nature* refers to the personality of a course. It can be seen to represent the high level themes and approaches which are then realised in more concrete teaching and learning activities. *Course Logistics* refers more to structural components such as the class size and layout and functionality within the face-to-face and online environments. The final subcategory of *Teaching and Learning Activities* represents the more concrete and less abstract elements of the teaching and learning processes.

The first subcategory, *Course Nature* is presented with six properties, the first of which is Ethos. Ethos within this context refers to the philosophy of the course and embodies the highest level aims and goals and approaches to achieving those. The property has two dimensions the first of which is whether an ethos is present within the course (dimensional range of absent to present). The second dimension refers to the overtness of the ethos along the dimensional range of implicit to explicit.

The second property is that of Reflection. This refers to the existence of reflection upon an individual's experience as a thematic activity in order to deepen and strengthen the students learning and raise their abilities for critical reasoning and critique. The dimensional range of this is from absent to present. A further dimensional range is dependent on reflection been present in the first dimension and is whether the reflection is unstructured or structured within the course.

The third property concerns the role of the Community and its locus within the wider ethos of the course. This element is similar to the property of Community as Part of Course Ethos under the subcategory *Facilitating Community* within the category of **Coming Together** outlined above. Its inclusion as a property under *Course Nature* represents the insights available from a reversal of perspective and more specifically refers to its centrality within the ethos of the course. Accordingly the dimensional range of this property is central to peripheral.

The fourth property is that of Disciplinarity which, in this context, refers to whether the philosophy of the course is to promote and encourage interdisciplinary activities or mono disciplinary activities. Accordingly the range is from mono discipline to multidiscipline.

The fifth property is that of the Nature of the Final Grading which refers to the overall mark a student can attain. Courses may vary in the dimensional range from an ungraded course (where a student has only the options of a pass or fail) to highly stratified grading (where in addition to pass or fail the students can be located on a scale in relation to other members of the cohort).

This property emerged initially in the online forum at an early stage in the course.

"Thrilled to hear (that) we are not marked on the curve, thus taking out the ridiculous and often nasty competition that this marking mechanism brings."

The final property is strongly related to the grading property outlined above and focuses on the Form of Assessment and identifies the range from continual assessment as the sole form to terminal examination.

The subcategory of *Course Logistics* represents the more concrete realities of environments and activities which, in part, are derived from the course nature as part of the course design process and also structural in terms of the educational institution.

The first property within this subcategory is that of Class Size which has two dimensional ranges. The first dimensional range is absolute and represents the number of students enrolled and attending which is represented as from small to large. The second dimensional range is relative and more complex. This dimension of manageability describes the class size in terms of an individual's ability to manage relationships across the whole class. Accordingly the dimension is from manageable to unmanageable.

This second dimension arose specifically from microanalysis of a single word within an interview. When discussing the class and the emergent community, the student stated that, "It's not a small group but it's a manageable group of people". This revealed that in addition to the more obvious absolute dimension of class size, there was an additional dimension that referred specifically to an individual's ability to handle or manage the interactions that arose as a function of the first dimension.

The next two properties under *Course Logistics* relate to the two the environments or spaces within which community interactions took place; the physical teaching environment and virtual online computer mediated communication environment. The Physical Environment represents the teaching and learning space for face-to-face co-present activities. The dimension of mobility reflects whether the space is fixed (in terms of seating arrangements and general flexibility) or flexible (whether the desks, chairs etc could be moved and reconfigured). The property of Virtual Environment refers to logistical elements of the online environment with two properties, availability and ease of use. Availability (with the dimension of available to unavailable) arose strongly as there was a disruption to the technical infrastructure towards the end of the year that prevented all access for two weeks. Ease of use represents how straightforward and intuitive the online environment (and by extension the communication tools within it) were to use and therefore has the range from easy to difficult.

The penultimate property under *Course Logistics* is that of Attendance and refers to the dimension of compulsion as to whether face to face attendance is required or optional (the dimensional range). A further dimension of Attendance examines the dimension of intensity through whether the face-to-face attendance is moderate (in that it is spread for short periods over many days) to intense (where there are many hours over a few days).

The final property under *Course Logistics* refers to the requirement or not of an interview and its form as part of the application process for the course. The first dimension of this property ranges from no interviews through conducting on selected applicants, to all applicants are interviewed (dimensional range of some to all). There is the further dimension relating to the form of the interview and whether it is an individual applicant or a group applicant interview format.

The third and final subcategory under the category of **Doing the Course** presented here is that of *Teaching and Learning Activities* which refers to the modus operandi of the deliver, style and nature of the assessment within the course.

The first property is that of Assignments which is distinct from though related to the property of Form of Assessment described under the subcategory of *Course Nature* above. Assignments refer to the more individual relevance and context of the assignments with regard to the nature of part-time higher education students i.e. in employment. This

property contains three dimensions: the ability to use prior knowledge in assignments, the relevance of their assignments in relation to the students' area of employment, and the mix or extent of individual versus group assignments.

The ability to use prior knowledge within the context of assignments relates to how they are structured. This is perhaps the best explained through the dimensional range of contextualised to decontextualized. Contextualised assignments are those where the structure of the assignment allows the student to incorporate their prior discipline knowledge or working experience into the activity. An example of this could be an assignment requiring the student to construct a position paper as part of an activity on academic writing. The assignment brief would outline the desired elements, outcomes, and expectations of the student would be able to decide the content of the paper based on their own interests or expertise. A decontextualized assignment would dictate the content of the paper. This property would not be available to all courses and even within a suitable course is unlikely to be available to all assignments.

The second dimension, relevance in their jobs, extends the contextuality within the property of ability to use prior knowledge into the students working life. There is, of course, a dependency within this property that the students are employed in a position relevant to the course of study. Assuming this dependency is fulfilled, the property of relevance in their jobs has the dimensional range from relevant to irrelevant.

The third dimension of Assignments is that of Group assignments and relates to the extent to which the formal assignments are individual or group based or a blend. The range is from none to all.

The second property of *Teaching and Learning Activities* is that of Content. This refers to the nature of the teaching and learning activities as delivered by the teaching team. The dimensional range is from practical to theoretical with a mixed approach within the middle of this range.

The third property is that of Teaching Style. The first of the two dimensions under this property is that of the range of teaching styles. This refers to homogeneity of the teaching and learning activities as delivered by a course team (with the inherent dependency that more than one person is delivering the course). The dimensional range is from homogeneous to heterogeneous. The second dimension under the property of

Teaching Style is that of in-class activities. These activities are viewed as designed elements of a teaching session where the students are actively engaged and the dimensional ranges are the extent to which these activities are present (none to many) and whether these activities are individual or group based.

The fourth property is that of Technology. The first dimension in relation to the use of technology in the teaching and learning processes is that of pervasiveness which refers to whether technology is imbued across the course or used within isolated components within the course. This can also be seen as the level of integration of technology within the teaching and learning processes with the dimensional range of integrated to dropped in.

The fifth property under *Teaching and Learning Activities* is that of Lecturer Interaction. The first dimension is that of attitude which relates to the demeanour of the tutor with regard to direct interaction with the students. The dimensional range is therefore from open to close. This is strongly related to the second dimension which is the ability of the tutor to generate trust among the students which has the dimensional range of low to high. Enthusiasm is the third dimension of Lecturer Interaction which similarly has the dimensional range of low to high. The fourth dimension, Atmosphere, can be seen to be an amalgam of the previous three properties and has the dimensional range of open atmosphere to closed atmosphere.

The final property of *Teaching and Learning Activities* is that of working in groups

4.4.2.1 Axial Coding Within Category Two

Similarly to the first category of **Coming Together**, the category of **Doing the Course** contains many conditions, most of them being *causal conditions.* This is not surprising as this category focuses on the design of a course within institutional constraints as well as the style of the teaching delivery.

In terms of the tension between **structure** and **process**, the category of **Doing the Course** focuses more on the former than the latter and answers the questions of when and where more than the **process** questions of how do individuals interact and with what consequences.

The *causal conditions* include concrete absolute properties such as the physical environment, the absolute number of students, the educational level of the course and the nature of final grading. These can be considered organising factors. Other *causal conditions within* this category are more abstract though no less pertinent and include such as the attitude, enthusiasm and ability to engender trust by the lecturers. It is perhaps more important to analyse the *intervening conditions* more closely than the *causal conditions* as within such a structural category as it is they that impact or mitigate the effect of the *causal conditions.*

Within Class size the two properties of Number of students and Manageability represent a *causal condition* and an *intervening condition*. The Number of students enrolled on a course has implications for the experience of being a student doing a course. The student can be one among many or one among few and this will have a significant influence on their experience. A student's ability to manage relationships impacts on their experience of being in a class of a certain size. For example, a student with a high ability to manage multiple relationships will be less affected by being in a large class than a student with a low ability to manage multiple relationships.

The property of Assignments is an example of an *intervening condition* once the two dimensions are taken into consideration. The ability to use prior knowledge in assignments and their relevance to the students' employment or occupation has an impact on their ability to do the course. Assignments that are constructed in an open manner, that are not prescriptive of domain for example, allow students to bring their existing knowledge and expertise to bear on the work therefore increasing its relevance and the student's confidence and motivation in their ability to do the course. Furthermore assignments that are open, relevant and allow the students to contextualise them have implications and impact upon the course content in that, as not all content domains can be covered, the content must be of a high enough theoretical level to impart principles that can be applied across multiple domains. This is perhaps more relevant when dealing with multidisciplinary courses (another property within this category).

The example above demonstrates how the combination of *causal conditions* (course content and doing the course itself) is impacted upon by *intervening conditions* (the relevance of assignments and their ability to be contextualised or personalised by the student) to create the *contextual conditions* underlying this study. In the context of this

course, assignments were designed to be contextualised and relevant and the content was principle-driven though it was through this analysis that this became explicit.

The property of Interviews can be seen as an *intervening condition* upon the presence and overtness of a course Ethos in that when the comprehensives of applicant interviews is all (that is to say that all potential students are interviewed) then it would be logical for the Ethos of the course to be explained to the applicants and therefore made more overt. This is as during such Interviews it is normal to explain to the students, in the broadest terms, what the course is about and what the experience is designed to be.

Working in groups and Group assignments intervene on the condition of the locus of Community within the course and also upon Disciplinarity. A course with a large focus on Community and a Multidisciplinary nature should by extension contain group activities (both in class and also assignments) in order to align with the community focus. This in turn will allow for disciplinary exchange between the students as part of their structured teaching and learning activities.

4.4.3 Category Three – Interacting in the Community

Whereas categories one and two (**Coming Together** and **Doing the Course**) had an emphasis on structure over process, the third category, **Interacting in the Community** as an important phenomenon, reverses the emphasis and has a focus more on process and consequences.

Subcategory	Property	Dimension	Range
Interacting face-to-face	Face to Face Seat mobility	Flexibility	A lot to a little
	Social interaction	Time	A lot to a little
		Location	Within to without the physical learning space
Impact on cohesion of online communication	Class access		Patchy to pervasive
	Early stage anonymity		Known to unknown
	Speed		Slow to fast
	Replies to posts		No reply to many replies Fast reply to slow reply
	Connection to peers	Breadth	Narrow to broad A little to a lot
Online communication	Range of use		Dedicated to broad
	Emotional peer support		A lot to a little
	Practical peer support		A lot to none
		Information exchange	A lot to a little
		Sounding board	Regular use as to no use as
		Disciplinary sharing	Shared to not shared
	Range of opinions		A lot to a little
	Lecturer interaction	Presence	Present to not present Posting to not posting
	Reading posts	Time available to read	A lot to a little
		Time spent reading	A lot to a little
		Coverage	Some to all
		Times read	Once to repeatedly
		Routine	
	Creating posts	Time	A lot to a little
	Replies to posts	Number of replies	Many to none

		Speed of replies	Fast to slow
	Lurkers	Proportion	Small to large
Technology	Information resource	Storage/retrieval	Unable to able
Emotions	Togetherness	Experienced	Not felt to strongly felt
	Comfort		Not felt to strongly felt
	Undercurrent		Not felt to strongly felt
	Humour		Not felt to strongly felt
	Dependence		Dependent to not dependent

Table 9: Category Three - "Interacting in the Community"

The first subcategory is that of *Interacting Face to Face* which consists of the two properties of Face-To-Face Seat Mobility and Face to Face Social Interaction.

Face-To-Face Seat Mobility refers to the physical environment within which the face-to-face interactions occur and specifically focuses on the ability of the furniture (desks and chairs) to be moved and reconfigured into a range of layouts dependent upon the activities being undertaken. The dimensions of this property are therefore flexible to fixed.

The second property of Face to Face Social Interaction, has two dimensions. The first dimension refers to the amount of non-course related social interaction (measured in terms of time) that occurs face-to-face among the students. This accordingly has the range of a lot to a little. It is important to note that within this property, face-to-face time is not restricted to in-class time as social interaction can occur before, during (such as coffee breaks), and especially after scheduled classes. The second dimension refers to the location where face-to-face social interaction can occur and the range is defined in terms of within the physical learning environment (i.e. the classroom setting) to without the physical learning environment (social environments such as coffee shops).

The following subcategories refer to the phenomena of interacting through the computer mediated communication channels specifically provided to the students for this purpose. The four subcategories are *Impact on Cohesion of Online Communications*, *Online Communication*, *Technology* and *Emotions*

The first of these four subcategories is *Impact on Cohesion of Online Communication*. The first property of this subcategory is class access which refers to the breadth of access among the class members. Class access within this context means accessing and viewing the online community interactions though not necessarily posting or replying to the

messages. The dimensional range is from patchy (only a few members of the class accessing the environment) to pervasive (all members of the class accessing the environment).

The second property of *Impact on Cohesion of Online Communication* is that of early-stage anonymity. This refers to the degree to which an individual student *knows* (in a face-to-face sense) their class peers when first interacting with them online through the environment communication channels. Accordingly this has the dimensional range of known to unknown. This property is closely interrelated with that of icebreaker activities, and specifically the sequencing of the face-to-face and online activities.

The third property is that of speed though a different dimension to the more general speed of cohesion of the blended community referred to under the category of **Coming Together**. Speed within this context refers specifically to the impact of interacting online on the speed of cohesion of the blended community. The dimensional range accordingly is slow to fast.

The final property of *Impact on Cohesion of Online Communication* is connection to peers which refers to the impact on the individual of interacting online with regards to their sense of connection to the other individuals within the class. This connection to peers has two dimensional ranges; no connection to very connected, and narrowly connected to widely connected. The second dimensional range relates to the breadth of connection of an individual to the rest of their class with regard to how many of their peers they feel connected to. The dimensional range is therefore from narrow (sense of connection to a few of their peers) to broad (sense of connection to most of their peers).

The next subcategory is that of *Online Communication*. Purpose within this context refers to the uses and impacts of interacting online. The first property within this subcategory is range of use. The dimensional range of this property is from dedicated (where the online interaction has but a single purpose such as social or information exchange) to broad (where the online interactions have a broad and varied range of purpose and intent).

The second property under the subcategory of *Purpose* is range of opinions which refers to class members' openness to posting their own perceptions, ideas, and opinions. The dimensional range is from no opinions to widely ranging opinions. There are implications for trust and comfort inherent within this property.

The third property of *Purpose* is that of Experience sharing and refers to the discussions that represented a sharing of an individual's unique knowledge embedded within their own life experience and reflects their nature as part-time higher education students. The dimensional range is from shared to not shared.

"Each person brought their own valuable skills and expert knowledge to WebCT and shared it with the class, this was vital to us not only in terms of our assignments but our own learning and professional development as well"

The following two properties are closely related and refer to the two key forms of support available to the students through interacting with their peers online. They are emotional peer support and practical peer support. Emotional peer support relates to the effect of interacting online whereby individuals may feel less isolated and anxious by being aware that they are not alone in that state (*in the same boat* - in vivo code*)*. The dimensional range is therefore from no emotional support to very emotionally supported.

"... basically, I rely on the strong support system – in this case WebCT facilitates that." (Participant interview)

Practical peer support refers to the effect of interacting online whereby individuals, and in many cases the wider community, receive support from their peers that contributes directly to their studies. This support may take the form of information exchange, useful links, discussion and feedback on ideas. The dimensional range accordingly for practical peer support is from no practical peer support to a lot of practical peer support. It should be noted that there are many instances where the practical and emotional peer support are both apparent within the same message thread, or even within the same message.

Practical peer support has two clear dimensions; information exchange and sounding board. Within information exchange students relied on each other to answer questions and share resources and links relevant to their learning. Sounding board is an in vivo code referring to the stage beyond information exchange where students were putting forward their ideas for review, feedback and discussion with their peers in order to clarify their own thinking within a timely manner.

"I knew that if I was having a problem with an assignment or technology that I could post on WebCT and have an answer very quickly." (Participant interview)

The next three properties of *Online Communication* focus specifically on the range of interactions with the online discussion forum. The subcategories are *Reading Posts, Creating and Replying to Posts, and Replies to Posts*.

Reading Posts has five properties. The first two properties relate to time. The amount of time available for the students to read the amount of posts has the dimensional range of a lot to a little and reflects their characteristics as part-time higher education students. The property of time spent reading posts similarly has the range of a lot to a little. These two properties are closely interrelated with the amount of posts arising from the online interaction within the class.

The third property of *Reading Posts* is coverage. Coverage refers to whether an individual will read all of the new messages (comprehensive coverage), read most, or whether their focus is upon specific subsets of the available new messages such as those strictly relevant or those from peers the individual follows (narrow coverage).

The fourth property is that of times read. The persistence of online interactions through discussion forums allows students the ability to read posts more than once. The dimensional range is therefore from read once to repeatedly.

The fifth property of *Reading Posts* is that of routine. The emergence of this property is another important example of the power of theoretical sampling within the grounded theory methodological approach. The initial code and category set arose from the open coding of the interview data generated during the blended community formation phase. The actions and interactions revealed from the analysis therefore reflect the time during which the data was gathered. Open coding of the failure questionnaire data collected at the end of the academic year revealed how members of the class community had developed routines and habits of logging in to view the online community interactions.

“I ... check the WebCT page multiple times as part of my daily "online routine". Without it, there is definitely something missing." (Participant interview)

" ... By last Christmas I had developed a habit of logging in each day." (Participant interview)

The property of Routine therefore has the dimensional range of no routine to a regular routine.

Creating and Replying to Posts refers specifically to the act of creating new original posts and replying to others. One property within this subcategory is time available which has the range of a lot to a little.

Replies to Posts refers to whether an individual's contribution is replied to, by how many, and within what time frame. This subcategory therefore has two properties. The number of replies given to any post is the first property and has the dimensional range of none too many. The second property of *Replies to Posts* is that of speed of reply which refers to the elapsed time between a post and one or many replies to it. The dimensional range is therefore from slow to fast and has a dependency upon the first property of number of replies given.

Lurking is the final property within this subcategory and refers to read only participants within the community. These community members may not contribute so actively to the online discussion yet still receive much emotional and learning support.

"I may not have contributed to all discussions but it was comforting to me to know that we were all feeling similar fears, anxieties, etc." (Participant interview)

" ... having no discussion board made me feel isolated, even though I would describe myself as more of an observer." (Environment Failure Questionnaire)

"...lurking allows me to keep up to date with (course) business." (Participant interview)

The dimension of the property of Lurkers is the proportion of the community who were lurking as opposed to those who were regularly contributing. The range is therefore from small to large.

The socio-technical infrastructure itself became the subject of the next subcategory under the category of **Interacting in the Community**. This subcategory of *Technology* focused strongly on the ability of the system to store discussions that focused on information exchange and knowledge construction and the emergence of an information resource as a result.

"There was a wealth of knowledge from all the other class members. I often searched through old discussion threads for specific bits of information (such as recommended websites or detailed instructions for Flash)." (Participant interview)

The final subcategory is that of *emotions* which started as an uncategorised code in the initial category set. Open coding of the failure questionnaire however provided for an expanded understanding of this category as a consequence of **interacting in the community**.

The first property is that of Togetherness. Togetherness refers to a sense of a collective community moving together as one. It has the dimension of whether or not it was felt by an individual student and has the range of not felt to strongly felt.

The second property is that of Comfort which is strongly related to that of Togetherness. It describes the sense of comfort and support by having access to the broader class community which resulted in a sense of reassurance.

"Being able to access WebCT was very comforting - felt you were not alone." (Participant interview)

The third property is that of Undercurrent. This in vivo code describes the sense of being in the same boat as their peers across a variety of dimensions. Students took comfort in recognising that their peers were feeling the same emotionally in terms of stresses and difficulties as well as keeping abreast of what was happening within the course in more general terms.

"Although I did not use the discussion board every day I found it a good way to keep in touch with what was happening generally." (Environment Failure Questionnaire)

The range of Undercurrent is the extent to which it was felt or experienced.

The next property is that of Humour which was in evidence in the discussion board threads. This demonstrates the strength of the social dimension of the emergent community and has the dimensional range of presence (from present to not present).

The final property under the subcategory of Technology refers to an almost emotional attachment and Dependence upon the course online learning environment as the gateway to the class community. The understanding of this property arose particularly strongly from the opportunistic data set arising during the period of infrastructure breakdown where students reported feeling alone as a result of not having access to the broader class community.

"I feel like a part of me has been amputated - I didn't know I'd miss it until it was gone." (Environment Failure Questionnaire)

4.4.3.1 Axial Coding Within Category Three

Time, inclusion and practical and emotional support emerge as key areas within this category.

The Practical peer support provided within the online environment over time becomes an information resource for the community due to the persistence of the messages (storage and retrieval ability). This in turn impacts the amount of times that messages are read (Times read under Reading Posts) as students turn to the information embedded within the discussion boards in their learning. It can be argued that the interdisciplinary sharing (Disciplinary sharing under Practical Peer Support) further increases the likelihood of relevant information being posted which may increase this aspect in interdisciplinary courses.

This concept outlined above represents a path where an action/interaction (posting online for Practical peer support) has a consequence (the creation of an Information resource) which in turn impacts on an action interaction (Reading Posts).

Time is a concept that appears in various places and guises within this category. This is to be expected especially within the context of part-time higher education students as outlined in the final category (see Category Four – Being a Part-Time Higher Education Student below). The most obvious time related concept is that of time available to read the online community interactions and represents a *causal condition*. Time spent reading the online communications and also the property of how many times posts were read can be viewed as *intervening conditions* that mediated the *causal condition* of time available to read posts resulting in the actual time spent reading posts as the contextual condition (i.e. the intersection of the *causal* and *intervening conditions*.

The routine of checking the discussion boards for any new messages is, obviously, a routine strategy and one that can develop over time. Conditions that influence the development of such a routine strategy include a fast speed of response to posts, the provision of emotional and practical peer support, the pervasive nature of class access and posting as well as the number of replies and posts themselves. This indicates that a routine is likely to be established if the individual is likely to view a range of new and

practical content from their peers when they log into the environment to view the new messages. This in turn impacts upon the amount of time spent reading highlighted above. If the student perceives real emotional and learning benefit from such a routine, they are more likely to invest more time in the interactions themselves.

The consequences of such interactions are practical peer support, particularly within interdisciplinary courses as outline above, and a wide range of emotional supports. The practical supports that spending time in the community can deliver range from the low level sharing of information (links, resources etc.), through Disciplinary sharing (which has a strong component of peer teaching and the Zone of Proximal Development) to the use of the forums as a sounding board (which can be viewed as discourse and knowledge construction, particularly when supported by a broad range of opinions).

Analysing these concepts against that of time available to the students show clear distinctions between their impacts on time. The information exchange can be seen as being a temporally productive aspect of the community that reduces their overall time required in their learning. If, for example, a student identifies, qualifies and shares a valuable resource with their peers, this will alleviate the time required by their peers to do the same searching process. To a lesser extent both Disciplinary Sharing and Sounding Board concepts can be seen as alleviating some of the time issues common among part-time higher education students. Disciplinary Sharing provides a conduit where a student can receive just-in-time learning and information on the discipline they are not familiar with. Similarly Sounding Board aspect of the boards allows students to air assignment ideas with their peers which has the potential to clarify their own thinking and address misconceptions, both of which may have resulted in excess time being spent of assignments.

A routine strategy of logging in to view messages allows the students to benefit from a sense of comfort and togetherness with their peers as well as a sense of inclusion with the course which in turn does itself develop into a further consequence of a dependence on the class community.

This sense of connection with the ebb and flow of the course cross cut various dimensions so for example students would arrange and be notified upcoming face-to-face social events through the online discussion boards.

4.4.4 Category Four – Being a Part-Time Higher Education Student

The final raw category is that of **Being a Part-Time Higher Education Student**. This category primarily answers the questions "who". It is presented as a single category though in effect it could be considered a subcategory under any all of the previous categories of **Coming Together**, **Doing the Course** and **Interacting in a Community**. The decision to create a separate category was taken to avoid duplication but also because through the open and axial coding process the nature of part-time higher education students became a core pivot around which much of the emerging theory was focussing. By creating the single category of **Being a part-time higher education** student the nature of this cohort could be analysed in depth within the category before the analysis between categories is conducted.

There are three subcategories within this category, the *Nature of the Participants*, the impact of being *In Employment* and the impact of *Family and Social Life*.

Subcategory	Property	Dimension	Range
Participants	Age	Absolute years	Young to old
		Relative	Close or far from class mean
	Knowledge and Life experience	Disciplinary Experience	A lot to a little
		Life Experience	A lot to a little
	Time out of education	Absolute years	A lot to a little
	Disciplinarity		Shared to diverse Teacher vs. Techies
	Open to experience	Openness	Receptive to closed
	Course perception	Safety	Safe to not safe
	Time available		Absolute - a lot to a little
	Motivation	Existence	Absent to present
		Nature	Personal to vocational
	Perceived impact		A lot to none

Subcategory	Property	Dimension	Range
In employment	Being employed	In employment	In employment to part time to not in employment
	Relevance of employment	Relevance to study	Relevant to not relevant
	Resulting Time constraints	Time available	No time constraints to many time constraints
Family and Social Life	Family Life	Being in a family	In a family to single
	Family Support	Supportiveness	No support to a lot of support
	Social life	Impact	Positive to negative
		Replacement	No replacement to fully replaced
	Locus of Time constraints	Locus of impact	Family, social and work

Table 10 : Category Four - "Being a Part-time Higher Education Student"

The subcategory of *Participants* pivots around the individual within a class and contains nine properties. The first property is that of Age and has two dimensions. The first and most obvious dimension is absolute and is the specific age of an individual within the class and has the range from young to old. This dimension is important as it reflects on further properties such as Time out of Education and also, to a lesser degree, on Knowledge and Life Experience.

The second dimension of Age is relative and identifies whether an individual is close to or far from the mean class age, at either end of the spectrum. Thus it identifies whether and individual student is either younger than the mean age within the cohort or older.

The second property is that of Knowledge and Life Experience and refers specifically to a life and/or work experience that a student can use in their studies or share with their peers. This experience can be disciplinary in that it is directly relevant to the content of the course or it can be broader life experience that can benefit a student and their peers in areas such as group or team-working. Accordingly the dimensions are Disciplinary Experience and Life Experience with the ranges of a lot to a little.

The third property is that of Time out of Education. This property has the dimensional range of a short time out of formal education to a long time out of formal education as

represented by years. At first sight, this property may appear to be directly connected to the property of Age, however while there may be some correlation between low age and short time out of education this is not always the case.

The fourth property of *Participants* is that of Disciplinarity. Disciplinarity represents the phenomena of divergent background disciplines of the students as defined by their previous studies and/or their employment history. Accordingly it has the dimensional range of present to absent. Within a monodisciplinary course this would refer to the discipline under study and within an interdisciplinary course it would refer to either of the disciplines under study. This particular property has a dependency on the postgraduate context under investigation in this study.

The fifth property is that of Open to Experience. This refers to the willingness of individual students to be open to new forms of teaching and learning (including communicating online) and accordingly has the dimensional range of open to closed.

The sixth property (Course Perception) refers to a student's perception of safety. Students may perceive a course to be safe whereby the teaching and learning activities are familiar, the assignments are traditional, and the challenges they will face a similar to ones they have encountered throughout their academic or educational career. An unsafe course within this context would be one where alternative or novel forms of teaching, learning, and assignments are prevalent and students are challenged or pushed outside of the normal comfort zones. The dimensional range therefore is from safe to unsafe.

The seventh property is that of Time Available which refers to the overall time available to individual course participants to dedicate to their studies. The range for this property is from a lot to a little. As will be seen in the axial coding section of this category, the property of Time Available will become a pivot around which many of the other subcategories and properties rotate.

The eighth property is that of Motivation which is the motivation (or motivations) that underpin the decision of an individual student to undertake and complete the course of study. This has two-dimensional ranges. In the first instance the existence of motivation which can be located along the dimensional range of no motivation to very highly motivated. The second dimensional range refers to the nature of the motivation, as to

whether it is a personal motivation (education to enrich one's life) or vocational motivation (education to enhance ones career).

The final property of the subcategory of *Participants* is that of the Perceived Impact of the study on the individual and their life. This has the dimensional range of a lot to none.

The second subcategory of **Participants** is that of *In Employment* which refers to the conditions and consequences of employment upon the part-time higher education students' experience of study and learning. This subcategory contains three properties; Being employed, Relevance of employment and Resulting Time constraints.

The property of Being Employed refers specifically to a student's employment status and accordingly has the range from not being employed, through being employed part-time to being in full-time employment.

The Relevance of employment refers to whether a student's employment (with the dependency that they are employed) is relevant to the course of study they are undertaking and accordingly has the range of relevant to not relevant.

The final property, that of Resulting Time Constraints refers to the impact on a student's time to commit to study or their other commitment as a result of being employed. The dimension of this property is therefore time available and the range is from no time constraints to many time constraints. This property demonstrates the impact or interplay between the time demands of the course and the time demands of the student's job.

"I probably wasn't as good, you know, we talked about even my job commitment and my time commitment, I'm trying now to be more focused and set aside an hour or two a day and do it consistently rather than doing it." (Participant Interview)

"But I'm finding as well, this is also the first time I've ever worked while I studied. I'm finding that kind of tough. Like now I'm kind of thinking god damn it work is really starting to annoy me (laughing)." (Participant Interview)

The final subcategory within **Being a Part-Time Higher Education Student** is that of *Family Life* which refers to the implications (in terms of conditions, strategies and consequences) of being in a family and the commitments that ensue.

The first property within this subcategory is Family Life and refers to whether the part-time higher education student is a central figure within a nuclear family. Accordingly the

dimension is Being in a family with a range from in a family to being single. The next property, that of Family support, presupposes that the student is a central figure in a family and refers to the extent to which their family supports them in their studies. This can take the form of a partner taking up some of the multiple commitments being in a family entails and the time that is associated with them.

"There are nights when I go "You're going to have to put the kids to bed, I'm gone"".

This supportiveness has the range from no support to a lot of support.

The third property of *Family and Social life* is that of Social life which refers to the impact on a student's social life of doing a course of study. This property may at first glance appear simplistic as common sense and the existing literature on part-time higher education both demonstrate a negative impact on social life, in this study there is an element of replacing an existing social life with one arising from the social aspects of the class community. To understand this, two dimensions are posited. Firstly there is the dimension of Impact which is positive to negative and secondly there is the dimension of Replacement which addresses the phenomena of replacing a student's existing social life from one based around friends and acquaintances to one based around the members of the class community.

The final property is that of Locus of Time Constraints which refers to where the issue of time has the most impact. A part-time higher education student is characterised by being employed and having multiple family and social commitments. Into this busy life is dropped a significant time requirement as a result of their decision to study. The property of Locus of Time Constraints seeks to identify where the impact is most felt on a multidimensional range of family, social or work commitments.

For example, one student noted that "That is one thing that concerns me about this is that I don't have that extra time" as well as noting "I don't see my family".

When comparing their current course to a previous educational experience when they had studied and worked only part time, one full time employed student commented

Q How does that, I mean how much is this group community aspect, this group cohesion, how much is the technology, the offline contribution the online or to the face to face, how much is it.

A I think it's a perfect marriage.

Q A good balance.

A Yeah, because again with the discussion areas you can be, when you are not in class and you are out of class you could be on a full time job and so you have to work at your own pace, so you can only dip and dip out when you have the time to do that. And because its, the word we use in-sequence (?)

Q Yeah.

A Then you can do that at your own convenience, and you also know you can post something up and come back to it within, sometimes it's within less than an hour.

4.4.4.1 Axial Coding Within Category Four

The category of Being a Part-Time Higher Education Student required considerable thought, and indeed caused considerable angst, over whether this category represented largely causal conditions or contextual conditions (see 6.4.1). Up to a certain point in the open and axial coding (and indeed further back to the start of the study) it had been assumed (whether consciously or not) that this study was investigating blended community of learning among higher education students. Within this framework the part-time nature of the students would represent *intervening conditions* that is conditions that would impact upon the *causal conditions* underlying the formation and impact of a blended community of learners. It was only when it was recognised that many of the subcategories and properties within this category where actually causal conditions that the analysis became clearer and a theory began to emerge. The recognition of this aspect refocused the study into one investigating the formation, nature and impact of a blended community of **part-time higher education** learners.

This shift has a profound impact upon the analysis. For example in the initial paradigm the properties of age, being in employment and having a family would be considered as *intervening conditions* which would impact upon those causal conditions underlying the formation and impact of a blended community of learners. The focus on part-time higher education students themselves relocates these properties as *causal conditions* whereby it can be suggested that **as a whole** the part-time higher education students will be older, in full time employment and have a family. The *intervening conditions* arising from these will

therefore be how far away from this set of norms any particular group of students will be i.e. when you have a group of part-time higher education students who are largely young, unemployed and not centrally located within a family.

Within the subcategory of *Nature of the Participants* the property of Age is a good example of this as the first dimension (absolute years) is a *causal condition* (in that they are predominantly older than full-time higher education students whereas the second dimension is concerned with how far from the mean age any particular student is. This *intervening condition* is present in the following quote:

A *"...there are a good few people in the class that are older than me and I find sometimes when they are talking back to me that they are aware that I am younger than them. By comments they have made back to me. And then also sometimes I might have an idea and it could be good or bad but either way they seem to be put back by the fact I said it or something. I found it kind of strange, its a lot more so as a result of the group project because I am the youngest person in our group, it hasn't been discussed but I do feel that, well for one person in particular it was an issue for them but they have come to, come to mm how will I put it, they have come to just forget about it in the last two weeks since we started the project because the fact I have been able to contribute as much as they have.*

Q *Right so you think there was a preconception there.*

A *Definitely, definitely, I had to prove myself big time in the last couple of weeks just with suggestions as to what we are going to do and ideas and they were taken on board and it was almost said back to me as much, like that they weren't expecting me, not that they weren't expecting me to be able to but they were surprised by it. And I didn't know whether or not to feel like laughing"*

As a result of being younger than the majority of her peers, this student felt she had to prove herself and her ideas in order feel fully accepted and presumably engage fully with and benefit from the community.

The key *causal conditions* within this category are that the part-time higher education students are **by and large** of an older Age, have strong Motivation (either personal or vocational), In employment, have a wealth of Knowledge and Life experience , some

Disciplinary experience and in a Family. The *intervening conditions* that impact upon these *causal conditions* include such concepts as the Relevance of their employment to the area of study and the Supportiveness of their family in their endeavours.

The consequences arising within this category largely focus around the amount of time available to such students for their studies (and engagement with a community) and where the locus of the impact of this loss of time was most prevalent (family time, social life or working life).

4.4.5 Axial Coding between Categories

This stage of the axial coding is fundamentally concerned with answering the questions that reveal the structure and processes at work within the phenomena under study.

"When analysts code axially, they look for answers to questions such as why or how come, where, when, how, and with what results, and in so doing they uncover relationships among categories" (Anselm Strauss & Corbin, 1998, p. 127).

The key focus is to examine the relationships between the structure (with a focus on the conditions underlying the phenomenon and why the phenomenon occurs) and the process (with a focus on the social interactions between and within the conditions and therefore explains how the phenomenon occurs).

At the simplest level the intersection of the four categories can be described as follows.

The particular nature of part-time higher education students doing a higher education course provides the context, structure and causal conditions. The phenomenon of forming a blended community is fundamentally impacted by this context and also specific intervening conditions that are consequences of that nature as part-time students and the structure of the course and the institution. The strategies, routines, interactions and actions within the blended community have consequences for their experience that are strongly connected to the nature of the learners as part-time students.

As seen in the Methodology chapter the axial coding paradigm is a tool used by grounded theorists to seek explanations at a high level of abstraction. An axial coding paradigm is an organisational scheme that assists in the sorting and organisation of emerging connections as well as integrating structure with process. Its ability to formalise these connections provides analytical power and assists in the creation of relational statements.

These statements represent hypotheses that have emerged throughout the entire analytical process, initially as hunches or insights. The axial coding paradigm provides rigour to these statements.

As outlined above the axial coding is about answering the questions of why and how. As such this section is organised around two key questions that emerged through the analysis, firstly why and how did a blended community emerge amongst part-time higher education students and secondly what was the impact of this community on their educational experience? These two key questions are further subdivided into more specific questions around which a relational narrative is constructed (see Figure 23 - Analytical Questions).

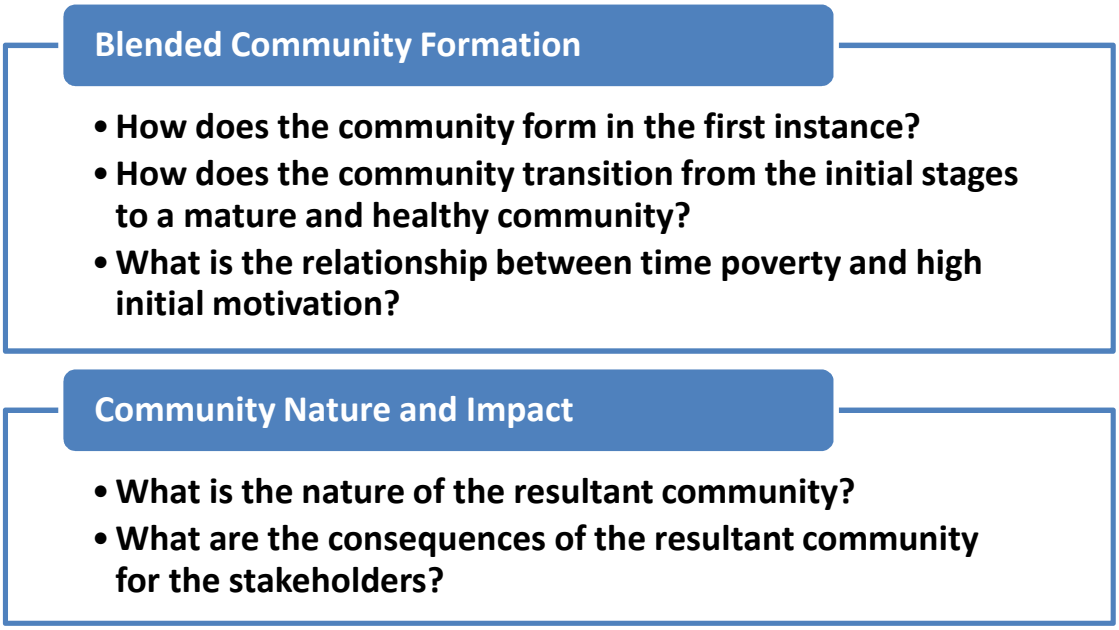


Figure 23 - Analytical Questions

Traditionally the axial coding paradigm is presented in a graphical form (see Figure 24 - The Axial Coding Paradigm). Conditions are labelled as causal, intervening and contextual (representing different aspects of structure) and are recognised as changing over time and in their role. Strategic and routine interactions and actions are similarly labelled and consequences identified.

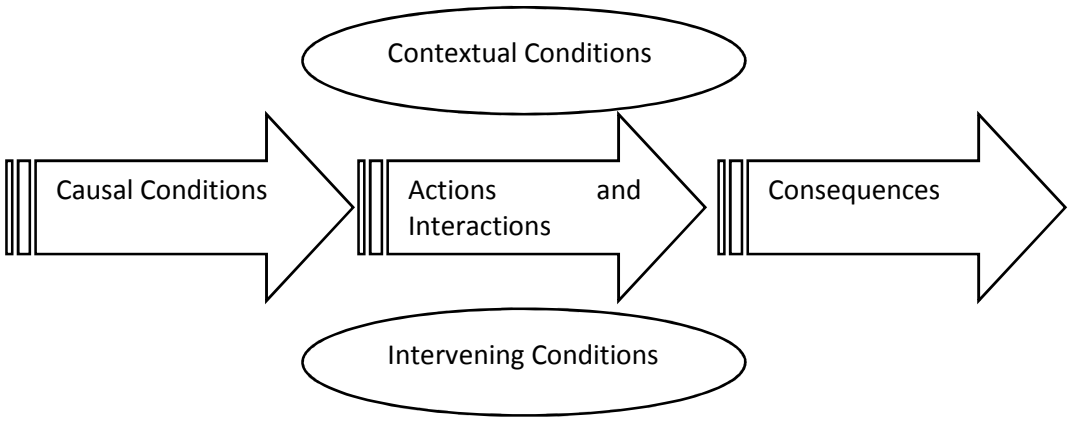


Figure 24 - The Axial Coding Paradigm

Causal conditions are highly structural and represent the underlying conditions within which a phenomenon arises. Intervening conditions are those that determine the impact, either positive or negative, of the causal conditions on the phenomena. Contextual conditions represent the interplay of intervening and causal conditions.

There are certain issues in the application of these labels to the categories and their subcomponents which need to be highlighted. Firstly this approach of axial coding via labelling and organising has the aim of explaining and understanding the phenomena. Accordingly care must be taken not to force labels or to apply them too rigidly. The purpose is to develop understanding rather than an overly strict adherence to the process of axial coding. Secondly it must be recognised that this process is not one of direct cause and effect rather it is more akin to revealing a set of relationships and complex interplay (Anselm Strauss & Corbin, 1998, p. 129) . Within this research considerable time was taken developing an axial coding paradigm however it proved unsatisfactory (an example is provided in Appendix 6 – Example of Axial Coding Paradigm). The researcher found themselves forcing conditions into the paradigm when in effect the conditions were mutable and changing over time. This may have been as a consequence of the phenomena under study being the formation, nature, and impact of a blended community. This implies phenomena developing over time which increases the likelihood of conditions being causal in one phase and then contextual in another. It was felt that the traditional representation of the axial coding paradigm failed to capture this. This is mirrored in the later edition by Strauss and Corbin whereby the axial paradigm was presented more as a tool than a requirement (Corbin & Strauss, 2008).

Accordingly the axial analysis that follows is not presented in overly rigid paradigms rather it is constructed as a form of relational narratives that seek to uncover and describe relationships along the axes of conditions, strategies, and consequences. It is here that the value of the previous description of the categories becomes apparent. This approach is closer to the original conceptualisation of theory development as proposed in The Discovery of Grounded Theory where a discussional approach is seen as often "sufficiently useful at the exploratory stage of theory development stage" (Glaser & Strauss, 2006, p. 115).

This relational narrative approach also includes the analysis referred to as a conditional/consequential matrix. This is "an analytic device to stimulate analysts' thinking about the relationships between macro and micro conditions/consequences both to each other and to process" (Anselm Strauss & Corbin, 1998, p. 181). It is an important part of theory development and builds upon the identification and relationships between conditions, actions/interactions and consequences identified in the earlier stage of axial coding. The matrix is normally presented as a series of concentric circles which represent the structural context within which the phenomena (which lies at the core) exists. These are the sources of the conditions within which the actors operate, react to, and interact with. These conditions are not to be viewed in an overly deterministic manner rather they provide the context for the interactions. The area between these conditions denotes the spaces where the actors react to, or interact with, the conditions. Similarly to the axial coding paradigm discusses above, this technique was found to produce results that failed to capture the complexity of the interactions and as such was discarded in the diagrammatical form and instead included in the relational narrative below. For example, a matrix was developed to represent the interaction between the core phenomenon and the macro conditions within which it was situated. Despite much time working on it, it was discarded as an approach as it resembled concepts that emerged from the literature as opposed to the data (see Appendix 7 – Example of Conditional/Consequential Matrix).

4.4.5.1 Blended Community Formation

In the broadest terms the key structural components of this phenomenon are the nature of the students themselves (part-time higher education students) and the nature of the

course (in terms of its ethos and structure for example). The category sets were examined to identify these initial conditions

What is the relationship between time poverty and high initial motivation?

The nature of part-time higher education students presented an important set of causal or structural conditions with regard to blended community formation. These causal conditions can be divided into those that will enhance the likelihood of community formation and those most likely to reduce community formation.

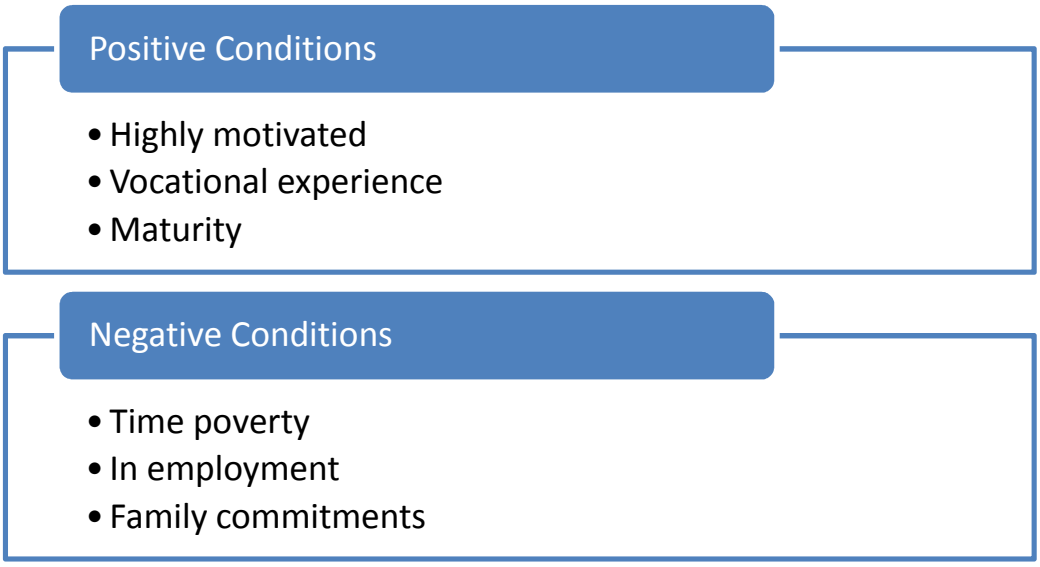


Figure 25 - Part-Time Higher Education Students' Causal Conditions

Time poverty is an overarching negative condition arising as it does from the characteristics of the students being employed and quite often having family commitments. The question this section of analysis addresses is what are the intervening conditions that can overcome the strongly negative condition of time poverty and cause students to invest time in a blended community for learning?

As the open coding analysis demonstrated, being in such a community requires an investment of time both to form it, and then subsequently to interact in it (such as time reading or replying to posts). The positive conditions are less directly related to facilitating community formation than time poverty is related to a reduced chance of community formation. Being highly motivated can potentially be seen as something that may enhance the likelihood of a community forming as it demonstrates a potential eagerness to engage.

For a community to form therefore, intervening conditions must overcome the time poverty of the students. Axial coding of the categories identified a range of intervening conditions which are presented below.

- Focus on Community

  A focus on the class community from the start can leverage the high motivation of part-time students and foster initial engagement in a blended community. This is further facilitated by initial actions of course tutors to engage the students online.

- Nature of Assessment and Assignments

  The students on an ungraded course are more likely to be less competitive and more likely to be cooperative. Similarly a high level of group versus individual assignments is further going to support a more cooperative ethos among the class.

- Disciplinarity

  A course that is interdisciplinary presents the students with an immediate understanding that they will be strong in one discipline of the course and others within the class will be strong in the other discipline. This effect is likely to be multiplied on an ungraded course with a large amount of group work as the transfer of knowledge between students from the different disciplines can be seen to be a positive action. This intervening condition also leverages on the vocational aspects of part-time higher education students in that they are likely to be experienced practitioners as well.

- Class Size

  The size of the class must fall within reasonable parameters for the individual students to feel a single community can emerge.

As discussed earlier, conditions have properties and dimensions. From this analysis it emerges that a high focus on community, an ungraded and interdisciplinary course with a reasonable and manageable class size are positive intervening conditions that can ameliorate some of the causal conditions part-time higher education students have in relation to community formation. It can be argued that this amelioration allows the positive conditions, particularly that of a high level of motivation, to come to the fore and have a positive impact on community formation.

This section therefore addresses one aspect of why a community forms from a structural or conditional perspective. It explains why part-time higher education students may initially engage with community interactions, however it does not explain how a community forms only how one of the key negatives can be ameliorated.

How does the community form in the first instance?

Having established the interplay between certain structural conditions that provided the initial motivation, this section will analyse the initial interactions in order to understand how the blended community formed. Considering the issue of time poverty established above, it would be easy to see how a face-to-face class community could form however the formation of the online aspect of the blended community is less clear. This section will therefore focus more on the question of *how* through an analysis of strategic and routine actions and interactions at this early community formation stage.

There is an interesting interplay between interacting in the face-to-face space and interacting online during the initial formation stage. Interacting face-to-face is affected by certain structural conditions such as the flexibility of the physical environment in as far as exposing students to interactions with either a narrow or broad range of their peers within the class. Even with a flexible physical space there is a tendency for students to interact with a limited group of their peers, largely determined by their physical proximity, in other words who they sit beside. This can be seen as potentially reducing the likelihood of a healthy class community.

In the initial stages of a course, students form relationships based upon this physical proximity and accordingly will recognise only a few names of their peers. In the initial online interactions the concept of early-stage anonymity arose whereby students would interact with a peer or peers without necessarily recognising their name or being able to visualise their face. The impact of this relative anonymity was that students were interacting with a much broader range of their peers. The concept of early stage anonymity in the online space (a structural or causal condition) therefore impacts upon this face-to-face tendency by broadening the range of students an individual will interact with outside of their sheer physical proximity.

The connection between the face-to-face or proximal interactions and the relatively anonymous but broader online interactions arises when, as a result of structural

conditions such as a significant amount of in-class group activities, students "recognise" in the face-to-face setting a peer they may have been interacting with online. This recognition, combined with the breadth of interactions a student will have with their peers can increase the speed of community formation (a consequence).

These phenomena (creating relationships through a combination of face-to-face and online contact, speed of formation) are exemplified by an incident within the data. During an interview one student described her feelings and perceptions towards what she perceived as new people coming on to the course and therefore into the emerging community. In reality it was the appearance of one new person and the misidentification of an existing member of the class.

The institutional learning management system (within which the course virtual learning environment was embedded) is integrated with the student records system. As a result, any student who was not formally registered for the course of study was unable to gain access to the course virtual learning environment. An existing student who had been present from the outset of the course was experiencing delays in college registration however her husband was a registered student at the college. After a period of three weeks, this student accessed the course environment using her husband's registration and login details. Accordingly the name stamp on her interactions and in the class list generated by the system was one that the class was unfamiliar with, though she signed the discussion posts with her own name.

At the same time as this was occurring a genuinely new student did join the class and made their first appearance in the face-to-face class setting prior to any online interactions. The following response to the appearance of this unfamiliar persona was recorded during an interview.

> ***I tell you, it is really interesting. I got really mixed up. Mary's husband was in, Henry isn't it, right, and his name was on (the WebCT) and she was late coming on (to the course) and late coming in to the discussion boards, and was like "I'm sorry I'm late, blah, blah, blah" and by what she was saying I thought this was a new person coming in which was only two or three weeks ago and I was "Oh, feck". Immediately my reaction was "Oh sugar, a new person".***

And I know Kevin came in but he was there physically and he was nice but this was an unknown face that came in and I was like "Oh, no". And it's not that it was a male/female thing. It was like "I hope she doesn't come in and, like, upset the dynamics". Or "I hope she's not horrible or mouthy or loud". You know, that will subtly affect the dynamics. It just went through my head and I remember sitting there reading the discussion boards and I was like "Awwww" (groan/sigh).

It was really really strange. And thinking back I knew there was a Mary and I didn't know if she was from Brazil but I knew she was from South America somewhere or. But I wasn't sure and I thought "I hope the woman doesn't subtly change the whole… Because there was such a nice crowd and I thought "I hope she's nice" and "I hope she doesn't…" you know. Because there is nobody who is too overbearing, you know, everyone had a quiet confidence about them, there is nice, it's just a really nice group. And then when I realised it was the same person I was like "Oh grand", it was relief. It was actually. It was really strange. I just felt, you could see it, it was just text. But when Kevin came in, he was there, with a big smile, you know, you could see him and talk to him so that was fine, but when you just have this name there and you're not sure (Participant Interview – Names changed)

How does the community transition from the initial stages to a mature and healthy community?

As seen in the section above, the initial community formation stage can be viewed as a balance between positive and negative conditions. The intersection of specific dimensions of certain intervening conditions can promote the initial community development by ameliorating the negative impacts of certain conditions and allowing the positive impacts of other conditions, most notably motivation, to emerge. Certain of these conditions however do carry forward into the community itself such as time poverty arising from job

and family commitments of part-time higher education students. The question thus arises as to how the impact of this time poverty can be overcome on an on-going basis.

The initial community formation stage results in a broad set of interactions among the class in that physically proximal cliques are reduced and the online space becomes a location for many-to-many interactions. A quantitative analysis of the content of the online interactions during the first six weeks revealed a focus on social interaction. This is to be expected as though general discussion of the course content was in evidence, the absence of assignments during this stage meant that there was little scope for practical peer support.

As the course progresses, two factors emerge. Firstly there is a diminution of the initial high level of motivation and secondly there is the emergence of challenges to the students as a result of assignments being distributed and the time pressures these bring to an already time poor cohort. Both of these factors can be considered as negative to the on-going development or transition from the initial community to a mature community.

This can be viewed as a tipping point in the development of the community which rests upon two factors. Firstly this tipping point is influenced by whether engagement in the online space has become a routine amongst the students or not. The second factor is whether the students perceive distinct benefits to the whole range of challenges they face from engagement in the online space. These two factors are interwoven.

As the course develops and the initial assignments are distributed, the condition of disciplinarity of the course has a further impact. Within an interdisciplinary course, the increasing recognition amongst the students that some of their peers will be more experienced in one of the composite disciplines than they are provides a further motivation for interaction. The sharing of information and practical peer support that emerges within the online space across this discipline divide demonstrates clear benefits to the students for their on-going engagement. The pervasive class access and interaction which arose from the combination of face-to-face and online community development enhances the level of sharing of knowledge and information and also increases the speed of responses to any student's queries. The persistent nature of online interactions within the socio-technical infrastructure results in this information and knowledge transfer being captured in an information resource that can be referred to over time.

The creation of such an information resource is of clear benefit to the students, not only in the learning but also in that it ameliorates the challenges arising from time poverty; a student can get a swift response to a question, often from a discipline that is not their own, or refer to the collective information or knowledge already stored in the online space.

This practical support is enhanced by the on-going emotional support which arises largely out of the social interactions during the initial community formation stage. For part-time higher education students this emotional support addresses the potential sense of marginalisation. These benefits in turn promote the development of a routine among the students where they regularly read and interact online (see Figure 26 - The Development of Routines below).

This is not to suggest that time poverty goes away, in fact one of the issues that can arise from a healthy blended community is that as the number of interactions increases so does the time required reading or responding. If the benefits of online community interaction are evident to the students, they will develop strategies over time to address this challenge.

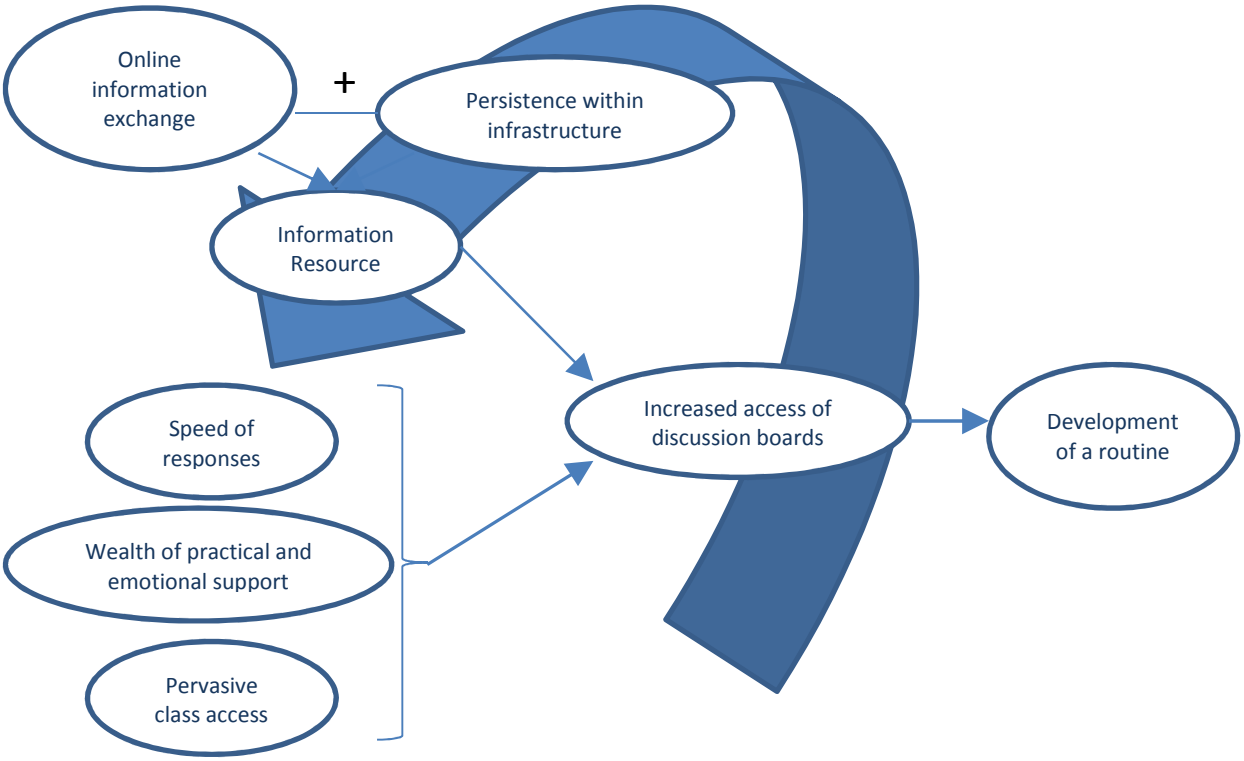


Figure 26 - The Development of Routines

4.4.5.2 Community Nature and Impact

What is the nature of the resultant community?

The previous sections addressed the how and the why of initial blended community formation. This section addresses the *what* question. It seeks to understand the relationships between the interactions in terms of what the patterns of interaction were what the interactions were about, and what the consequences of them were.

Conditions identified in the previous sections also have an impact on the nature of the interactions in a blended community of part-time higher education students. Time poverty, while potentially overcome in the motivation to engage in the initial stages, has an impact on the interaction. The more successful the community, the higher the number of online communications occur and this can put considerable strain on part-time higher education students in terms of their time available for them to read them and the opportunity cost involved in the time spent reading them (this represents the interplay between the causal and an intervening condition). This in turn has an impact or consequence on the amount of coverage which in this context refers to a student's ability to read all or only some of the online communications. Similarly time poverty affects how many times certain posts are read by an individual.

With regard to what the students interact about, there was a clear distinction between emotional peer support and practical peer support in the online space. Part-time higher education students face many challenges (structural conditions) due to their multiple commitments. Once a broad and healthy community has formed, interactions that provide peer support within the emotional sphere have an unexpectedly positive impact on part-time students.

The emotional support engenders trust within the community and enhances social interactions. The structural condition of the part-time higher education student that arises out of model commitments on time poverty is a diminished social life. The online interactions with their peers can be seen to represent a replacement or alternative social life.

The practical peer support falls into three categories: information exchange, use as a sounding board, and disciplinary sharing. The disciplinary sharing arises in this context specifically as a result of an interdisciplinary course. As identified earlier, students will be conscious of the dual discipline nature and then need to leverage the knowledge and practice of the peers within their class from the opposing discipline to their own. The ability of the online interactions to provide a conduit for this disciplinary knowledge transfer becomes a powerful tool in their learning.

The exchange of information online can be seen to intervene on the causal condition of time poverty. The sharing of useful, qualified, and relevant resources among an individual's peers represents an on-going and valuable method of distributed time-saving. The use of the online space as a sounding board represents the potential for the students to get feedback on ideas for either project work on assignments. This again can be seen to ameliorate the time poverty condition as peer feedback may prevent an individual from spending time pursuing an idea that may not prove worthwhile. The trust required to use an online community space as a sounding board requires a strong social aspect and sense of trust to be present. The social aspect can therefore be seen as a structural condition for the use of the community space as a sounding board.

What are the consequences of the resultant community for the students?

The consequences for the students of the formation of a blended community are the outcomes of the actions and interactions which are in turn dependent upon, and mediated by the range of conditions as outlined above. Again it is worth stressing that what is being sought is an understanding of this interplay and not direct causal links.

There is a high level of social interaction in both the online and face-to-face spaces which is an outcome of the interactions in both spaces which has resulted in a broad sense of knowing between the students in the class. This high level of social interaction impacts upon key conditions of part-time higher education students which are a sense of marginalisation arising from limited face-to-face contact and a sense of being apart from the institution.

This broad sense of knowing also results in an absence of or reduced impact of cliques that commonly form within classes and appeared to be largely based on physical proximal

knowing. This lack of cliques further supports the sharing of disciplinary knowledge within an interdisciplinary course.

This social interaction results in a high sense of trust and on-going motivation among the students particularly in an ungraded course as this limits a sense of competition and promotes cooperation. This sense of trust is further supported by a sense of camaraderie in that the students feel in the same boat as one another.

Acceptance by one's peers emerges as an important consequence of the blended community. The condition of part-time higher education students as a heterogeneous cohort (in terms such as age, life experience and so on) raises issues in terms of acceptance among their peers based upon social preconceptions. The interactions arising in a blended community that take place within the online space (and the knowing that arises) are not subject to the normal visible cues (such as age) that may cause such social preconceptions to arise.

The emotional consequence to the creation of such a blended community is a sense of enjoyment, commitment and pride. This arises from multiple conditions and interactions though it seems to have its roots in comparison with prior learning experiences and the difference such a community can make. Not all the consequences are positive. There is distinct fear of outsiders, potentially arising from the amount of emotional investment among the students.

4.5 Conclusion and Summary

This chapter has presented the results from the open and axial coding stages of the analysis. The emergent categories were laid out and the sub-categories, their properties and dimensions were described. Axial coding both within and between categories was conducted. This represents an increasing shift away from open coding and towards theoretical development which is outlined in the following chapter. Due to the iterative nature of grounded theory analysis, it is acknowledged that the division between this chapter and the one following is, to some extent, artificial, however this shift in emphasis was considered an appropriate place.

5 Data Analysis – Selective Coding and Theoretical Development

Selective coding is the process of integrating the outputs from the axial coding process into a refined, integrated and coherent theory. It achieves this through the identification of a central, or core, category around which all of the other categories revolve. In essence it is the focus of the research and the theory that arises from it.

5.1 The Process of Theory Building

The theory building phase broadly aligned to Lynham's General Model of Theory Building in Applied Disciplines (S. Lynham, 2002) whereby the iterative movement between the data collection, open coding and axial coding stages broadly represented the iterative movements between the application, confirmation/disconfirmation and the operationalisation stages (see Figure 10 - The General Method of Theory Building in Applied Disciplines (S. Lynham, 2002, p. 231)).

Open and axial coding represented the application stage initially as it was capturing the experience of the phenomenon under study and inquiring into it. As the coding progressed, hypotheses emerged as memos and relational statements (operationalisation) which were tested through modelling and theoretical sampling (confirmation/disconfirmation). Upon saturation of the data and the relationships from the axial coding stage, conceptual development of the final theoretical framework was undertaken.

5.2 The Identification of the Core Category

In this study the identification of the central category was a frustrating and challenging process whilst at the same time being a highly reflective and analytical process that clarified much of the emergent theory in my own mind. The difficulties that arose were primarily concerned with choosing one of two possible central categories: the formation of a blended community of part-time higher education students (the category of Coming Together) and the nature and impact of a blended community on the experience and learning of the students (which was of itself not a category but embedded within the categories of Interacting in the Community and Coming Together). This was resolved

through the realisation that both categories were in fact related to a single phenomenon and in fact represented two aspects of the same phenomenon.

It is interesting to note that the range of data sets contributed in different proportions to these two aspects. The formation process was significantly influenced by the interviews, the initial questionnaire and the discussion board posts with some input from the non-technical literature and the final questionnaire. The nature and the impact of the community were more influenced by the total discussion board data set, the non-technical literature and particularly the Failure Questionnaire.

For a while it was considered that the best solution would be to conduct two selective coding processes and develop two related theories however this seemed to be at odds with the methodology particularly as Strauss and Corbin (Anselm Strauss & Corbin, 1998) recommend that researchers (particularly novice ones) focus on one central category and leave the competitor for later study.

An analysis was conducted on the two concepts that produced the understanding that while the formation of a blended community was a prerequisite for any impact on the learners, the formation process itself had an impact on the part-time higher education students. Similarly the actions, interactions, strategies, routines etc. that were at work during the formation stage were continued into the functioning of the formed community and there was not a clear break between formation and formed.

What this analysis demonstrated to me was that the blended community formation process could be viewed as more than a precondition or prerequisite for the resulting impact of the community on the learners, it was a social process within the theoretical understanding of the impact of such a community. Rather than being a staged process, it was a complimentary and overlapping process (Figure 27).

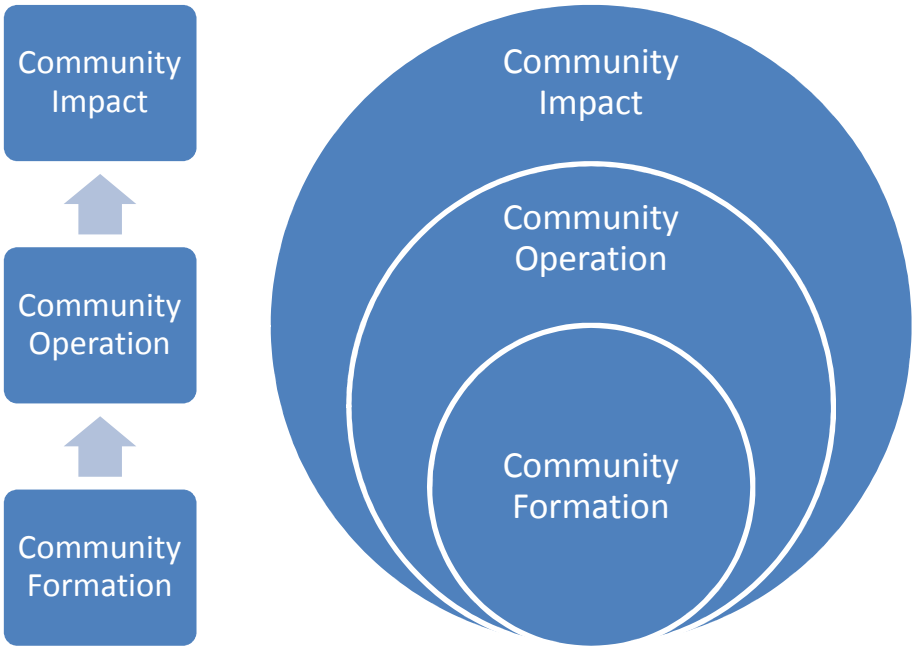


Figure 27 - Linear versus Overlapping relationship of Formation to Impact

Accordingly the central category within this research is the formation, nature and impact of a blended community of part-time higher education students. With this in mind, specific attention is paid to the division between the formation of such a community and its on-going nature and impact.

The central category fulfils the criteria identified above as it is central, frequent in the data and logical. As the relational narratives in the previous chapter outline, it is capable of explaining variation as conditions vary.

5.3 The Theory

This theory section of this dissertation is structured with Lynham's in mind (S. Lynham, 2002). The first section presents the theories which emerged from this research in the form of a conceptual framework. The second section presents the conceptual framework operationalized into a set of guidelines to facilitate the development of a blended community of learners and observable components that represent the effective operation of such a community.

The generation of theory is the required output of any Grounded Theory research and is accomplished through the stage of theoretical coding and based around the central

phenomena as identified above. It is worth highlighting that the theory should focus on a basic social process which moves through distinct bipolar phases in that it has a beginning state and an end state (Jones & Alony, 2011).

The theory presented here is a substantive theory as opposed to a formal theory. A substantive theory emerges from immersion within the data collected during the course of a single research study. A formal theory emerges over time and from a range of similar substantive theories. It is beyond the scope of this study to develop formal theory.

In the broadest terms this theory explains how a range of conditions impact upon the likelihood of a class cohort of part-time higher education students forming a blended community of learners. It explains the formation process and how the developing community transitions to a healthy community. It describes how such a community operates in relation to the characteristics of the learners themselves and how the consequences of such a community can ameliorate the specific challenges this cohort of learners face in higher education studies as well as leveraging the positive characteristics they bring to their and their peers learning.

5.3.1 Part-Time Higher Education Blended Community Formation

This section answers the first research question:

1. **What is a theory that explains the process of community formation in a blended community of part-time learners in higher education?**

Part-time higher education students have a range of preconditions or characteristics that they bring to their studies and which fundamentally impact on their experience and also the likelihood of the development of a successful and healthy blended community of learners. A simplistic analysis of these conditions would class them as positive or negative however the reality is that most of them are both positive and negative.

Three examples of this are provided by the characteristics of the students normally being in employment, mature, and having family commitments. Being in employment is a causal factor in the time poverty of such students however it does provide them with potentially relevant vocational experience (as often part-time higher education students are studying for a vocational qualification) and also organisational skills. Similarly their maturity (as compared to traditional higher education students) would correlate with increased

commitments (arising from social and family circumstances for example) but also provides them with valuable life experience in terms of overcoming challenges and organisational skills. Family commitments themselves, whilst contributing to the time poverty, may provide students with a support network. The high motivation levels arise from a combination of many of these characteristics. Part-time higher education students embark on a course of study to develop the career thereby providing stability and their employment and potentially increased career prospects which in turn allow them to better fulfil the family commitments.

These characteristics provide the backdrop or structural landscape within which a blended community will or will not begin to form. What has emerged from this research is that there is a distinct social process during the initial community formation stages that involves capturing the high level of student motivation as they begin a course through specific actions and conditions.

Having a strong community ethos (potentially one highlighted at application interviews) provides an initial impetus as does having simultaneous group and community building activities **in both** the face-to-face and online environments. Interactions within these two spaces result in a sense of the students knowing each other both proximally (in a traditional physical meeting sense) and virtually (in a relatively anonymous sense). The interplay between these two senses of knowing broadens the contact between the students and serves to overcome any preconceptions based on purely physical characteristics such as age (see Figure 28 - Initial Blended Community Formation below). In this way the initial motivation of the students is leveraged to begin the process of blended community formation.

Other variables which have an impact during this initial stage include such factors as the class size and the flexibility of the face-to-face learning environment. Class size can be both absolute (i.e. a number of students) and also relative (i.e. large or small). In terms of an absolute value, a small class increases familiarity, contact and "knowing" among students and therefore promotes community and vice versa. The relative dimension is a little less clear however this research suggests that the class size should be "manageable" which implies that it should not be too large however no absolute figure is suggested. If the face-to-face learning environment is flexible (in that the physical furniture and layout

can be manipulated and changed) then more face-to-face or proximal knowing is facilitated which in turn enhances initial community development.

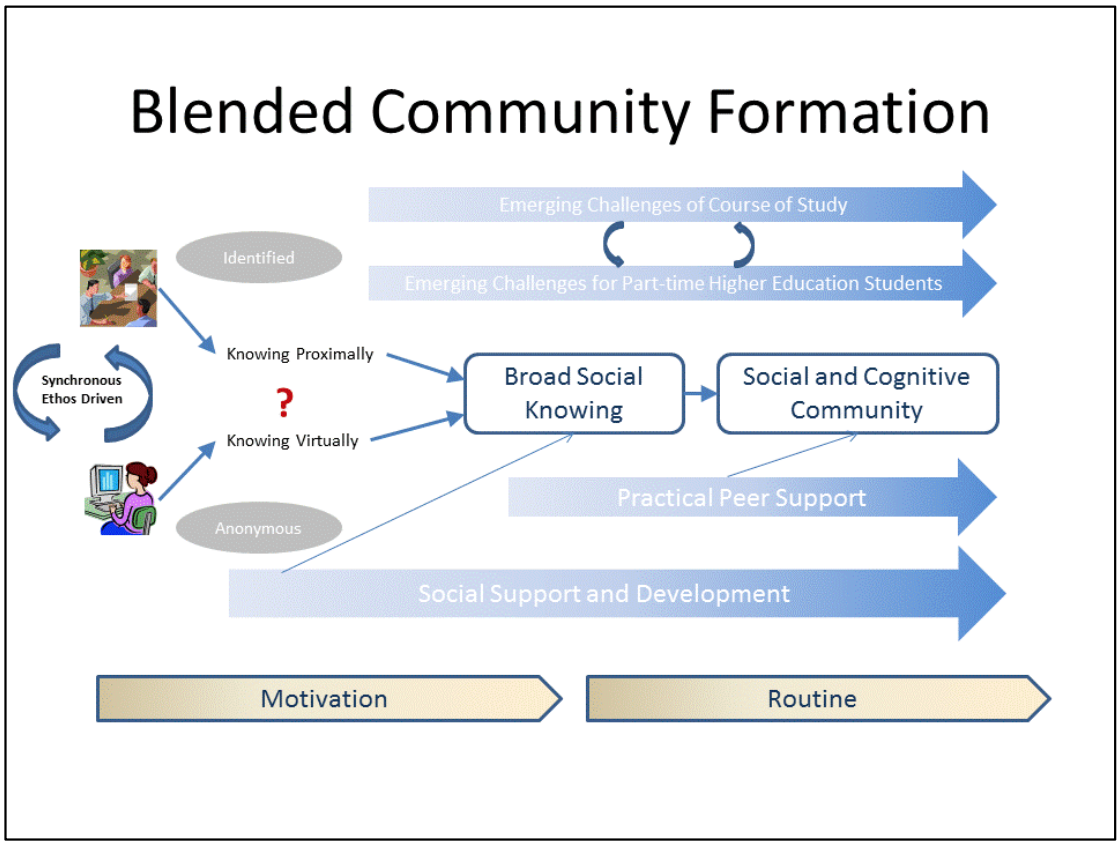


Figure 28 - Initial Blended Community Formation

At this stage a crux or tipping point appears. As the course progresses and typically the workload increases, some of the structural challenges of the students will emerge particularly time poverty. Also at this point the initial interactions of the learners could not be considered routine and the benefits they will have received from the community to this point would be largely social. The challenge at this stage is to move the community from social support to practical peer support and from initial use by the students to routine use. The transition from a community with a focus on a Broad Social Knowing to one that could be more clearly defined as a Social and Cognitive Community provides a clear benefit to the students for their on-going engagement with the community.

It is at this stage that a range of other conditions come into play in terms of the transition from the initial social community to a more effective learning community. Some of these

conditions are structural in that they are fixed and other conditions which are within the control of the course team or tutors.

A key structural condition at this point is the disciplinarity of the course. An interdisciplinary course facilitates the required transition to a social and cognitive community through a combination of factors. Within such a course the students will primarily have an interest in or experience of one of the disciplines and less experience of the other. A recognition arises that interaction with their peers, specifically the ones more immersed in the other discipline, will benefit their own knowledge development and progress in the course. It follows from this that community interactions in a mono-disciplinary course, while of benefit, may have less impact than those in an interdisciplinary course.

There are a range of conditions which could be considered more variable in that the course team or institution can amend the nature in order to promote this transition and the facilitation of a social and cognitive community. At a high level an example of this is the course grading structure. If the course is ungraded, that is to say that a student will either pass or fail rather than be ranked on a scale, then the students are more likely to share information and give honest opinions. This less competitive environment promotes community sharing.

While the disciplinarity of a course is relatively fixed, there exist other conditions that can be altered by the institution or course team in order to promote a social and cognitive community. An example of this is the course grading structure. If the course is ungraded, that is to say that a student will either pass or fail rather than be ranked on a scale, then the students are more likely to share information and give honest opinions. This less competitive environment promotes community sharing.

A further variable which has a significant impact at this stage in community formation is the nature of assignments. Part-time higher education students generally study for vocational reasons and assignments that allow them to apply the assignment to their own domain or practice area as opposed to those directed to a specific domain (whether relevant or not) promotes ownership. This style of assignment results in the students not all seeking one answer or solution to a common problem rather they have to apply the principles and techniques under study to their own domain. This results in the students

being more likely to share their progress with each other due to a lack of a competitive nature and also promotes interdisciplinary sharing in an interdisciplinary course.

Aligning the variables outlined above promotes a switch in the form and pattern of interactions amongst the students from primarily social to more cognitive and learning focused. This has the consequence of demonstrating a tangible benefit to the students of the on-going engagement and interaction in the community which is especially important at the stage where the initial motivation may be waning due to the increasing challenges of the course and the impact of those upon their own structural conditions as part-time higher education students. This perceived benefit shifts the interactions to a routine which is supported by both practical and emotional peer support and the persistent nature of online interactions as an on-going resource for consultation (see Figure 26 - The Development of Routines).

This section has outlined the theory relating to the formation and development of a blended community of learners and showed how certain conditions can support it from the initial highly motivated phase with a focus on social interaction to one of cognitive nature which is embedded as a routine among the students. It is worth cautioning that direct causality is not suggested rather that the impact of the variables as a whole increases the propensity for blended community formation.

The theory does suggest an answer as to why so many online all blended communities flourish in the early stages only to die away rapidly once a course progresses into the more challenging phase of regular study and assignments. This will be discussed further when the theory as compared to the existing literature in the area.

5.3.2 The Nature and Impact of the Community

This section answers the second question:

2. **What is a theory that explains the nature of a blended community of learners with regard to the impact it has on their learning and on their part-time higher education experience?**

This section of the theoretical development describes the nature of a blended community of part-time higher education learners and the impact it has upon the higher education experience. Initially the nature of the interactions will be described along with how these

relate to the structural and variable conditions of the nature of the students themselves and how the course is organised. Following this the impact of the community upon the learning and upon the course will be outlined.

The online interactions of a blended community consist of a range of interactions from purely social to highly practical and course related. These interaction should be considered as a spectrum as to view them as two separate types of interaction ignores the relationship between them.

Over time and through interaction, trust in the community and one's peers develops. A sense of camaraderie and a commitment and even pride in the community develops. An increasing commitment to the community means that an individual student takes great care qualifying and checking any resource that they share with their peers. This process results in a high quality set of resources that would be beyond any individual student's ability (in terms of time) to source. This demonstrates a relationship between the social aspects of the community and the practical benefits that arise from participation within it.

Similarly, emotional peer support emerges from within the social interactions. These increase the sense of camaraderie amongst the cohort and a sense of all being in the same boat as well as providing more practical support with regard to the nature of part-time higher education learners. Part-time higher education students can be characterised as isolated and marginalised both from the institution and from their previous social circles due to multiple commitments and time poverty. The emotional peer support can help ameliorate this sense of isolation and the social interactions may provide some form of replacement for the diminished social interactions in their personal lives.

Furthermore, the developing camaraderie and trust results in students becoming more willing to communicate their ideas to the online community for discussion and critique. This ability to use the online community as a sounding board further addresses the sense of isolation that a part-time higher education student may experience and concerns they have about whether their approach to assignments for example is correct or not. Not only is a consequence of isolation addressed, but also this process allows for genuine knowledge construction to occur as these experienced and mature individuals bring their informed opinions to bear on each other's ideas thus leveraging the collective life and vocational experiences of the class.

In addition to the use of the online discussion space as a sounding board, two further types of interactions emerge that can be considered more learning-focused or cognitive. These are information exchange and knowledge sharing. During information exchange students share resources related to the course with their peers. With relation to knowledge sharing, part-time higher education students are typically more mature and often in employment and therefore have within themselves a wide range of life experience and vocational knowledge that is of benefit both to themselves and to their peers. The community both encouraged sharing (through the sense of belonging and strong social cohesion) as well as providing electronic online repositories of much of this information within the discussion board system. Within an interdisciplinary course these aspects of information and knowledge sharing and the use of the online community as a sounding board are heightened by the sharing of a particular set of disciplinary knowledge with those students who come from the other discipline and vice versa.

Part-time higher education courses traditionally are limited in their face-to-face contact time. An online community allows students to extend their peer contact time outside of the purely class based face-to-face contact time. The limited face-to-face contact hours can undermine the motivation of a part-time higher education student in that their engagement with the course and their peers becomes similarly limited. The online interactions allow the students to feel connected to their peers throughout the week and not just during the limited face-to-face time. This persistent connection to their peers allows them to feel part of a continuous process of learning. The course thus becomes not just something they do on one or two days of the week, but rather an undercurrent in their lives.

Once a blended community of part-time higher education students has formed and the interactions have become routine, the structural conditions have not disappeared. Similarly to what was discussed in the previous section, the community interacts upon these conditions in both positive and negative ways.

Time poverty can be exacerbated by the sheer quantity of online interactions which presents a challenge to the students and can impact on the motivation to both read and respond to their peers' comments. However, the same quantity of online interactions provides a valuable resource which can reduce the impact time poverty by providing relevant and prequalified information or resource set.

The learning that occurs within the online community has two timelines involved. In the first instance a healthy community (where students post and check regularly, which they will do as it keeps them up to speed and connected with the course) results in a fast response time to questions or opinions that are posted. This just-in-time nature promotes further use of the online community which in turn increases the just-in-time nature. In addition to this, the storage, search and retrieval capabilities of the socio-technical infrastructure allow the content over time to become a resource on an on-going basis for each member of the community.

It is common within student classes for cliques to form, often arising from whom a student initially sits proximate to. These cliques over time harden and can diminish the breadth of a class community. The breadth of interactions that arise through engagement with a blended community results in less cliques.

Engagement with a healthy and broad blended community ameliorates many of the challenges part-time higher education students face whilst also leverage in the innate advantages they bring to their studies. It addresses the sense of isolation and marginalisation by providing a supportive environment and a sense of camaraderie with their peers. It provides a mechanism for on-going engagement with the course as a continuous process. It may even go some way to addressing the loss of a social life that can occur as a result of the sacrificing time to a course of study. The community leverages the life and vocational experiences and allows them to share their knowledge with their peers and the relative absence of cliques further promotes the breadth and quantity of such sharing. The sharing of high-quality resources and the persistence within the online environment has clear benefits in terms of both the time poverty and the learning experience.

In conclusion, the facilitation, moderation and creation of a blended community of learners in part-time higher education serves to not only ameliorate some of the recognised challenges, issues and difficulties that this cohort face, but also allows a greater leveraging of the advantages and benefits that these students bring with them to a course of study.

5.4 Operationalization of the Theory

Operationalization requires that "the theoretical framework must be translated, or converted, to observable, confirmable components/elements. These components/elements can be in the form of, for example, confirmable propositions, hypotheses, empirical indicators, and/or so-called knowledge claims" (S. A. Lynham, 2002, p. 232). Within a hypothetico-deductive paradigm this is done in order to validate the theory through further investigation. Within this Grounded Theory study the operationalization that follows is conducted to provide a contribution to course tutors and institutions who wish to facilitate a blended community of part-time higher education for the benefit of their students.

This section is divided into two sections which while being complementary serve different purposes. The first section focuses on how to facilitate the formation of such a community through highlighting the variables discovered in this research and describing the optimal configuration of them to facilitate a blended community of learners. The second section highlights the nature of such a community and provides practitioners and researchers with a set of characteristics and features to seek within the community.

5.4.1 Facilitating a Blended Community of Learners

5.4.1.1 Structural Conditions

The structural conditions represent underlying factors, primarily outside of the control of a course team that can have an impact on the formation of a blended community of learners in part-time higher education.

- Age
    -
    - the less deviation the better

- being employed in areas relevant to the course of study
- the higher the level, the better

5.4.1.2 Guidelines for Facilitating the Community

Ethos and Motivation

- Present a blended community as part of the course ethos
- Provide explicit motivation by highlighting the benefits of community participation to their own learning

Tutor Actions

- Conduct icebreaker activities in both the face-to-face and online spaces simultaneously
- Build in time for social activities during face-to-face sessions
-

Reduce a Sense of Competition

- An ungraded course outcome (i.e. pass/fail) is preferable
- Provide contextualised assignments that are relevant to an individual student's vocational interests

The Physical Environment

- Face-to-face space should have flexible seating arrangements
- Have flexibility

5.4.2 The Nature of a Blended Community of Learners

The theory presented in 5.5.2 - The Nature and Impact of the Community is operationalized into a set of elements and their corresponding components which in turn can be confirmed via a range of appropriate techniques (see Table 11 - Operationalized elements of a successful blended community below). These operationalized elements represent “observable, confirmable components/elements” which can be confirmed by “appropriate inquiry methods” (S. A. Lynham, 2002, p. 232).

Element	Component	Confirmable via
Broad Community	Lack of Cliques	Social Network Analysis of online communication

Element	Component	Confirmable via
		Observations of fluid in-class group formation
Extending the Connection with the Course and Peers outside of face-to-face time	Regularity of accessing VLE	Statistical data from LMS (i.e. number of page views of content rich message threads) Questionnaire/Likert statements Interviews
Regular Online Interaction	Evidence of Routine – Online Interactions	Statistical analysis of access data from LMS
	Speed of Response	Statistical analysis of message data from LMS
Emotional Connection	Pride in the Community	Questionnaire/Likert statements Interviews
	Sense of Belonging	Questionnaire/Likert statements Interviews
Practical Support	Information Sharing	Content Analysis of online communication (etic approach)
	Sounding Board/Idea Feedback	Content Analysis of online communication (etic approach)
Emotional Support	Supportive Communication (recognition of shared issues)	Content Analysis of online communication
	Significant Social Interactions	Online - Content Analysis of online communication Face-to-face - observation
Sharing of Experience	Relating back to and sharing vocational and life experience	Online - Content Analysis of online communication Face-to-face - observation
Online Repository	The use and recognition of the online interactions as a knowledge repository	Statistical data from LMS (i.e. number of page views of content rich message threads) Questionnaire/Likert statements Interviews

Table 11 - Operationalized elements of a successful blended community

5.5 The Theory and the Literature

At this stage of the study it is useful to compare the theories that have been presented with the existing literature in the area. This process can validate elements of the theory by identifying results from similar studies that align with the results from this. Furthermore this process can identify potential gaps in the theory as well as highlighting how the understanding derived from this study conflicts with that of other widely accepted studies in order to identify areas for future research.

5.5.1 Engagement and Community Formation

The theory concerning the formation and the nature of a blended community of learners explains and describes a basic social process whereby a group of part-time students' transition from individuals to a healthy and supportive learning community. As identified in the literature review, there was a clear paucity of existing research that has the part-time higher education experience as its axis. Accordingly the literature consulted in this stage comes from related areas such as online community development.

The basic social process outlined in the theory presented in this research starts from a position of outlining the range of conditions that provide the context and the structure within which such a community can emerge. It traces the impact of interactions and actions, strategies and routines upon these conditions. One of the key strands identified in the theory is how these interactions developed a sense of community which in turn drove further actions. The Interactivity/Community Process Model developed by Lear, Ansorge, and Steckelberg (see Figure 29 - The Interactivity/Community Process Model (Lear, Ansgore, & Steckelberg, 2010) Figure 29 below) seeks to identify the factors arising from the literature that impact on the interaction and sense of community within an online class and as such provides a useful starting point for comparison (Lear, Ansgore, & Steckelberg, 2010).

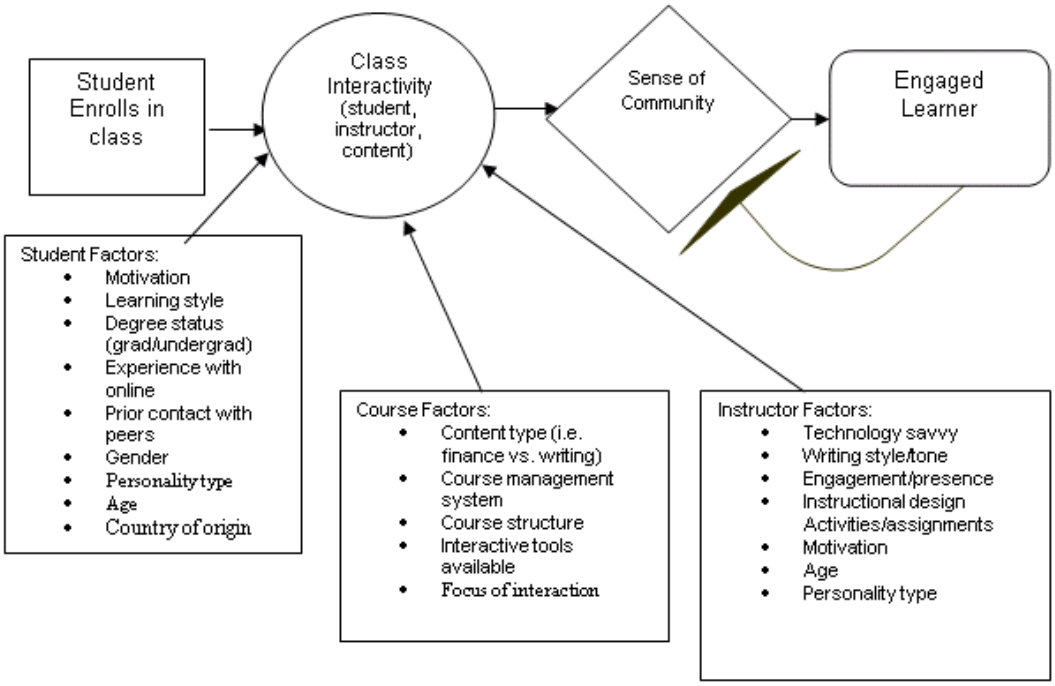


Figure 29 - The Interactivity/Community Process Model (Lear, Ansgore, & Steckelberg, 2010)

Similarly to this study, Lear, Ansgore, and Steckelberg recognise that the development of a sense of community is a process that has a range of conditions (which they describe as factors) which influence the interactivity fundamental to the formation of a community. Their factors are those arising from the students, the course, and the instructor these influence the class interactivity. It is easy to see how this model represents a broad configuration of an axial coding paradigm whereby the range of factors present the conditions, the class interactivity represents the actions, interactions and strategies and the sense of community is the outcome. The key difference between the theory presented in this research and their model is that theirs has a focus on structure at the expense of an understanding of process.

Although their model is developed for generic application, the factors identified in this study demonstrate the impact of the characteristics of the student on the community development specifically for the part-time higher education cohort. Additionally the focus on process within this study attempts to cover how these structural conditions are mediated upon by interactions in order to develop a sense of community.

The Lear, Ansgore, and Steckelberg model does however align with this research in the recognition that a range of factors or conditions present the structural context within

which a community arises, that interactivity mediates between these sets of factors in the development of a community, and that there is a cyclical and iterative connection between a sense of community and an engaged learner.

In the development of their model, Lear, Ansorge, and Steckelberg recognise that students come to a course of study with a variety of traits which influence the degree to which they will participate in an online community. Of the traits identified, motivation is the one most appropriate to this study. Within the model they do not investigate or explain how these student factors directly impact upon the interactivity leading to a sense of community.

They conclude that "Research should continue to refine this model. “Student factors ranging from motivation and learning style to personality and country of origin make each class unique and influence the ways students respond to the design of the class." This research has developed a theoretical model that identifies and explains how a range of conditions, including student factors and course design, interact with each other in the development of a blended community for part-time higher education learners.

The most similar study to this research is Ruth E. Brown's 2001 grounded theory investigation into the process of community-building in distance learning classes (R. E. Brown, 2001). In her study she identified three levels of community arising in asynchronous courses (see Figure 30 - The Process of Community Development (Brown, 2001) below). The first level was the making of online acquaintances or friends, followed by community conferment where students felt accepted within the community before the final level of camaraderie was achieved. Interestingly in the first level, making friends, she identified that students "gravitated” towards certain people online which can be seen as the development of cliques. The absence of any face-to-face interaction within her population supports the contention within this research that a blended community reduces the development of cliques through the combined sense of proximal knowing and virtual knowing. Similarly to the study and Lear, Ansorge, and Steckelberg's there is an iterative relationship between an increasing sense of community and increasing participation and engagement.

Time also featured within her study with the finding that family and job-related obligations competed with the time available to study. Though not explicitly stated it

would be reasonable to assume that the students were part-time in which case this finding is understandable. Other similar findings to this research include the continuous engagement with the course outside of the more directed course times and the need for the students to see clear benefits from their participation in the online community. Within the theory presented in this research this benefit emerges at the tipping point identified in the initial formation of the community.

This study also has identified what Brown described as the need for foregrounding the community; the promotion of the community by the course team from the earliest stages. This finding is mirrored in this study and is described as promoting the community as an ethos of the course and the impact of the interviews where the community was raised and promoted. Unlike her study, specific guidelines for foregrounding the community have been presented here.

A further relevant finding from her study was that students who preferred face-to-face communication and traditional forms of instruction had difficulty migrating into the online interaction space whereas those who preferred written communication found no such difficulties. This has implications for this study in that as the community forms within both spaces there is the logical possibility that the accommodation of a student's communication style in one space can facilitate the migration into the other.

Unlike the Lear, Ansorge, and Steckelberg study, little attention was paid to the nature of the students and their characteristics upon entering the course (Lear et al., 2010) whereas this study has balanced structure with process.

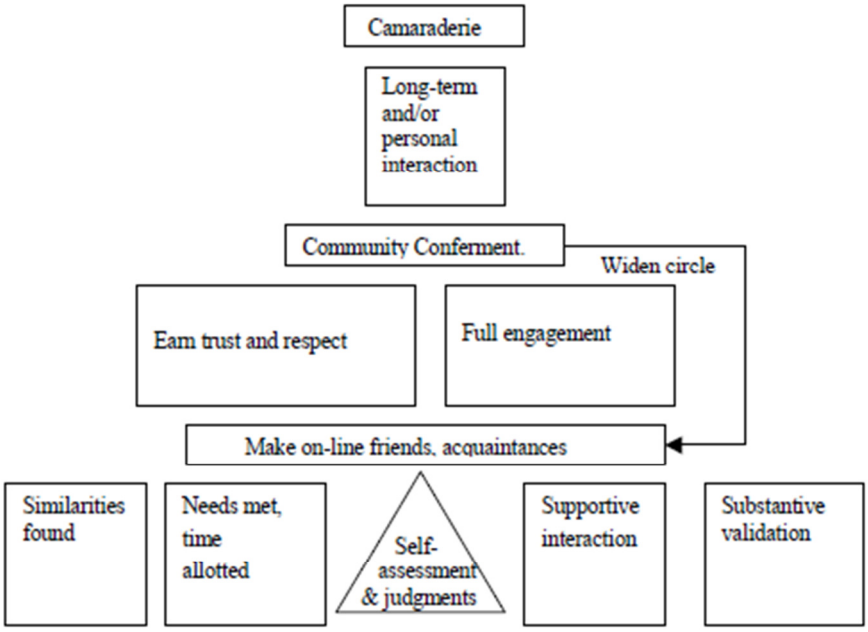


Figure 30 - The Process of Community Development (Brown, 2001)

Whilst not focusing on part-time higher education, these two studies are the most closely aligned to this research in broad terms. The findings from both validate and confirm certain aspects of the theory presented. The Lear, Ansorge, and Steckelberg study identifies the importance of the structure (i.e. the characteristics of the students, the course, and the instructors) though has less to say on the social process and how the structural conditions are mediated through student actions, interactions and strategies. The Brown study focuses strongly on the social process of community formation while paying less attention to the structural conditions out of which it emerges. This research has sought to balance structure and process in the theoretical development.

As identified in the literature review, there is little research in the area of the formation of a blended community of learners in part-time higher education. There are however widely accepted models of community formation against which the theory presented here will be analysed.

Perhaps the most pervasive model in the field is that of Gilly Salmon's five stage model of community development (see Figure 31 below) (Salmon, 2000). As discussed earlier this is a linear model that was derived from action research and as such is particularly appropriate for comparison against this, a grounded theory study. The two most apparent

differences between the theory presented here and that of Gilly Salmon concern the role of motivation and insights into how the community progresses through the various stages.

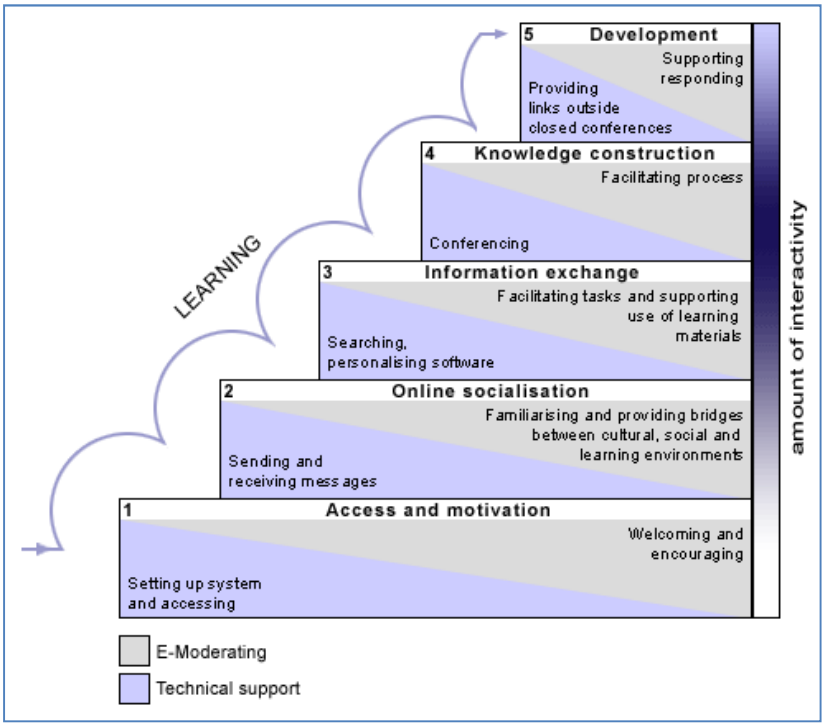


Figure 31 - The 5 Stage Model (Salmon, 2004)

In Salmon's model motivation is regarded as something that the course tutors need to engender amongst the participants. The role of motivation in the theory presented here accepts the role outlined in Salmon's model (as evidenced by the impact of the application interviews and also the promotion of the community as part of course ethos) but adds in the contextual factor of the inherent motivation of part-time higher education students. This theory therefore suggests leveraging this inherent motivation to facilitate the development of the community.

The theory presented here identified a tipping point which is not reflected in Gilly Salmon's model. This tipping point occurs after the initial online socialisation has occurred and also when the increased demands of the course of study start to emerge. It is at this crucial stage that clear benefits for community participation must be visible and tangible for the continuing interactions and commitment of the students towards the community. Salmon's model focuses much more on process than structure and therefore takes little

account of the various contextual and conditional factors underlying the formation of a community of learners.

5.5.2 The Nature and Impact of the Community

With regard to the nature and characteristics of part-time higher education students, the contextual and structural conditions identified in this study align strongly with the findings from both the literature and the student surveys outlined in the Literature Review and the theoretical sampling conducted as part of the analysis. One element which did not arise in this study was that of cost. This may be as a result of the specific context of the course utilised as it is subsidised under an Irish Government scheme.

The literature on part-time higher education highlighted the difficulty in facilitating and promoting a strong sense of social connection or community among part-time students (Kember et al., 2001; Schuller et al., 1999; Yum et al., 2005). The theory arising from this study on the community formation processes provides insights in how to overcome some of the structural and conditional factors that hinder this process.

Effective and healthy communities of learners are social spaces which in turn underpin and facilitate cognitive and situated learning. This is recognised broadly in the literature and was strongly evident in this study. This aspect goes under a variety of guises such as Social Presence (Garrison, 2006), Conferment (R. E. Brown, 2001), or even Psychological and Spiritual Issues (Palloff & Pratt, 1999). Within these models the social interaction is considered to be particularly important in the community formation stages and while there is a recognition of the on-going need for strong socio – emotional interaction, only recent work has suggested the role of social presence as one mediating between the tutor presence and the cognitive presence within online blended communities (Garrison, Cleveland-Innes, & Fung, 2010). Within this research the social engagement and interaction does support the cognitive and situated learning within the community however it serves further purposes more particular to the context of the learners. It alleviates some of the marginalisation part-time higher education students can experience as well as going some way to replace lost social life.

The impacts of a community of learning for the participants are varied but primarily fall into the twin aspects of socio-emotional support and the facilitation of socio-cultural learning (Fischer et al., 2009; T. Mayes & de Freitas, 2007). This is supported by the theory

presented here however this theory extends these twin aspects through the context of part-time higher education. As outlined above the socio-emotional support is arguably more important for these learners and the potential advantages in terms of socio-cultural learning are greater. Part-time higher education students have more relevant life and vocational experience to share, particularly within an interdisciplinary course.

5.6 Generalizability, Validity and Rigour

Qualitative Grounded Theory studies, as with most interpretavistic research methodologies, are often challenged on their rigour as traditionally defined in terms of objectivity, reliability, internal and external validity. Gasson argues that these concerns arise out of the application of positivist notions of research which therefore not specifically applicable to interpretavistic studies (Gasson, 2004). In her study of rigour in grounded theory research she proposes a more appropriate set of criteria (see

Table 12 below). Accordingly this section on validity and rigour will be structured along the interpretive worldview criteria outlined. Within a Grounded Theory study, the issue of external validity or generalizability is particularly pertinent. For the substantive theory to be classified as a theory it must be applicable across a variety of contexts.

Issue of Concern	Positivist Worldview	Interpretive Worldview
Representativeness of findings	Objectivity: findings are free from researcher bias.	Confirmability: conclusions depend on subjects and conditions of the study, rather than the researcher.
Reproducibility of findings	Reliability: the study findings can be replicated, independently of context, time or researcher.	Dependability/Auditability: the study process is consistent and reasonably stable over time and between researchers.
Rigor of method	Internal validity: a statistically-significant relationship is established, to demonstrate that certain conditions are associated with other conditions, often by "triangulation" of findings.	Internal consistency: the research findings are credible and consistent, to the people we study and to our readers. For authenticity, our findings should be related to significant elements in the research context/situation.
Generalizability of findings.	External validity: the researcher establishes a domain in which findings are generalizable.	Transferability: how far can the findings/conclusions be transferred to other contexts and how do they help to derive useful theories?

Table 12 - Quality and Rigor Related To the Stages of a Theory-Building Research Life-Cycle (Gasson, 2004, p. 90)

5.6.1 Confirmability

Gasson's criterion of confirmability is the interpretavistic counterpart to objectivity (Gasson, 2004, p. 93). It represents the requirement for the researcher to stand apart as much as possible from the situation being researched and not to let their own perceptions or biases influence the development of the theory. This is particularly challenging within grounded theory where the researcher selects data, identifies codes, develops understandings and makes logical connections within the data and the emerging analysis.

To demonstrate confirmability, she suggests demonstrating self-awareness to the reader, clearly justifying and describing the research method, and demonstrating the process whereby the theory emerged from the data in enough detail for the reader to assess the confirmability of the conclusions.

Within this study the personal motivations of the researcher had been clearly presented in Chapter 1 along with his preconceptions. The selection of grounded theory as an appropriate methodology was justified from a range of perspectives including the philosophical orientation and the researcher's own personal view of knowledge. The data analysis has been presented at length along with examples of the interpretation put upon elements from constant comparison as demonstrated through memos and diagrams. The confirmability of this study is established through these techniques.

5.6.2 Dependability

Dependability (or auditability) is Gasson's criterion for the more positivistic criterion of reliability and refers to the need for consistency in technique and method (Gasson, 2004, p. 94). To provide dependability she recommends detailing the process undertaken in the research similarly to the recommendation under confirmability above. In addition it is recommended that all analytical memos, diagrams or recordings of insights are stored and collected and extensive use is made of diagrams to demonstrate emerging constructs.

As outlined above the research process is described in great deal within this study and extensive use is made of diagrams. The range of memos, jottings and other records of analysis have been kept by the researcher for consultation should they be required.

5.6.3 Internal Consistency

Internal consistency is the interpretavistic perspective on internal validity and relates to ensuring rigour within the research and that this rigour is communicated to the reader. Gasson's suggestions to provide internal consistency include describing the original source of data in detail, the process of theoretical sampling, utilising data from different time periods and understanding the end goal of the research (Gasson, 2004, p. 96). Within this study the detailed narrative outlining the process of this research in the methodology chapter seeks to address internal consistency.

5.6.4 Transferability

Within grounded theory the issue of transferability (or external validity from the positivistic perspective) is particularly important as one of the goals of this approach is the development of a substantive or formal theory that can be applied across different contexts. Gasson cautions that any claims for generalizability cannot be made against the more traditional positivistic criteria(Gasson, 2004, p. 98).

This study has generated a substantive rather than a formal theory which means that its applicability across multiple contexts is in question until similar studies amongst multiple contexts have been completed. Therefore the claim the transferability is limited by the context of the study however the inclusion of broader part-time higher education surveys as part of the theoretical sampling does provide an element of transferability outside of the specific context of this study. To support this, the following analysis is presented to demonstrate how transferable these emergent theories are.

There are a range of fundamental conditions or assumptions underlying the theory presented in this research which relates to its fundamental transferability. The theory presented assumes the following:

- The course is at a higher education institution.
- The students are part-time.
- The cohort consists of only part time students.

The transferability of the findings of this study is a function of elements of the context to which they may be applied. Thus there are specific contextual conditions which, if met, increase the transferability of the theories and likewise if they are not met then the

transferability is reduced. These are presented in Table 13 - Contextual Factors in Transferability below as context positive and context negative.

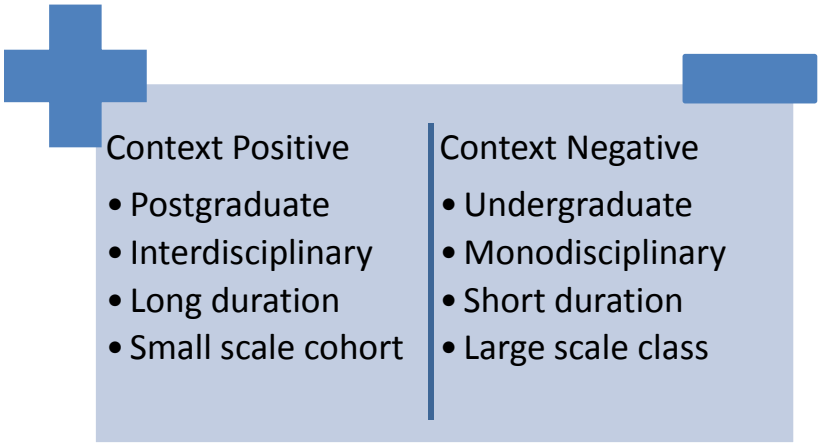


Table 13 - Contextual Factors in Transferability

The theory is more transferable if the target context is a postgraduate rather than an undergraduate level. This arises from the element within the theory that leverages the life and vocational experience and maturity of part-time higher education learners. Similarly the theory is more transferable to an interdisciplinary context as again, much of the theory leverages the sharing of disciplinary knowledge in both the community formation and its impact upon the learners. Other structural conditions include the duration of the course and the size of the cohort. Existing literature demonstrates the difficulty of raising a healthy community of learners amongst a large-scale or mass education cohort. Within the theory presented here the size of the class should be "manageable" and while there is no suggestion as to what the size of be an absolute terms, it can be safely assumed to be unmanageable in a mass class. Similarly the transferability of the theory does rely on the target context being a course of a long enough duration for a community to go through the various stages of formation and also to be perceived as being of sufficient benefit for the participants to continue interacting in sharing.

This analysis is not meant to suggest that a positive contribution from this theory to understanding the formation and nature of part-time higher education community would not occur across contexts more at odds to those presented above. All that is suggested is that the theory will be less directly transferable.

5.6.5 What Grounded Theory Is Not

A more practitioner based approach to rigour and validity can be outlined based upon the work of Roy Suddaby, who in 2006 published a paper entitled “What Grounded Theory is Not” (Suddaby, 2006). This paper was based upon Suddaby's substantial experience in reviewing grounded theory submissions for the Academy of Management Journal and he identified six common failings which are addressed below:

1. Grounded Theory is not an excuse to ignore the literature.

This issue is addressed in Chapter 2 under the discussion about the role of literature in Grounded Theory, and in this study in particular. It also influenced the selection of the systematic approach of Strauss and Corbin within this study.

2. Grounded Theory is not presentation of raw data.

While enough detail of the raw data has been presented in order to address rigour and validity concerns, the focus of this research has been on the development and interrelationships of concepts and themes as an abstract level. Also the datasets utilised have been more than just interviews which provides depth and breadth of data and analysis.

3. Grounded Theory is not theory testing, content analysis, or word counts.

From the outset of this study the aim has been to develop new understandings of the phenomenon under investigation and the techniques and analytical processes have been clearly presented.

4. Grounded Theory is not simply routine application of formulaic technique to data.

The narrative description of the research process hopefully demonstrates the reflexivity present within this work and elements of creativity and even opportunistic data collection (such as the rapid administering of a questionnaire when the sociotechnical infrastructure failed).

5. Grounded Theory is not perfect.

Suddaby notes a distinction between those that conduct Grounded Theory research and those that write about Grounded Theory, the latter representing an idealised view of the

approach. This point is addressed in the following chapter where a reflection on the experience of conducting ground the theory is presented.

6. Grounded Theory is not easy.

Many of the analytical processes in Grounded Theory learnt over time and through experience and as such can be challenging to researchers undertaking this approach for the first time. For Suddaby this challenge is best addressed through reflection on the part of the researcher, and a reflective piece is included in the following chapter.

6 Discussion and Conclusions

This final chapter of this study opens with a review of the findings and discussion of the significance of this research with a focus on the contributions and an acknowledgement of its limitations. This is followed by discussion on the implications of this study within the context of an increasingly globalized higher education sector. The third section of this chapter brings forward suggestions for future research and proposes actions to shift the theories presented her from substantive to forma. The final section is a reflection on the process of conducting grounded theory from a personal perspective.

6.1 Review of Findings

This research began with two guiding research questions.

1. **What is a theory that explains the process of community formation in a blended community of part-time learners in higher education?**
2. **What is a theory that explains the nature of a blended community of learners with regard to the impact it has on their learning and on their part-time higher education experience?**

The two theories were presented in Section 5.3.1 and Section 5.3.2.

These theories were compared against the literature (in Section 5.5 - The Theory and the Literature) which demonstrated a significant alignment between certain theoretical constructs within this study and published research in the area of online communities for learning. With regards to the formation of a community of part-time higher education learners, no published research was discovered. The formation theory presented here is particularly nuanced and strikes a balance between structure and process that was not seen in previous studies. The formation theory was also strongly contextualised around the nature and characteristics of part-time higher education learners as compared to the more generic online community formation studies consulted.

The theory relating to the nature and the impact of a community of part-time higher education students not only demonstrated the widely reported and recognised benefits of such a phenomenon but also demonstrated the specific advantages for these learners

both in terms of leveraging the positive characteristics they have and ameliorating some of the challenges they face.

6.1.1 Contributions

The contribution of this research lies in the first instance in its ability to explain the process of blended community development within a part-time higher education cohort. The existing research literature identifies this is particularly challenging for the students and yet this research has demonstrated how it is also particularly beneficial for them. The formation theory (Section 5.3.1) provides not only understanding but also insights into how a course team or institution can affect a variety of the causal conditions in order to facilitate the development of such a community. Furthermore the formation theory provides insights into the process whereby a community shifts from the social space to a cognitive space and provides insights and guidelines as to how to facilitate this transition (Section 5.4.1).

The theory concerning the nature and impact of the community (Section5.3.2) clearly demonstrates how such a blended community leverages the advantages that part-time higher education students bring to their studies whilst at the same time ameliorating some of their challenges. This understanding provides a strong motivation for the course team, the institution, and the student cohort to engage vigorously in the process of community formation. This relates back to the formation theory which identified motivation and the demonstration of clear benefit as important conditions and factors that facilitate the formation of such a community among the students. The nature and impact of the community has been operationalized to allow direct subsequent research (Section5.4.2).

6.1.2 Significance of This Research

This research is significant for a variety of reasons. The existing research into part-time higher education has focused more on access and policy than on pedagogy and social process. This study is firmly situated in the latter research space and focuses on pedagogy, social process and enhancing the learning experience of part-time higher education students. This study also has significance due in part to the paucity of existing work in the area.

As identified in the background and context of this study, the globalisation of higher education and the rise of the knowledge society has both increased demand for and access to higher education. Part-time higher education is aligned strongly with the needs of the learners who are coming to higher education for vocational and career purposes and as such this study has significance going forward as this phenomenon continues.

The increased focus on technology and learning and the quality of higher education is a further part of the context surrounding this study. The contributions made by the study in this space further support its significance.

6.1.3 Limitations of this Research

The key limitation of this research is that the theories that have been produced are substantive in nature and are not formal theories. The decision to create a substantive theory was as a result of a range of factors. Blended communities of part-time higher education learners are scarce and as a result there was little opportunity to sample across a range of communities which in turn might have allowed the development of a more formal rather than substantive theory. The decision was therefore taken to do an in-depth study of the successful community that was available in order to generate a high quality substantive theory which in turn could be used as the basis for future research in the development of a formal theory.

Further limitations are the results of the specific context within which the study was conducted. This study was located in a highly ranked research University and as such it is likely that certain cultural conditions were at play despite attempts at confirmability/objectivity (as outlined in Section 5.6.1 above)

6.2 Implications for Higher Education

As discussed above, the facilitation of a blended community of part-time higher education students is particularly appropriate both to them as learners and also within the broad context of globalised higher education. However the changing landscape of higher education can present challenges to this phenomenon.

Higher education institutions globally have become actively engaging in a variety of online and distance courses in a variety of modes. There is currently a rapid expansion in the provision of accredited online distance courses being offered by universities globally.

These are seen as ways not only to increase access and participation but also to generate much-needed revenue. At the same time there is the rising phenomenon of Massive Open Online Courses (MOOCs) which are offered freely though, not for credit, to anyone interested. Furthermore there is the increased shift towards blended learning models within traditional face-to-face University teaching where portions of a module, where appropriate, can be delivered online thereby saving resources in the form of seat time. This is related to the rise of the inverted or flipped classroom model where learners consume content (in the form of multimedia presentations or online videos) in their own time before engaging in more constructivist activities within the face-to-face setting.

These factors are becoming increasingly blurred and it is resulting in a much more flexible and modular approach to higher education. Traditional students can now take online modules from their institution in place of traditional face-to-face ones. There are even now more recent developments whereby students at a University within a consortium can take online modules from other universities for credit at the home institution.

All of these factors indicate a potential breakdown in the traditional notion of a class cohort all beginning a course on the same day and proceeding through it at the same pace towards a common endpoint. This loss of a consistent class cohort challenges the creation of healthy and functioning online communities for learning as students begin to take a variety of courses through varying modes potentially from multiple institutions.

Returning to policy within the Irish context, there is recognition that innovative course delivery modes and flexible curricula can support the broader participation of part-time learners (HEA, 2012, pp. 18-19; Hunt, 2011, p. 35). This policy direction could accelerate the breakdown in the traditional synchronous cohort model.

The implications for these changes within higher education upon the teaching and learning strategies within the institutions are currently unknown. It is possible to speculate that the shift towards more online provision and blended modes will follow and maintain the primarily instructionist approach which is currently prevalent (Fischer et al., 2009, p. 77). It can be argued that a more social constructivist or socio-cultural pedagogical approach may be more aligned with the needs of a knowledge economy due to the focus on dialogue, discourse and the discovery of principles that can be applied within rapidly changing workplace and vocational paradigms. Yet it is apparent that

ongoing social engagement among students is facilitated by the cohort model, as the results of this research demonstrate, however it is a model itself under threat. It should be noted that the Hunt report itself highlights the potential of social networks in learning in Higher Education while also promoted flexible curricula (Hunt, 2011, p. 48).

Lessons that can be drawn from this research for the policy direction currently under way are that social networked learning can enhance the student experience and overcome some of the issues affecting part-time participation in Higher Education (Hunt, 2011) as well as confirming many of the challenges identified in recent policy documents and reports (HEA, 2012; Hunt, 2011; OECD, 2004).

What has emerged from this study is that, through the creation and participation with and in a blended community of learners, the students engaged in sociocultural and social constructivist peer learning in addition to or alongside the instructionist approach. They were applying sociocultural learning to the instructionist model.

6.3 Future Research

This study has presented two substantive theories and the most appropriate areas for future research would be to explore whether these theories are effective in explaining and understanding the formation and nature of blended communities of part-time higher education students across different contexts (such as those identified in Section 5.6.4 - Transferability). This would represent the transition from substantive theories towards more formal theories.

This research has utilised Lynham's general model (see Figure 32 - The General Method of Theory-Building Research in Applied Disciplines (Lynham, 2006, p. 231) below) and has aligned with the *Practice to Theorizing* approach most appropriate for inductive research. Future research could return to this model in order to refine the and also provide confirmation or disconfirmation of them. This process would also require a return to the more traditional hypothetico-deductive approach of *Theorizing to Practice*.

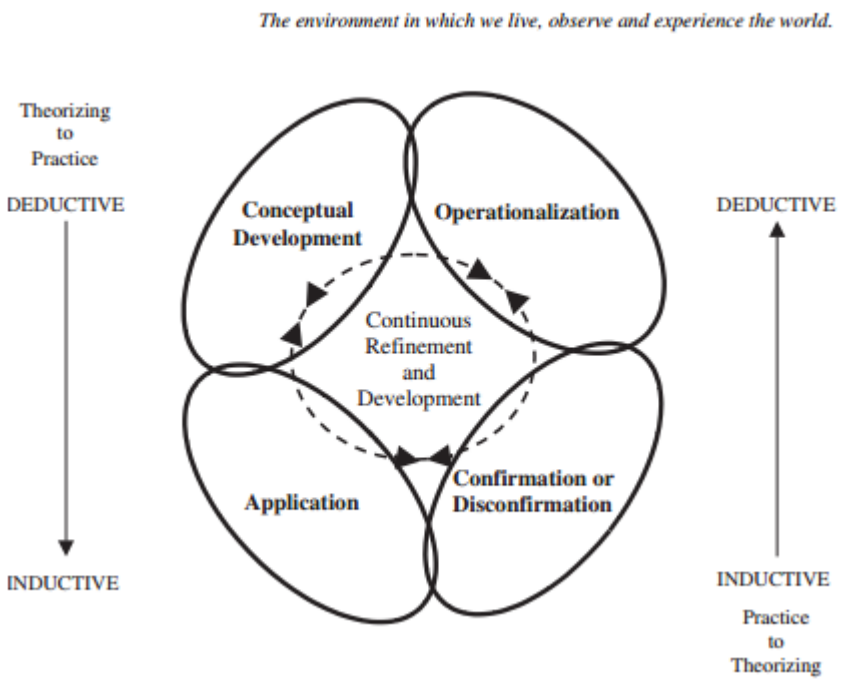


Figure 32 - The General Method of Theory-Building Research in Applied Disciplines (Lynham, 2006, p. 231)

The application stage under this hypothetico-deductive paradigm would now represent the real world application of the operationalized community formation guidelines and process. These in turn could be operationalised into a set of studies which would serve to confirm or disconfirm the conceptual understandings derived from this research and refine the theory. Specifically, the formation theory can be validated through using it as a model for the development of a blended community of part-time higher education students and data collected to show the impact of varying contexts and conditions and outcomes. Of particular interest would be to investigate and identify the tipping point referenced in the formation theory. Such research could also utilize the operationalized evidence for a successful blended community (see Table 11 - Operationalized elements of a successful blended community) to confirm or disconfirm the nature of the emergent community.

“It is in the application of a theory that practice gets to judge and inform the usefulness and relevance of the theory for improved action and problem solving” (S. A. Lynham, 2002, p. 233).

Within the policy context it is clear that future work should include whether flexible curricula models, as espoused by current policy recommendations, precludes or diminishes the impact of a blended community of learners among part-time higher education students.

6.4 Reflections on a Grounded Theory Approach

Grounded theory is characterised by immersion and reflexivity on the part of the researcher. As already stated it is not a trivial undertaking and is a particularly challenging approach when compared to a more traditional hypothetico-deductive style of doctoral study. As Suddaby notes, it is also commonly poorly executed (Suddaby, 2006). It is therefore appropriate to include the section of my personal reflections on the process of conducting grounded theory at scale for the first time. It is structured around a series of key moments or realisations.

6.4.1 When It Didn't Make Sense

During the shift from open coding to axial coding, the emerging paradigms (and hopes of an emerging theory) were not working or making sense. At that time the emerging phenomenon was the formation and impact of a blended community of learners in higher education. The problem was that I was not able to reconcile or align the specific nature of the participants in terms of their time pressures, multiple commitments and so forth with the impact of the community on those challenges. It was a "eureka" moment when I realised that the problem was with how I had labelled my conditions. I was treating the nature of the participants as intervening conditions which mitigated or influenced the core causal conditions which were promoting the development of a community. It was only once I recognised that the nature of the participants (as part-time higher education students) was in fact a set of causal conditions did the analysis begin to fall into place. This recognition resulted in a shift in the phenomenon under study from the formation and nature of a blended community of learners to one of a blended community of *part-time higher education* learners.

Though this was a very difficult period in the analysis it represents to me a personal validation of my ability to conduct grounded theory. In some regard I was trying to force

illogical theory out of the emergent concepts and conditions which was not actually there. In effect, my process prevented me from creating a fallacious theory.

6.4.2 Glaser, Strauss and Corbin, and Axial Codling Paradigms

As outlined throughout this study, the approach taken to grounded theory was very much aligned to that of Strauss and Corbin. This approach was justified by the needs of the research and my own personal view of knowledge and, upon reflection, I am happy with the choice. That said, I ran into considerable issues with the axial coding paradigms which Glaser himself heavily criticises Strauss and Corbin for. For Glaser the axial coding paradigms represent a forcing of the data into a preordained framework and this can interfere with the true emergence of theory from the data. Strauss and Corbin to stress that these paradigms are only tools in the theory generating process and are not to be used in an overly prescriptive manner.

My own experience, despite admiring the approach of Strauss and Corbin, ended up much more aligned with Glaser's critique. I spent considerable time constructing multiple paradigms (I have included a substantial example of one in Appendix 7) and yet I always experienced a sense of forcing concepts into artificial positions which hindered an understanding of the relationships between them rather than supporting them as Strauss and Corbin intended. As a result the axial coding in this thesis is presented as a relational narrative which I found a much more positive and fruitful approach to take.

I cannot say this is the right or wrong approach or whether an axial coding paradigm approach will be more appropriate in future grounded theory studies I undertake. What I can say is that within this study the axial coding paradigms got in the way of understanding rather than facilitating it.

The experience with the axial coding paradigms had the unexpected result that I felt freed from being overly adherent to a strict set of processes rather I began to trust in my own understanding of grounded theory and have more faith in my own creativity. It was after this period that I read the quote from Gasson below but it immediately struck me as relevant and appropriate.

“Recognize that no research process is ever as planned as the literature would lead one to believe. Freed from the need to defend your research according to its ability to proceed as

planned, you can apply the tenets of grounded theory freely and reflectively." (Gasson, 2004, p. 99)

6.4.3 Grounded Theory Is Not Easy

As Suddaby noted, grounded theory is not easy. I spent a substantial amount of time referring back to the methodological texts and it took a long time to develop my own understanding of several key concepts that underpinned grounded theory. The two best examples of this is an understanding of the distinction between structure and process and an appreciation for the role and nature of different forms of conditions when understanding a basic social process.

The insights I have gained into structure and process within social processes have carried outside of the parameters of this study. When relating the emergent theory against the literature in a section above, it was natural for me to identify that certain models were focusing on structure and others were focusing on process. This is a perspective that I have gained from conducting this study and I have found myself using this lens when analysing literature for other purposes or supervising postgraduate students. It is been a significant learning experience for me.

Similarly understanding the nature of conditions that underpin social processes has been immensely valuable. The realisation that the causal condition can be mitigated or exaggerated by an intervening condition is a valuable analytical tool that I will take with me from this study. The ability to recognise conditions for what they are and yet still maintain an understanding that conditions can change over time and that what can be an intervening condition within one context can quite easily transfer into a causal condition in another.

References

Akyol, Z., & Garrison, D. R. (2010). Understanding cognitive presence in an online and blended community of inquiry: Assessing outcomes and processes for deep approaches to learning. *British Journal of Educational Technology, 42*(2), 233-250.

Alvermann, D. E., O'Brien, D. G., & Dillon, D. R. (1996). On writing qualitative research. *Reading Research Quarterly, 31*(1), 114-120.

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, N. J.: Prentice Hall.

Barab, S. A., & Duffy, T. M. (2000). From Practice Fields to Communities of Practice. . In D. H. Jonassen & S. M. Land (Eds.), *Theoretical Foundations of Learning Environments.* (pp. 25-55). New Jersey Lawrence Erlhbaum Associates.

Barab, S. A., Kling, R., & Gray, J. H. (Eds.). (2004). *Designing Virtual Communities in the Service of Learning*. Cambridge: Cambridge University Press.

Bassey, M. (1990). On the Nature of Research in Education. *Research Intelligence, 37*, 39-44.

Bennion, A., Scesa, A., & Williams, R. (2011). The Benefits of Part-Time Undergraduate Study and UK Higher Education Policey: a Literature Review. *Higher Education Quarterly, 65*(2), 145-163.

Berger, P. L., & Luckmann, T. (1966). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Garden City, NY: Anchor Books.

Berliner, D. C. (2002). Educational Research:The Hardest Science of All. *Educational Researcher, 31*(8), 18 - 20.

Bikowski, D. (2007). Internet Relationships: Building Learning Communities through Friendship. *Journal of Interactive Online Learning, 6*(2), 131-141.

Bilton, T., Bonnett, K., Jones, P., Stanworth, M., Sheard, K., & Webster, A. (1988). *Introductory Sociology* (2nd ed.). London: Macmillan Education Ltd.

Boote, D. N., & Beile, P. (2005). Scholars Before Researchers: On the Centrality of the Dissertation Literature Review in Research Preparation *Educational Researcher, 34*(6), 3 - 15.

Boud, D. (2006). "Aren't we all learner-centred now?": the bittersweet flavour of success. In P. Ashwin (Ed.), *Changing Higher Education* (pp. 19-32). Abingdon: Routledge.

Bridge, W. (2006). Non-traditional learners in higher education. In P. Ashwin (Ed.), *Changing Higher Education: The development of learning and teaching* (pp. 58-68). Abingdon: Routledge.

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated Cognition and the Culture of Learning *Educational Researcher, 18*, 32 - 42.

Brown, R. E. (2000). *Theory About the Process of Community-building in Distance Education Classes.* University of Nebraska, Nebraska.

Brown, R. E. (2001). The Process of Community-Building in Distance Learning Classes. *Journal of Asynchronous Learning Networks, 5*(2), 18-35.

Callender, C., & Feldman, R. (2009). *Part-time undergraduates in higher education: A literature review*. Manchester: Higher Education Careers Services Unit.

Callender, C., Wilkinson, D., & Mackinon, K. (2006). *Part-time students and part-time study in higher education in the UK. Strand3: as survey of student's attitudes and experiences of part-time study and it's costs*: Universities UK and Guild HE.

Carnoy, M. (2005). *Globalization, educational trends and the open society*. Paper presented at the OSI Education Conference

Carr, W., & Kemmis, S. (1986). *Becoming Critical: Education, Knowledge and Action Research*. London: Falmer Press.

Charmaz, K. (2000). Grounded Theory: objectivist and constructivist methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 509-535). Thousand Oaks, CA: Sage.

Charmaz, K. (2006). *Constructing Grounded Theory - A Practical Guide through Qualitative Analysis*. Thousand Oaks, CA: Sage Publications.

Chavez, C. (2008). Conceptualizing from the Inside: Advantages, Complications, and Demands on Insider Positionality. *The Qualitative Report, 13*(3), 474-494.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research Methods in Education* (5th ed.). London: RoutledgeFalmer.

Connolly, T. M., & Stansfield, M. H. (2007). Developing constructivist learning environments to enhance learning. In N. Buzzetto-More (Ed.), *Principles of Effective Online Teaching: A Handbook for Experienced Teachers Developing eLearning* (pp. 122-138). Santa Rosa: Informing Science Press.

Conole, G., Laat, M. d., Dillon, T., & Darby, J. (2008). 'Disruptive technologies', 'pedagogical innovation': What's new? Findings from an in-depth study of students' use and perception of technology. *Computers and Education, 50*, 511-524.

Cooper, H. M. (1988). Organizing knowledge synthesis: A taxonomy of literature reviews. *Knowledge in Society, 1*, 104-126.

Corbin, J., & Strauss, A. (2008). *Basics of Qualitative Research* (3 ed.). Thousand Oaks, CA: Sage.

Cresswell, J. W. (2002). *Educational Research: planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, New Jersey: Merrill Prentice Hall.

Darolia, R. (2014). Working (and studying) day and night: Heterogenous effects of working on the academic performance of full-time and part-time students. *Economics of Education Review, 38*, 38-50.

Day, S. (2012). A Reflexive Lens: Exploring Dilemmas of Qualitative Methodology Through the Concept of Reflexivity. *Qualitative Sociology Review, 8*(1), 61-85.

Dewey, J. (1933). *How we think* (Revised Edition ed.). Boston D.C. : Heath.

Fischer, G., Rhode, M., & Wulf, V. (2009). Community-Based Learning: The Core Competency of Residential, Research-Based Universities. In J. M. Carroll

(Ed.), *Learning in Communities: Interdisciplinary Perspectives on Human Centred Information Technology* (pp. 75-110). London: Springer-Verlag.
Garrison, D. R. (2006). Online Community of Inquiry Review: Social, Cognitive, and Teaching Presence Issues. University of Calgary.
Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education. *The Internet and Higher Education, 2*(2-3), 87-105.
Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education, 10*, 157 - 172.
Garrison, D. R., Cleveland-Innes, M., & Fung, T. S. (2010). Exploring causal relationships among teaching, cognitive and social presence: Student perceptions of the community of inquiry framework. *The Internet and Higher Education, 13*(1-2), 31-36.
Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *Internet and Higher Education, 7*, 95-105.
Garrison, D. R., & Vaughan, N. D. (2008). *Blended Learning in Higher Education*. San Fransico: Wiley.
Gasson, S. (2004). Rigor in Grounded Theory Research: An Interpretive Perspective on Generating Theory from Qualitative Field Studies. In M. Whitman & A. Woszczynski (Eds.), *The Handbook of Information Systems Research* (pp. 79-102): Idea Group Inc (IGI).
Gay, B., & Weaver, S. (2011). Theory Building and Paradigms: A Primer on the Nuances of Theory Construction. *American International Journal of Comtemporary Research, 1*(2), 24-32.
Giddens, A. (1976). *New Rules of Sociological Method: a Positive Critique of interpretative Sociologies*. Londong: Hutchinson.
Glaser, B. G. (1978). *Theoretical sensitivity: advances in the methodology of grounded theory*. Mill Valley, Calif.: Sociology Press.
Glaser, B. G. (1992). *Emergence Vs. Forcing: Basics of Grounded Theory Analysis*. Mill Valley, California: Sociological Press.
Glaser, B. G., & Strauss, A. (2006). *The Discovery of Grounded Theory: strategies for qualitative research*. U. S. A.: AldineTransaction.
Gorard, S., Smith, E., May, H., Thomas, L., Adnett, N., & Slack, K. (2006). *Review of widening participation research: addressing the barriers to participation in higher education*. York: HEFCE.
Greene, M. J. (2014). On the Inside Looking In: Methodological Insights and Challenges in Conducting Qualitative Insider Research. *The Qualitative Report, 19*(29), 1-13.
Guba, E. G., & Lincolm, Y. S. (2005). Paradigmatic Controversies, Contradictions, and Emerging Confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3 ed., pp. 191-215). Thousand Oaks, California: Sage Publications.
Haavind, S. (2006). *Tapping Online Dialogue for Learning*. Harvard University, Harvard.
HEA. (2009). *Higher Education: Key Facts and Figures*.

HEA. (2012). *Part-time and flexible higher education in ireland: Policy, practice and recommendations for the future*.

Heath, H. (2006). Exploring the influences and use of the literature during a grounded theory study. *Journal of Research in Nursing, 11*(6), 519-528.

Herring, S. (2004). Computer-Mediated Discourse Analysis. In S. Barab, R. Kling & J. Gray (Eds.), *Designing for Virtual Communities in the Service of Learning*. Cambridge: Cambridge University Press.

Hill, J. L. (1996). Psychlogical Sense of Community: Suggestions for Future Research. *Journal of Community Psychology, 24*(4), 431-438.

Hill, P. (2012). Online Educational Delivery Models: A Descriptive View. *Educause Review, 47*(6).

Hua, P. J.-H., Clark, T. H. K., & Mab, W. W. (2003). Examining technology acceptance by school teachers: a longitudinal study. *Information and Management, 41*, 227–241.

Hunt, C. (2011). *National Strategy for Higher Education to 2030 - Report of the Strategy Group*.

ITU. (2013). *ICT Facts and Figures: The world in 2013*: International Telecommunications Union.

Jenkins, M., Browne, T., Walker, R., & Hewitt, R. (2011). The development of technology enhanced learning: findings from a 2008 survey of UK higher education institutions. *Interactive Learning Environments, 19*(5), 447-465.

Johnson, L., Adams, S., & Cummins, M. (2012). *The NMC Horizon Report: 2012 Higher Education Edition* Austin, Texas: The New Media Consortium.

Jones, M., & Alony, I. (2011). Guiding the Use of Grounded Theory in Doctoral Studies – An Example from the Australian Film Industry *International Journal of Doctoral Studies, 6*.

Kember, D., Lee, K., & Li, N. (2001). Cultivating a sense of belonging in part-time students. *International Journal of Lifelong Education, 20*(4), 326-341.

Kennedy, G. E., Judd, T. S., Churchward, A., & Gray, K. (2008). First year students' experiences with technology: Are they really digital natives? *Australasian Journal of Educational Technology, 24*(1), 108-122.

Kerlinger, F. N. (1973). *Foundations of Behavioral Research* (2nd ed.). Fort Worth: Holt, Rinehart and Winston.

Laurillard, D. (2006). E-learning in higher education. In P. Ashwin (Ed.), *Changing Higher Education: The development of learning and teaching* (pp. 71-84). Abingdon: Routledge.

Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation* Cambridge: Cambridge University Press.

Lear, J. L., Ansgore, C., & Steckelberg, A. (2010). Interactivity/Community Process Model for the Online Education Environment. *MERLOT Journal of Online Learning and Teaching, 6*(1).

Luckerhoff, J., & Guillemette, F. (2011). The Conflicts betwen Grounded Theory Requirements and Institutional Requirements for Scientific Research. *The Qualitative Report 16*(2), 396-414.

Luppicini, R. (2006). Review of computer mediated communication research for education. *Intstructional Science, 35*(2).

Lynham, S. (2002). The General Method of Theory-Building Research in Applied Disciplines. *Advances in Developing Human Resources, 4*(3), 221-241.

Lynham, S. A. (2002). The General Method of Theory-Building in Applied Disciplines. *Advances in Developing Human Resources, 4*(3).

Major, C. H., & Savin-Baden, M. (2011). Integration of qualitative evidence: towards construction of academic knowledge in social science and professional fields. *Qualitative Research, 11*(6), 645-663.

Mason, G. (2014). Part-time Higher Education: Employer Engagement Under Threat? *Higher Education Quarterly, 68*(3), 305-327.

Mayes, T. (2009). All in the Mind: Programmes for the Development of Technology-Enhanced Learning in Higher Education. In T. Mayes, D. Morrison, H. Mellar, P. Bullen & M. Oliver (Eds.), *Transforming Higher Education Through Technology-Enhanced Learning*: Higher Education Academy.

Mayes, T., & de Freitas, S. (2007). Learning and e-learning: The role of theory. In H. Beetham & R. Sharpe (Eds.), *Rethinking Pedagogy for a Digital Age: Designing and delivering e-learning* (pp. 26-40). Abingdon: Routledge.

McConnell, D. (2006). Sustaining networked learning through collaborative pedagogies. In P. Ashwin (Ed.), *Changing Higher Education: The development of learning and teaching* (pp. 85-96). Abingdon: Routledge.

McGhee, G., Marland, C. R., & Atkinson, J. (2007). Grounded theory research: literature reviewing and reflexivity. *Journal of Advanced Nursing, 60*(3), 334-342.

Morrison, K. (1995). *Mark, Durkheim, Weber*. London: Sage.

Mossberger, K., Tolbert, C. J., & McNeal, R. S. (2008). *Digital Citizenship: The Internet, Society, and Participation*. MA: MIT Press.

Nahapiet, J., & Ghoshal, S. (1998). Social Capital, Intellectual Capital, and the Organisational Advantage. *Academy of Management Review, 23*(2), 242-266.

OECD-CERI. (2008). *Higher Education to 2030, Volume 1 : Demography* (Vol. 1): OECD.

OECD-CERI. (2009). *Higher Education to 2030, Volume2 : Globalisation* (Vol. 2): OECD.

OECD. (2004). *Review of Higher Education in Ireland.* Paris.

OECD. (2008). Tertiary Education for the Knowledge Society: Summary in English. Retrieved 5th May, 2013, 2013

Palloff, R. M., & Pratt, K. (1999). *Building Learning Communities in Cyberspace*. San Francisco: Jossey-Bass.

Parkhe, A. (1993). Messy Research, Methodological Predisposition and Theory Development in International Joint Ventures. *Academy of Management Review, 18*(2), 227-268.

Pedró, F. (2006). *The New Millennium Learners: Challenging our Views on ICT and Learning*: OECD-CERI.

Pedró, F. (2009). *New Millennium Learners in Higher Education: Evidence and Policy Implications*. Paris: Centre for Educational Research and Innovation (CERI), Directorate for Education, OECD.

Perry, C., & Jensen, O. (2001). *Approaches to combining induction and deduction in one research study.* Paper presented at the Australian and New Zealand Marketing Academy 2001Conference, Massey University, Auckland.

Phillips, E. L., & Pugh, D. S. (2005). *How to get a Ph.D.* (4th ed.). Maidenhead: Open University Press.

Plant, R. (2004). Online communities. *Technology in Society, 26*(1), 51-65.

Plenderleith, J., & Adamson, V. (2009). The Policy Landscape of Transformation. In T. Mayes, D. Morrison, H. Mellar, P. Bullen & M. Oliver (Eds.), *Transforming Higher Education Through Technology Enhanced Learning*: The Higher Education Academy.

Preece, J., & Maloney-Krichmar, D. (2005). Online Communities: Design, Theory, and Practice *Journal of Computer-Mediated Communication, 10*(4), Article 1.

Randolph, J. J. (2009). A Guide to Writing the Dissertation Literature Review. *Practical Assessment, Research & Evaluation, 14*(13).

Resnick, L. B. (1987). Learning in School and Out. *Educational Researcher, 16*, 13 - 20.

Richards, L. (2005). *Handling qualitative data: a practical guide*. London: Sage Publications.

Rovai, A. P. (2002). Development of an instrument to measure classroom community *Internet and Higher Education, 5*, 197-211.

Rovai, A. P., & Jordan, H. M. (2004). Blended Learning and Sense of Community: A Comparative Analysis with Traditional and Fully Online Graduate Courses *International Review of Research in Open and Distance Learning 5*(2).

Salmon, G. (2000). *E-Moderating: The key to teaching and learning online*. London: Kogan Page.

Salmon, G. (2004). The 5 Stage Model. Retrieved 9 April 2012, 2012, from http://www.atimod.com/e-moderating/5stage.shtml

Savin-Baden, M., & Major, C. H. (2013). *Qualitative Research: The Essential Guide to Theory and Practice*. Abingdon, Uk: Routledge.

Schuller, T., Raffe, D., Morgan-Klein, B., & Clark, I. (1999). *Part-Time Higher Education: Policy, practice and experience*. London: Jessica Kingsley.

Shaffer, C., & Anundsen, K. (1993). *Creating Community Anywhere*. New York: Jeremy P. Tarcher/Perigree Books.

Sharpe, R. (2009). The Impact of Learner Experience Research on Transforming Institutional Practices. In T. Mayes, D. Morrison, H. Mellar, P. Bullen & M. Oliver (Eds.), *Transforming Higher Education Through Technology-Enhanced Learning*: Higher Education Academy.

Slowey, M. (2012). Lifelong learning and higher education in Ireland: turbulent times. In M. Slowey & H. G. Schuetze (Eds.), *Global Perspectives on Higher Education and Lifelong Learners* (pp. 60-81). Abingdon, Oxon: Routledge.

Slowey, M., & Schuetze, H. G. (2012). All change - no change? Lifelong learners and higher education revisited. In M. Slowey & H. G. Schuetze (Eds.), *Global Perspectives on Higher Education and Lifelong Learners* (pp. 3-21). Abingdon, Oxon: Routledge.

Stiles, M. (2007). Death of the VLE?: a challenge to the new orthodoxy. *Serials, 20*(1), 31-36.

Strauss, A., & Corbin, J. (1990). *Basics of Qualitative Research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.

Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research* (2nd ed.). Thousand Oaks, California: Sage Publications Inc.

Suddaby, R. (2006). From the Editors: What Grounded Theory Is Not. *Academy of Management Journal, 49*(4).

Swail, W. S. (2002). Higher Education and the New Demographics: Questions for Policy. *Change, 34*(4), 15-23.

Swain, J., & Hammond, C. (2011). The motivations and outcomes of studying for part-time mature students in higher education. *International Journal of Lifelong Education, 30*(5), 591-612.

Thomas, G., & James, D. (2006). Re-inventing grounded theory: some questions about theory, ground and discovery. *British Educational Research Journal, 32*(6), 767-795.

Tight, M. (1991). *Higher education: a part-time perspective*. Buckingham: SRHE and Open University Press.

Tight, M. (2003). *Researching Higher Education*. Glasgow: SRHE and Open University Press.

Torraco, R. J. (2002). Research methods for theory building in applied disciplines: A comparative analysis. *Advances in Developing Human Resources, 4*(3), 355-376.

Vygotski, L. S., & Cole, M. (1978). *Mind in Society: the development of higher psychological processes*. Cambridge: Harvard University Press.

Vygotsky, L. S. (1978). *Mind and society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.

Walliman, N., & Buckler, S. (2008). *Your Dissertation in Education* (F ed.). London: SAGE Publications Ltd. .

Walsh, J. (2014). A Contemporary History of Higher Education, 1980-2011. In A. Loxley, A. Seery & J. Walsh (Eds.), *Higher Education in Ireland: Practices, Policies and Possibilities*. Basingstoke: Palgrave Macmillan.

Warburton, W. I. (2006). *Towards a Grounded Theory of Computer-assisted Assessment Uptake in UK Universities.* University of Southampton, Southampton.

Wenger, E. (1998). *Communities of practice: learning, meaning, and identity*. Cambridge: Cambridge University Press.

Williams, J., & Kane, D. (2010). The Part-Time Student's Experience: An issue of identity and marginalisation. *Tertiary Education and Management, 16*(3), 183-209.

Yorke, M., & Longdon, B. (2008). *The experience of part-time students in higher education: A study from the UK*. Paper presented at the SRHE Conference.

Yum, J. C. K., Kember, D., & Siaw, I. (2005). Coping mechanisms of part-time students. *International Journal of Lifelong Education, 24*(4), 303-317.

Appendix 1 – Example of Initial Questionnaire

Starting Point for MITE

Expectations

I expect to be challenged with key questions on the use of technology in education and the opportunities for education in technology.

I expect to find out where the best thinking is at in education on the use of technology

I expect to learn new skills in multimedia

I expect to be challenged with a heavy project load

I expect to find new ideas on technology and education

I expect to be stimulated by the course content

I expect to be able to contribute some new ideas

Fears

I am concerned that I will need to make substantial life adjustments to make room for the coursework and let go of things that currently take a lot of time.

I am a little afraid of being swamped.

Motivation

I want to find a new career direction. I believe that I can make a new contribution if I skill-up and address this line between technology and the person.

What I bring to the course

- I bring imagination, organisational skills and leadership ability to the course.
- I work well with others.
- I am a good communicator.
- I bring a lifetime of experience and training in the technology industry. I have learned to interpret technology for the non-technical and to specify business needs to technologists.
- I bring a lifetime interest in the development of young people. I've been a Scout Leader for over 30 years.
- I bring a sense of fun to the course.

Current perspectives

Current relationship between technology and education

Technology in education is at a very low level of maturity. In formal education it is characterised by either the computer room visited infrequently at set periods by the class or the machine under the dust cover at the end of the class room used occasionally. Technology and the curriculum are not integrated. There are few applications that are used to support non-technology specific subjects. For example the use of multi-media work to enliven language subjects is rare.

The government initiative to deliver broadband to schools is not matched by thinking in education with what to do with this new connectivity. It is telling that initiatives in bringing the possibilities given by technology to young people is being driven by the Department of Communications rather than the Department of Education. There is little evidence of thinking in the area of how education might be remodelled to take advantage of the IT revolution.

As an example young people have adopted text messaging on mobile phones as a major part of the way they communicate with each other and yet there is little reaction in formal education to this major change.

Young people who are marginalised in the current educational system often show application and creativity if introduced to multi-media and computer technology. The success of the computer club of Media Lab offers real potential in this area

While formal education policy treats computers as 'faster slates' there is little prospect of harnessing the technology's true potential.

The current relationship between technology and education is incoherent, unimaginative and profoundly conservative.

Adequate or limiting

The relationship between technology and education is not adequate. The fruits of this are to be seen in results such as poor national PC penetration and low usage of ICT among small to medium enterprises.

The formal educational process has to face up to failure for many young people and as the alarming illiteracy rates suggest, something is fundamentally wrong. Not all of this can be laid at the door of poor technology adoption but maybe the tools to build new solutions in developing young people are to hand and what is required is imagination and the will to employ them.

The current relationship between technology and education is inhibiting the release of imaginative possibilities and is limiting the positive impact technology could have on education.

Appropriate integration

If through technology the young person can be helped to open new windows on the world, be encouraged to explore, to collaborate, to see new horizons for what they could be or do then the integration would be right. If technology helps light a way to new possibilities then it's meeting the integration requirement.

If for example we were to imagine a young person first seeing the Apollo 13 movie then out of interest researching the story on the net and in class modelling the mathematics of the spaceflight with the computer then we could say we have useful integration.

If the young person went on in English or Social Science to explore the issues raised on leadership and teamwork and had a web conference with former Cmdr Jim Lovell (Apollo 13 Commander) on the experience before presenting a project using multimedia and broadband across continents then perhaps the integration could be said to be ideal.

Theories currently held

1. I believe that young people particularly those seen as 'less academic' respond well to 'learning by doing'. Young people like playing with technology. There is an opportunity to use this.
2. Some academic subjects are literally dying on their feet and higher level Maths is a worrying example. I believe we can help through technology.

Drama, role-play and multimedia are good bedfellows that could enliven the classroom and might yet save English.

3. Developing on-line collaboration between groups on common projects offers exciting possibilities. Computer use need not mean solo working and building teamwork and leadership skills could form part of a new programme
4. Constraint comes with the walls of a classroom. Technology holds the potential to take down the walls.

Student Name
October 14th 2005

Appendix 2 – Example Student Interview Excerpt

Q Talk to me about the class, about the actual group of individuals

A I think there is a good mix actually, it's a very good mix in terms of people that have education experience and that don't have education experience and those that have IT experience and don't have IT experience. I would class myself with some IT experience but I have never done web design, that is one aspect of IT that I never worked in. but on the other aspects of it like for example that exercise we did with the thing for chat, you know, the feature on web CT, that was so slow compared to using MSN, which is something I would use quite a lot. But I would have my own doubts about MSN but we used to use it a lot in an office situation, we worked as consultants and we had a hot desk so you know often you would be in the office and it wasn't often there would be a lot of people in there but if there was people would use MSN rather than getting physically up and talking to the person. (Laughing) I think I applies in education as it does in business, people should talk to each other more than just sending each other emails or using MSN so you know I used to say to them why don't you just go over and talk to the person, you know. But there are other reasons for using it.

Q Its interesting the way you describe the people in the class because normally people would define it as education as all technology but rather than being on one spectrum you divide it into two separate, as in those with more educational experience and those with more technology experience. That is an interesting distinction between the lower level, you are either an educationalist or a techie, because some would say well I fit in the middle with a bit of both, so its changing my perception.

A Yeah, obviously you are not accepted on the course if you don't have some level of IT knowledge and there are other people who have less knowledge than other people but you know everybody has some knowledge, its over the course now of developing that knowledge. I think it's a good mix as well in terms of the age group, that is important as well in a course like this in that it's not young people you know. We have people like myself who are a bit older and you know there

are quite a few who are older than me as well. not that I am that old (laughing), but you have more real world experience rather than people who would be straight from under-grad, people who are 24/25 only a couple of years experience.

Q We don't take anyone with less than 3 years experience. The class is interesting and quite a few of those people I have interviewed have made quite a big thing of the class, when you are doing the group work and in class times, do you find you gravitate to the same people or do you tend to

A No, no I purposely try to go different routes, you know, so you get to know all of the people. Rather than sticking with the same group you know, I don't know if anybody else knew any other people. I think a few people got to meet each other at the day of the interview, and they are kind of friendly now, but I would say I am friendly with all of the people I have spoken to, most of the people except for a couple now that aren't at lectures that often. We normally go for a pint on a Friday night so you get to know people that way too, you are not going to be able to get to know everybody in a class after a few weeks, but you know I would know most people in it and now I mean, its trying to remember everybody's name but now I know everybody's name.

Q Better than I can (laughing)

A But no they are a good group, its good for the interaction point of view, the cohesion point of view that we do go out and have a drink.

Q Social time.

A Yeah, yeah

Appendix 3 – Discussion Board Data Table

No.	Social	Sandbox	Notes	Sync Com	Contact	Vision	Reflect	Research Paper	Lego	Web Quest	MM	Meta Project	Participant Total
Tutor	8	1	4	2	7	5	1	0	1	2	11	7	49
1	46	0	4	0	3	7	2	7	33	1	17	28	148
2	36	0	3	1	2	1	1	2	14	0	7	41	108
3	69	3	6	0	3	2	1	1	33	0	14	43	175
4	3	1	0	1	0	0	1	0	13	0	1	0	20
5	55	0	5	1	1	3	0	5	17	1	16	56	160
6	4	0	0	0	0	0	0	0	13	0	1	0	18
7	8	0	1	0	0	0	1	0	4	0	0	1	15
8	54	0	9	1	1	3	2	2	40	1	6	20	139
9	45	7	22	1	8	7	1	6	53	5	36	57	248
10	14	0	8	2	2	3	1	6	22	1	11	5	75
11	11	1	2	1	1	0	2	1	13	0	0	0	32
12	16	0	2	1	3	2	1	2	10	0	2	18	57
13	44	1	8	1	1	3	1	6	26	0	3	37	131
14	18	0	0	0	1	1	1	0	6	0	1	2	30
15	14	2	3	0	0	6	0	1	15	0	0	4	45
16	35	0	6	1	3	6	2	7	61	0	19	29	169
17	10	1	2	1	0	2	1	1	14	0	4	0	36
18	7	0	0	0	0	0	1	0	2	0	2	3	15
19	30	0	0	0	0	3	0	3	6	0	11	14	67

No.	Social	Sandbox	Notes	Sync Com	Contact	Vision	Reflect	Research Paper	Lego	Web Quest	MM	Meta Project	Participant Total
20	5	0	0	0	0	0	0	0	0	0	0	0	5
21	33	0	3	1	1	5	1	5	21	1	9	47	127
22	30	0	1	0	0	2	1	3	12	0	3	14	66
23	21	1	0	1	0	6	1	1	10	0	10	17	68
24	34	1	7	0	0	1	1	0	37	0	5	29	115
25	57	1	25	2	8	9	1	10	11	5	22	69	220
26	22	0	4	1	0	1	2	0	22	0	5	8	65
Totals	729	20	125	19	45	78	27	69	509	17	216	549	2403

Appendix 4 - Example of Environment Failure Questionnaire

MITE05 Research Questionnaire on the Loss of the WebCT Environment

This questionnaire is to investigate the impact of the sudden unexpected loss of the online course environment. Please answer the questions with as much detail as you feel necessary and send it back to Tim.Savage@cs.tcd.ie. This data will be used in my PhD research into the blended MITE05 community and I will also provide you all with some of the conclusions. Please write as much or as little as you feel appropriate. Thank You

Student Name (Optional):

Question 1

Do you think the loss of the environment has affected you in any of the following areas? Please circle the appropriate answers.

a) Your learning Yes No

If Yes, in what ways? *I still feel a member of a community but feel at a loss regarding being in contact with all the community at a time. The community provide learning support and advise that I find to be of great benefit*

b) Your level of interaction with your peers Yes No

c) Personally Yes No

If Yes, in what ways?

It has altered my contact with my peers I now use texting, phoning and emailing. It is not the same as I am contacting one person at a time and don't get to see others perspectives. While there were always small natural groupings in the class the community ensured cliques did not evolve and I fear that this may alter.

Question 2

While the system has been down, have you used any alternative forms of communication to interact with your peers? Please tick the appropriate box.

	No Use	Occasional	Frequent	Very Frequent
Individual emails			x	

Class mailing list	x			
Telephone Calls				x
SMS texts				x
Discussion Boards	x			
Other (please specify)			Face to face meetings	

Please describe which form or forms you used and for what purpose?

Phone and texting were the most common Used with a small group to discuss the stages were are at regarding dissertation, to bounce ideas off each other and to organise our study group.

Question 3

On reflection, what in your opinion have been the outcomes for you and for the class community of this experience?

Contrary to my expectations, the group have been more tightly bonded. Discussion in Mahaffy's revealed that all felt at a loss without it thus suggesting a huge inter-dependency on each other the realisation of which hit home with me. Discussions I have had with peers have centred around the fact that we are so lucky to have such a great class and more than usual took the opportunity to meet up in mahaffys after lectures – perhaps in an effort to bond with the class again?

Question 4

Do you expect this incident to affect the ongoing use and development of the online community? Yes No

Please comment on your answer.

I feel that the incident may have a very beneficial effect. There was always a danger that the summer would scupper the discussion board for year two. To be without it has forced us all to realise how much we need it rather than the possibility of its use just trailing off I hope we will be more enthusiastic about using it as a direct result of this incident.

Question 5

If you have any other comments, please write them below.

Disasters can sometimes have very beneficial consequences. It is when we have to do without something that we really appreciate it.

Appendix 5 – Case Specific Context Variables

Synchronous Communication

Posts	*18*	*Average*	*0.72*
Participants	*15*	*Stdev*	*0.68*
Threads	*3?*		
Start Date	*21/10/2005*	*End Date*	*27/10/2005*
Duration	*7/21*		
Initiated By	*Instructor*		

Discussion Purpose

The purpose of this board was twofold. Firstly is was to encourage the students to reflect on their experiences of DB vs. Chat CMC. Secondly it was to encourage further use of the boards as part of the community building exercise. This is one of only two boards that were directed to as an extension of an in class activity (the other being Reflection).

Language

Slightly formal that is to be expected as this was early in the community development and also directed by an instructor.

Summary

Discussion asked for their reflections concerning the difference between chat and discussion boards. Good high level comment in line with much of the literature. Honest reflections expressing their like and dislike. Interesting comments on the nature of the medium and how that affects things.

Reporting on what had been a highly interactive session

Comments include:

- *Lack of f2f cues*
- *Difference in asynch/synch*
- *Cumulative nature of DB*
- *Personal preferences*

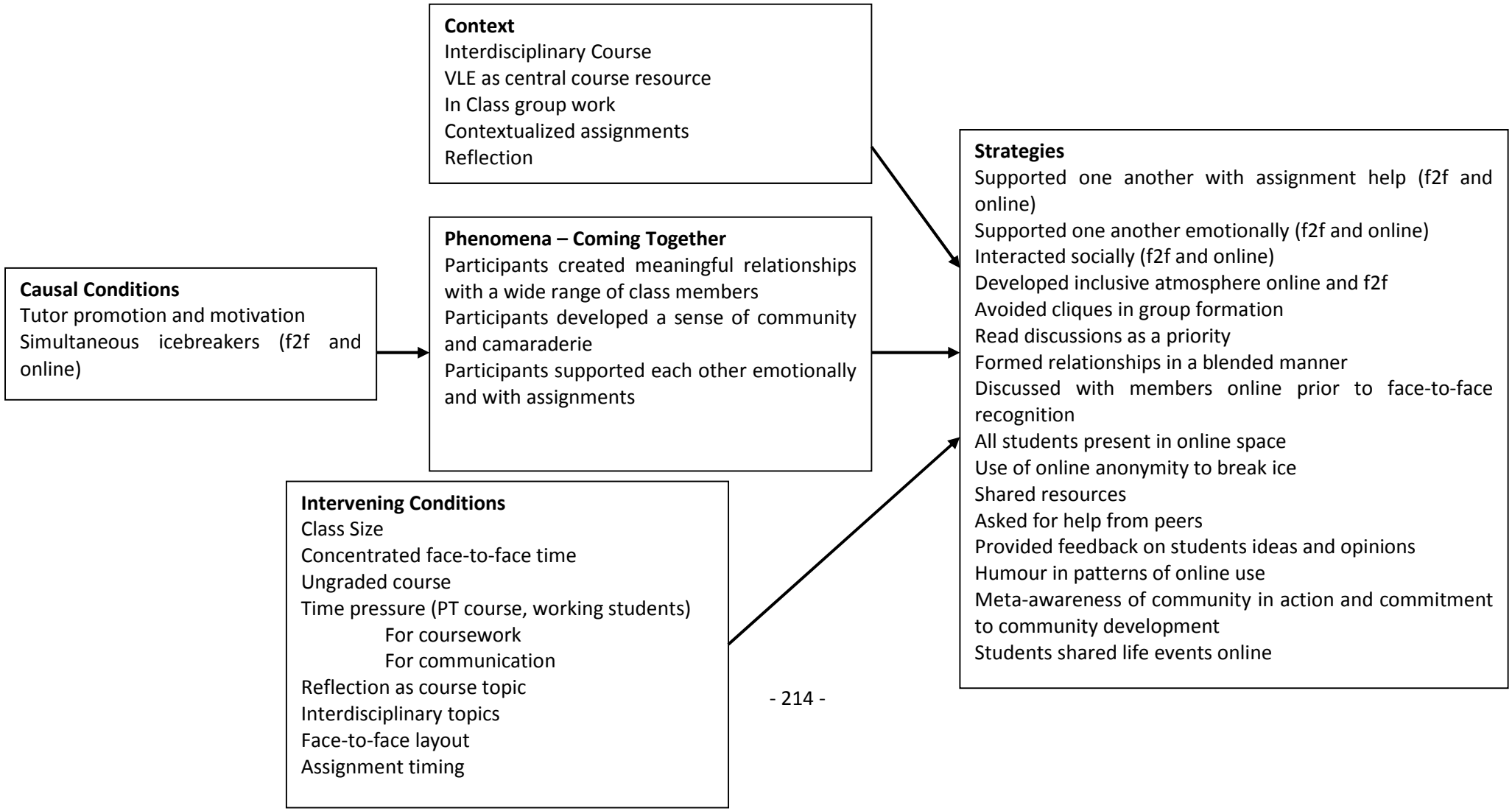
Structure

Duration of 7 days with one post (a reply) 14 days later.

Notes

DB is cumulative and therefore people may not post if their points have already been made.

Appendix 6 – Example of Axial Coding Paradigm



Consequences A
High level of Social interaction (f2f and online)
Online community acceptance seen same as face-to-face acceptance
Recognition of and commitment to the community (seen as distinctive and defining element of course)
Sense of trust and motivation
Lack of cliques
Fear of outsiders
Sense of camaraderie (same boat)
Fluid group formation
Enjoyment and pride in community
Revelation (it is how it should be)
Confident in peers' sincerity

Consequences B
Participants interacted socially both online and f2f
Participant perceived online community acceptance to be same as face-to-face acceptance
Participant regarded blended community as distinctive and defining
Participant had a high level of commitment to the community
Participants developed a sense of trust within the community
Participants were motivated by the community
Participants formed less of cliques or they had less impact
Participants had a fear of outsiders
Participants felt a sense of camaraderie (same boat)
Participant formed groups opportunistically
Participants enjoyed participating in the community
Participants felt a sense of pride in community
Participants felt such a community should be the norm
Participants felt confident in their peers' sincerity

Appendix 7 – Example of Conditional/Consequential Matrix

The matrix below was developed to represent the interaction between the core phenomenon and the macro conditions within which it was situated. Despite much time working on it, it was discarded as an approach as it resembled concepts that emerged from the literature as opposed to the data.