

THE GLASGOW SCHOOL OF ART

Marshalsey, Lorraine (2017) An investigation into the experiential impact of sensory affect in contemporary Communication Design studio education. PhD thesis, The Glasgow School of Art.

<http://radar.gsa.ac.uk/5894>

Copyright and moral rights for this thesis are retained by the author

A copy can be downloaded for personal non-commercial research or study, without prior permission or charge

This thesis cannot be reproduced or quoted extensively from without first obtaining permission in writing from the Author

The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the Author

When referring to this work, full bibliographic details including the author, title, awarding institution and date of the thesis must be given

An investigation into the experiential impact of sensory affect in
contemporary Communication Design studio education

Lorraine Marshalsey

Thesis

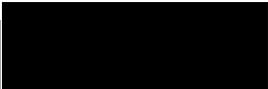
A thesis submitted in fulfilment of the requirements of
The Glasgow School of Art for the degree of Doctor of Philosophy

© 2017

Declaration

I, Lorraine Marshalsey, declare that the enclosed submission for the degree of Doctor of Philosophy and consisting of a written thesis meets the regulations stated in the handbook for the mode of submission selected and approved by the Research Degrees Sub-Committee.

I declare that this submission is my own work and has not been submitted for any other academic award.

Signed ...  Date ...1st August 2017.....

Lorraine Marshalsey
Learning and Teaching, Glasgow School of Art

Supervisors


Signed..... Date ...1st August 2017.....

Principal Supervisor: Dr. Madeleine Sclater BA (Fine Art) M.Phil D.Phil
Senior Academic Fellow in Digital Learning, Glasgow School of Art


Signed..... Date ...1st August 2017.....

Co-Supervisor: Steve Rigley MA PgCert
Lecturer/Graphic Design Pathway Leader, Communication Design, Glasgow School of Art

Acknowledgements

First and foremost, I would like to express my special thanks to Dr Maddy Sclater and Steve Rigley at the Glasgow School of Art in the UK for being the best PhD supervisors a girl could ask for. Your expertise, advice and guidance have been invaluable and I have loved every single minute of our journey. I hope that we continue as friends and colleagues for many years to come. I would also like to thank the Glasgow School of Art and the research degree programme staff for allowing me to continue my PhD internationally and the Global Excellence Initiative Fund for my PhD studentship. I also wish to thank Professor Victor Lally and Dr Fiona Patrick (University of Glasgow), and Sally Stewart (Glasgow School of Art) for taking the time to review my thesis and for providing critical feedback.

I also want to thank the two higher education institutions involved in the research investigation and each student in the UK and Australia who contributed to this study. For reasons of anonymity, I cannot name you, but without your valuable voices, opinions, effort and time, there would be no PhD and your contribution has been so appreciated. Thank you.

I would also like to thank my son, Sean, for insisting that I was capable of doing the PhD in the first place when I wasn't sure that I could. I also want to thank my parents, and my family, and friends and colleagues in the UK and Australia who contributed words of encouragement and support (no matter how small). You have no idea how much those words meant.

And lastly, words cannot express how grateful I am to my husband, Andy, for keeping me fed, watered, loved, and for gently nudging me onwards to keep taking those steps. I could not have done this without your support. Thank you.

Preface

This thesis forms part of my academic research encompassing the senses and interactions in physical spaces, which began when I read the architect Juhani Pallasmaa's *The Eyes Of The Skin* (2012a). From my position as a Design educator, doctoral student and educational researcher, I have been influenced by the philosophies in this seminal work of architectural theory. Pallasmaa's ideas have been instrumental in helping me to re-conceptualise my approach to design teaching and practice in recent years and were relevant to my Master's degree and the contextual beginnings of my doctoral research study.

In his book, Pallasmaa describes the crucial role of the body and the senses in the lived experience from a phenomenological perspective (Pallasmaa, 2012a). Phenomenology is a philosophy that was developed in the early stages of the 20th century by Edmund Husserl (1859-1938) (Moran, 1999; Cerbone, 2006, p.1). It is the practice or study of the lived experience – how we, as humans, experience our life-world. Yet, Pallasmaa argued that the hegemony of vision has become dominant in our culture and in our life-world. He calls us to address this visual dominance through the integration of all the senses simultaneously (Manen, 1990; Moran, 1999):

The very essence of the lived experience is moulded by hapticity and peripheral unfocused vision. Focused vision confronts us with the world whereas peripheral vision envelops us in the flesh of the world. (Pallasmaa, 2012a, p.14)

Phenomenology seeks to reconnect with the life of the living human subject, going beyond psychological assumptions about human existence on a day-to-day basis (Moran, 1999; Dall'Alba, 2009; Duarte, 2012). It is primarily concerned with "the study or science of the phenomena" through structures of experience and acts of consciousness (Cerbone, 2006, p.1). Maurice Merleau-Ponty (1908-1961) also emphasised the relation of consciousness to the human body as the centre of the sensory experiential world in a two-way, intertwined affiliation, indivisible, creating embodied presence in the daily environment (Merleau-Ponty, 1962; Moran,

1999). Merleau-Ponty's major work *Phenomenology of Perception* (1945) also offers a phenomenological account of "being-in-the-world" (Moran, 1999; Cerbone, 2006).

This thesis does not pursue a phenomenological investigation. However, phenomenological ideas relating to embodiment and the senses, although rooted in architectural theory, can be linked to daily educational practice. As a reflective practitioner and as an insider researcher working within a higher education context and its environments, I am interested in the way in which Pallasmaa's ideas can be interpreted within my own practice from my perspective as an educator and in relation to my students learning within a studio.

Prior to this doctoral study and throughout my Master's degree research, I questioned the efficacy of different educational methods in relation to sensory experience and the ways in which student engagement in studio learning could be fostered. I examined how sensory interactions can have both a mental and physical impact on the learner in the learning spaces they occupy. However, while the concluding research identified the positive experiences and overturned the negative experiences into a series of positive statements, it did not solve them. The emergent issues were not fully investigated in rigorous depth. As a result, the research did not enable nor empower the participants to engage more effectively with studio education. This posed concerns that required further investigation, which forms the basis of this doctoral research study.

Presentation and format of thesis submission

This thesis is supported by one hard copy Appendix A, which includes critical documentation, such as the ethical application and consenting approval for each case study. This appendix also includes extensive visual data derived from each week of the research activities of Case Study 1 in the UK and Case Study 2 in Australia. Several tables of details also support the synthesis of the data from each case study.

This thesis submission is further supported with the inclusion of Appendix B (provided on USB only), which contains the complete set of narrative transcripts from each of the case study sessions in the UK and Australia. The full range of questionnaire responses, individual student interviews, and focus group transcripts are presented here. Throughout the thesis, 'l.' is used to indicate line, as the lines in the transcripts have been numbered in Appendix B to assist readers. I have also included digital versions of the thesis submission and Appendix A on the detachable USB memory stick.

Extended Abstract

The impetus for this thesis has grown from the challenges facing day-to-day design studio education and the recognition that the formal/informal division of educational space impacts upon student learning and engagement in higher education today. As a consequence of the changing conditions imposed by economics, politics, and technology, specialist design studio facilities are being reconfigured into studio-based classroom learning spaces (often generically termed as 'studio'). It is, I believe, worth assessing how these recontextualised learning spaces impact upon students' senses.

This investigation did not set out to prove or test a pre-determined hypothesis from the onset of the study. Instead, the purpose of this research study was to systematically examine the relationship between sensory affect and learning in the changing landscape of contemporary Communication Design education. However, as the study progressed, sensory affect moved from being the central emphasis of the study to being the conduit through which to investigate aspects of learning experience within the two case studies in different shared domains. To understand the component parts of studio learning, sensory affect was effectively employed via the range of practice-led methods.

The data was gathered via the systematic examination of two case studies: an art school in the UK and a college of art contained within a parent university in Australia. Real-life formal and informal learning spaces provided the naturalistic settings in which to conduct the research with two groups of Communication Design students. The participants worked within studio and studio-based classroom environments using an inductive Participatory Action Research (PAR) approach involving Participatory Design (PD) tools and techniques. Participants responded to their everyday learning experiences through detailed and reflective narrative accounts via a series of participatory group workshops and individual visual, sensory and sound ethnographic research methods.

Overall, the findings showed that the participants could either be disturbed or supported by sensory affect in their experiences of learning spaces. The Case Study 1 participants in the UK

responded that their friendly, informal, day-to-day social interactions with peers and staff in their situated studio community, are integral to their collective and individual learning and practice. The Case Study 2 participants created their own offline and online community outside of the boundaries of their studio-based classroom learning spaces, mainly in cafes, at home and via social media. The findings evidenced the importance of multi-sensory research methods in drawing out relationships between place, lived experience, and community.

This research investigation travels a substantial distance towards a form of reconciliation and understanding of contemporary Communication Design learning spaces to support student engagement. As articulated throughout this thesis, this is largely a methodological investigation, which employs sensory affect as a lens to investigate the relationship between learning and practice, community, institutional management, the role of the studio, the pedagogical approach and lastly, meaning making of sensory affect. The suggestion is that when employing the proposed transferable framework – the Methods Process Model (MPM) (or elements thereof) – then the student's individual and collective relationship with learning is supported in relation to each of these areas. This is especially pertinent as technological concerns cross-cut and impact upon studio education today. The factors that might disrupt studio learning need to be brought forward into a students' consciousness using this framework, guided by educators, researchers and institutions. Being mindful of these issues might mean that students and educators can implement strategies to work better within the studio. Therefore, the main contribution to knowledge of this thesis, and grounded in the findings, is the support of students as they explore and engage with contemporary Communication Design studio learning, and how they reflectively examine the range of behaviours and reactions that can be drawn out from their lived experiences, through embodied thinking.

Keywords: Communication Design, sensory affect, studio education, learning spaces, case study, Participatory Action Research (PAR), Participatory Design (PD), narrative inquiry, ethnography, phenomenography.

TABLE OF CONTENTS

Declaration	2
Acknowledgements.....	3
Preface.....	4
Presentation and format of thesis submission.....	6
Extended Abstract.....	7
List of figures	15
List of abbreviations	23
Glossary of Terms.....	24
1 INTRODUCTION.....	28
1.1 Chapter overview	28
1.2 Author's positionality.....	29
1.3 Context of this study.....	30
1.3.1 The challenges facing contemporary day-to-day design studio education.....	30
1.3.2 Justifying Communication Design studio education in this study.....	35
1.3.3 Research problem	39
1.3.3.1 What is sensory affect?	39
1.3.3.2 Synopsis of current literature in this field	40
1.4 Research aims and questions	43
1.4.1 Research aims	44
1.4.2 Research questions.....	44
1.5 Overview of the fieldwork	45
1.5.1 The pilot study.....	45
1.5.2 Case study as method.....	46
1.6 Overview of the thesis structure.....	48
2 CONTEXTUAL REVIEW OF THE STUDIO AS A SITE FOR LEARNING.....	51
2.1 The studio as a site for learning	51
2.1.1 The character of the studio	51
2.1.2 A brief chronology of print culture and studio practice	52
2.1.3 The role of the studio in contemporary learning spaces and pedagogy.....	55
2.1.4 The current challenges affecting studio learning.....	59
2.2 Summary.....	65
3 LITERATURE REVIEW.....	66
3.1 Introduction.....	66

3.2	Outlining the literature review	68
3.3	Comparing this research investigation to previous studies in this field	69
3.3.1	The studio as a learning space and as a site for learning	71
3.3.2	A sense of place	74
3.4	Theoretical framework	77
3.4.1	Experiential learning theory	80
3.4.1.1	The educational theories of John Dewey.....	80
3.4.2	Social Constructivism	81
3.4.2.1	Lev Vygotsky and Jean Piaget.....	83
3.4.3	Communities of Practice theory	85
3.4.4	Sensory affect theory.....	87
3.4.4.1	Embodied knowing and becoming aware in studio learning.....	88
3.4.4.2	Enactive cognition and the “Felt Sense”.....	88
3.4.4.3	The character and structure of affective experience and the senses.....	89
3.4.4.4	Sensory affect and creativity.....	92
3.4.4.5	Sensory affect and wellbeing	94
3.4.4.6	Sensory affect and learning	95
3.4.4.7	Issues in research of sensory affect and studio learning.....	96
3.4.4.8	Understanding the complexity of sensory affect in studio learning	97
3.5	Illuminating the gaps in the literature addressed by this investigation.....	98
3.5.1	Experiential learning and Social Constructivism manifesting in studio pedagogy	98
3.5.2	Studio education today	102
3.6	Summary.....	104
4	RESEARCH METHODOLOGIES AND METHODS	107
4.1	Introduction	107
4.2	Ontological assumptions.....	107
4.2.1	Interpretivist and constructivist epistemology	108
4.3	The research design.....	109
4.3.1	The research aims and questions	109
4.3.2	The appropriateness of the chosen methodologies and methods	112
4.3.3	Addressing the subjective stance of the study.....	116
4.3.3.1	My ontological position as a subjective researcher.....	116
4.4	Methodologies and methods	118
4.4.1	The Participatory Action Research (PAR) and the case study approach.....	120
4.4.2	Case study methodology	125
4.4.3	What is Participatory Design (PD)?.....	127
4.4.4	Educational Participatory Action Research (PAR) and its relationship to Participatory Design (PD)	128

4.4.5	Engaging in narrative inquiry: Stories and experiences	129
4.4.5.1	Narrative inquiry as a form of qualitative research.....	130
4.4.5.2	Identifying and orientating the narratives in this study	131
4.4.5.3	Cross-case reflection and evaluation with the participants.....	132
4.4.5.4	Descriptive and in vivo coding of the narrative accounts.....	133
4.4.6	Ethnography.....	134
4.4.7	Phenomenography	135
4.5	Methods	136
4.5.1	Ethical considerations.....	136
4.5.1.1	My role as a researcher in the study	138
4.5.1.2	The participants roles as researchers in the study.....	141
4.5.1.3	Ethical issues, dilemmas, and issues of power.....	142
4.5.2	Visual ethnographic methods.....	144
4.5.2.1	Photovoice	144
4.5.2.2	Snapchat®	145
4.5.2.3	GoPro®.....	147
4.5.3	Sound and sensory ethnographic methods	148
4.5.3.1	Drawing and sonic mapping.....	149
4.5.4	Limitations of the methodologies and methods.....	151
4.6	Summary.....	154
5	CASE STUDY 1: AN ART SCHOOL IN THE UK.....	156
5.1	Purpose and rationale.....	156
5.1.1	Orientation	157
5.1.2	Recruitment.....	157
5.1.3	Characterising the participants.....	159
5.1.4	Identifying the preliminary categories.....	160
5.2	Gathering data.....	161
5.2.1	The within-case details of Case Study 1	165
5.2.2	Reflective workshop activities in groups.....	165
5.2.2.1	Week 1: Questionnaire	166
5.2.2.2	Week 2: Focus group on the questionnaire responses	166
5.2.2.3	Week 3: Focus group on place-making	168
5.2.2.4	Week 4: Logo drawing workshop	170
5.2.2.5	Week 5: Sonic-mapping.....	172
5.2.2.6	Week 6: GoPro® filming and reflection	174
5.2.2.7	Week 7: Reflective rug.....	177
5.2.2.8	Week 8: Participant-led drawing activity.....	179

5.2.2.9	Post-case study: Case Study 1 view their own and Case Study 2 Snapchat® data.....	184
5.2.2.10	Post-case study: Case Study 1 view the Case Study 2 filming data.....	188
5.2.3	Reflexive activities as individuals.....	189
5.2.3.1	My observational field notes.....	189
5.2.3.2	My visual observations of the studio.....	196
5.2.3.3	Sound recording in the studio.....	198
5.2.3.4	The participants image-making.....	201
5.2.3.5	Post-case study: Reflective interviews.....	204
5.3	Summary.....	205
6	CASE STUDY 1: ANALYSIS AND INTERPRETATION.....	207
6.1	Introduction.....	207
6.2	Managing the case study data.....	207
6.3	Developing the four-stage approach to analysis.....	208
6.4	Stage 1 analysis: Forming the preliminary categories.....	211
6.5	Reflecting on the storied data to form the preliminary categories.....	215
6.5.1	Analysing narrative inquiry of focus groups.....	216
6.5.2	Phenomenographic analysis of interviews.....	217
6.5.3	Supporting visual data.....	218
6.6	Stage 2 analysis: Classifying the preliminary categories into four descriptive codes.....	219
6.7	Stage 3 analysis: Forming the collated concepts.....	222
6.7.1	Communities of practice.....	228
6.7.2	Sensory affect.....	236
6.7.3	Place / Space.....	244
6.7.4	Tools.....	255
6.8	Stage 4 analysis: Key themes.....	259
6.9	Summary.....	263
7	CASE STUDY 2: A COLLEGE OF ART IN AUSTRALIA.....	266
7.1	Purpose and rationale.....	266
7.1.1	Case Study methodology.....	266
7.1.2	Orientation.....	267
7.1.3	Recruitment.....	267
7.1.4	Characterising the participants.....	272
7.1.5	Expanding the preliminary categories.....	274
7.2	Gathering data.....	275
7.2.1	The within-case details of Case Study 2.....	277
7.2.2	Reflective workshop activities in groups.....	277

7.2.2.1	Week 2: Focus group on the questionnaire responses	278
7.2.2.2	Week 2: Drawing activity.....	283
7.2.2.3	Week 3: Case Study 2 view Case Study 1 Snapchat® data	286
7.2.2.4	Week 4: Sound drawing workshop.....	287
7.2.2.5	Week 6: Case Study 2 view Case Study 1's GoPro® data	291
7.2.2.6	Week 8: Reflective manifesto.....	293
7.2.3	Reflexive activities as individuals	296
7.2.3.1	My observational field notes.....	296
7.2.3.2	My visual observations of the studio-based classroom spaces	299
7.2.3.3	Sound recording in the studio	300
7.2.3.4	The participants image-making	301
7.2.3.5	Post-case study: One Case Study 2 participant visits the Case Study 1 studio in the UK	308
7.3	Summary.....	310
8	CASE STUDY 2: ANALYSIS AND INTERPRETATION.....	312
8.1	Introduction	312
8.2	Developing the four-stage approach to analysis.....	312
8.3	Stage 1 analysis: Expanding the preliminary categories	313
8.4	Stage 2 analysis: Validating the preliminary categories as four descriptive codes	314
8.5	Stage 3 analysis: Forming the collated concepts.....	316
8.5.1	Communities of practice	317
8.5.2	Sensory affect	324
8.5.3	Place / Space.....	329
8.5.4	Tools.....	337
8.6	Stage 4 analysis: Key themes.....	343
8.7	Summary.....	346
9	DISCUSSION OF FINDINGS	349
9.1	Restatement of research aims.....	349
9.2	Reflecting on the Participatory Action Research (PAR) and the Participatory Design (PD) approach.....	351
9.2.1	Adapting tools and techniques.....	351
9.2.2	Reflecting on the research approach	351
9.2.3	Comparing this research investigation with previous studies in the field	353
9.3	The six broader thematic categories derived from the key themes.....	354
9.4	Review and implications of the main findings, and their practical significance.....	356
9.4.1	The Methods Process Model (MPM).....	357
9.4.2	Implications for Communication Design practice	361

9.4.3	Supporting the community of practice	366
9.4.4	Institutional structure and management	371
9.4.5	The role of the studio environment.....	375
9.4.6	Pedagogical design / methodology	379
9.4.7	Meaning making through sensory affect.....	383
9.5	Limitations of the study	388
9.5.1	Problems arising in the investigation.....	389
9.6	Summary.....	390
10	SUMMARY AND CONCLUSION	391
10.1	Summary of this thesis.....	391
10.1.1	Summary of the main findings.....	393
10.1.2	Sensory affect as a lens to focus the research.....	394
10.2	Novel contributions of the study.....	396
10.3	Recommendations for future research in this field.....	399
10.3.1	Investigating studio learning within other contemporary Design disciplines.....	399
10.3.2	The role of Design educators as insider researchers.....	400
10.3.3	Investigating the transition of design students out of studio education into industry.....	401
10.3.4	Investigating sensory affect and learning within non-studio environments.....	401
10.4	Autobiographical reflection.....	402
10.5	Concluding remarks	403
11	REFERENCES	406
 APPENDIX A		
12	ETHICAL APPLICATION	5
13	CASE STUDY 1: An art school in the UK	20
14	CASE STUDY 2: A college of art in Australia	74
15	ANALYSIS	111
16	CASE STUDY 1 SOUND CLIPS	112
 APPENDIX B [Case study transcripts, USB]		
17	CASE STUDY 1: An art school in the UK	4
18	CASE STUDY 2: A college of art in Australia	159

List of figures

Figure 1. Timeline of educational reform in the UK and Australia. © L. Marshalsey, 2016.	34
Figure 2. Case Study 1: An art school in the UK. © L. Marshalsey, 2016.	47
Figure 3. Case Study 2: A college of art in Australia. © L. Marshalsey, 2016.	47
Figure 4. Basic and advanced studio worktables and resources for designers, circa. 1980. (McLean, 1980, p.35).	56
Figure 5. A typical desk space in the studio of Case Study 1. © L. Marshalsey, 2016.	57
Figure 6. A typical 'hot-desking' studio within Case Study 2. © L. Marshalsey, 2016.	57
Figure 7. Presentation pods. © Used with kind permission Paul Wright, Macquarie University, Australia 2016.	58
Figure 8. Classroom-based studio space. © L. Marshalsey, 2016.	63
Figure 9. Photos illustrating the many ways in which Design students support place making within their learning spaces. © L. Marshalsey, 2015.	76
Figure 10. Mapping the field of study. © L. Marshalsey, 2016.	79
Figure 11. A model linking global personality traits with affective processes and cognitive abilities involved in creativity (adapted from Russ, 1993, p.10). © L. Marshalsey, 2016.	93
Figure 12. Joomi Chung, 2015, Swarm (Lines and Points: an Image-Space of Thoughts and Sensations), Installation, wire and acrylic medium, 20ft x 30ft x 10ft (h), 2015. (Chung, 2016).	98
Figure 13. Itten beginning class at the Bauhaus in Weimar. (Zifcak, 2013).	100
Figure 14. Josef Albers. © The Josef and Anni Albers Foundation (2016).	101
Figure 15. Worth Pop-Up shop social media project. © Central St Martins College of Art and Design (2014).	102
Figure 16. Hand lettering and calligraphic techniques in student work. © L. Marshalsey, 2016.	104
Figure 17. Diagram illustrating the relationship between the ontology, epistemology, methodology and methods in this study (adapted from Collins, 2010, p.90). © L. Marshalsey, 2016.	108
Figure 18. The research design and its related methods and framework. © L. Marshalsey, 2017.	111
Figure 19. Displaying the creative outputs from the reflective workshops. © L. Marshalsey, 2016.	115
Figure 20. The selected methodologies and methods used in this study. © L. Marshalsey, 2017.	119
Figure 21. The action-reflection cycle (modified from McNiff and Whitehead, 2006, p.9). © L. Marshalsey, 2017.	121
Figure 22. The reflective action research cycle conducted as weekly group workshops and individual methods (adapted from McNiff and Whitehead, 2006, p.9). © L. Marshalsey, 2017.	122
Figure 23. Diagram illustrating that the participants became progressively independent as researchers © L. Marshalsey, 2016.	123
Figure 24. The methods (data collection techniques) used in the case study investigations. © L. Marshalsey, 2016.	126
Figure 25. Unpacking the characteristics of narrative inquiry. © L. Marshalsey, 2016.	130
Figure 26. Descriptive and in vivo coding of the narrative accounts modified from Saldaña (2016, p.8)..	134
Figure 27. The informal sofa area within Case Study 1 in the UK. © L. Marshalsey, 2016.	140
Figure 28. A recurring theme of digital practice is shown in the images. © L. Marshalsey, 2015.	145
Figure 29. The Snapchat® method generated images. © L. Marshalsey, 2015.	146

Figure 30. The participants used GoPro® film cameras and mobile phone video applications. © L. Marshalsey, 2015.	147
Figure 31. Digital sensory-based drawing methods in Case Study 2. © L. Marshalsey, 2015.....	150
Figure 32. Hand-driven sensory-based drawing methods in Case Study 2. © L. Marshalsey, 2015.....	150
Figure 33. The participants developed insight as group participants. © L. Marshalsey, 2016.	153
Figure 34. The participants developed insight as reflexive individuals. © L. Marshalsey, 2016.....	154
Figure 35. The participants' artefacts: a small team flag, a pug ornament and a pen pot. © L. Marshalsey, 2015.	169
Figure 36. Installing mirrored card to visibly double desk space. © L. Marshalsey, 2015.....	169
Figure 37. Installing mirrored card to visibly double desk space. © L. Marshalsey, 2015.....	170
Figure 38. Participants contributing to the logo drawing process. © L. Marshalsey, 2015.....	171
Figure 39. The participants' final logo represented sensory affect within the studio environment. © L. Marshalsey, 2015.	172
Figure 40. The participants used differing creative approaches [1], [2] and [3] to express their notions of studio sound. © L. Marshalsey, 2015.	173
Figure 41. Participating in a GoPro® filming activity. © L. Marshalsey, 2015.....	175
Figure 42. Peripheral studio members in the vicinity of the filming. © L. Marshalsey, 2015.	175
Figure 43. Peripheral studio members in the vicinity of the filming. © L. Marshalsey, 2015.	176
Figure 44. The 'research rug' displayed the data chronologically. © L. Marshalsey, 2015.	178
Figure 45. Participants populated the 'research rug' with Post-It® note reflections on parts of the data. © L. Marshalsey, 2015.	179
Figure 46. A 25-metre long 'research rug' chronologically charted all data. © L. Marshalsey, 2015.	179
Figure 47. The first drawing exercise was conducted in a communal area. © L. Marshalsey, 2015.	181
Figure 48. The second part of the participatory drawing exercise continued in the participants own studio environment. © L. Marshalsey, 2015.....	181
Figure 49. Drawing data produced from the student-led reflective workshop activity. © L. Marshalsey, 2015.	182
Figure 50. Comparing the drawing data produced from two different spaces. © L. Marshalsey, 2015.....	183
Figure 51. The Snapchat® data from Case Study 1 as a poster. © L. Marshalsey, 2015.	185
Figure 52. The Snapchat® data from Case Study 2 as posters. © L. Marshalsey, 2015.	185
Figure 53. Reflections on Post-It® notes of the Snapchat® images from both case studies. © L. Marshalsey, 2015.	186
Figure 54. Artwork from Jill's desk. © L. Marshalsey, 2015.....	190
Figure 55. Toby's desk position in the studio. © L. Marshalsey, 2015.	192
Figure 56. The evolution of each student's desk, photographed week by week. © L. Marshalsey, 2015.	194
Figure 57. Artwork in the informal sofa area. © L. Marshalsey, 2016.....	195
Figure 58. A section of the open-plan studio inside Case Study 1 in the UK. © L. Marshalsey, 2016.....	196
Figure 59. A series of images of one student's workstation moving from an intimate perspective (top left) to their position in the wider context of the studio (bottom right). © L. Marshalsey, 2016..	197
Figure 60. Sound was recorded in the studio in differing locations each week. © L. Marshalsey, 2015...	199
Figure 61. Sound waves captured during a busy, industrious day when the studio was populated with students. © L. Marshalsey, 2015.....	200

Figure 62. Sound waves captured during a quiet, less industrious day when the studio was populated with few students. © L. Marshalsey, 2015.	200
Figure 63. The participants' Snapchat® images of enthusiastic participating studio members. © L. Marshalsey, 2015.	203
Figure 64. Practical methods, classes and play were documented quickly. © L. Marshalsey, 2015.	203
Figure 65. The Data Analysis Spiral diagram modified from Creswell (2013, p.183). © L. Marshalsey, 2016.	208
Figure 66. The four stages of analysis of Case Study 1. © L. Marshalsey, 2016.	210
Figure 67. The process of Stage 1 analysis: Capturing data, transcribing, reading and memoing to form the preliminary categories. © L. Marshalsey, 2016.	211
Figure 68. Highlighting the identifiable language noted from the key phrases and concepts that related to a potential category. © L. Marshalsey, 2016.	213
Figure 69. Reflective handwritten notes and/or digital comments in the margins of each page to aid the cross-matching of related topics. © L. Marshalsey, 2016.	214
Figure 70. Stage 1 analysis: Reading, highlighting, reflecting, and writing notes and questions in the margins of a case study questionnaire. © L. Marshalsey, 2016.	215
Figure 71. An independent research colleague analysing the focus group transcript data. © L. Marshalsey, 2016.	217
Figure 72. Portion of an analysed interview transcript. © L. Marshalsey, 2016.	218
Figure 73. Observational photography of Jill's desk. © L. Marshalsey, 2016.	219
Figure 74. Stage 2 analysis: The preliminary emergent categories are organised into four colour-coded descriptive codes. © L. Marshalsey, 2016.	221
Figure 75. The first step in Stage 3 analysis: Post-It® notes were clustered under one of the four descriptive code and then clustered again under each student actor. © L. Marshalsey, 2016.	222
Figure 76. Steps taken to form the collated concepts from the transcripts. © L. Marshalsey, 2017.	225
Figure 77. The process of narrative inquiry Stage 3 analysis: mapping data, counting, grouping and cross-matching to form the collated concepts. © L. Marshalsey, 2016.	227
Figure 78. The desk dividers act as a boundary for each student in the studio. © L. Marshalsey, 2015.	239
Figure 79. The process of narrative inquiry Stage 4 analysis: prioritising and re-interpreting the collated concepts to form key themes. © L. Marshalsey, 2016.	261
Figure 80. The locations of the studio-based classrooms, G, P and L in Case Study 2. © L. Marshalsey, 2017.	270
Figure 81. Studio P inside Case Study 2: A college of art in Australia. © L. Marshalsey, 2016.	270
Figure 82. Studio L inside Case Study 2: A college of art in Australia. © L. Marshalsey, 2016.	271
Figure 83. Studio G inside Case Study 2: A college of art in Australia. © L. Marshalsey, 2016.	271
Figure 84. Sensory affect in Studio P interpreted by a student using digital drawing techniques. © L. Marshalsey, 2016.	284
Figure 85. Sensory affect in Studio L interpreted by a student using digital drawing techniques. © L. Marshalsey, 2016.	284
Figure 86. Sensory affect in Studio G interpreted by a student using digital drawing techniques. © L. Marshalsey, 2016.	285

Figure 87. The participants visualised their responses to each of the sound clips through drawing on paper. © L. Marshalsey, 2016.....	288
Figure 88. “a hundred people walking behind me”. © L. Marshalsey, 2016.....	289
Figure 89. The participants visualised their responses to a loud intermittent beep through drawing on paper. © L. Marshalsey, 2016.....	290
Figure 90. A student visualised their response to the sound of air conditioning through drawing. © L. Marshalsey, 2016.	290
Figure 91. The student manifesto task in Week 8. © L. Marshalsey, 2016.....	295
Figure 92. The populated timetabled classes of studio G. © L. Marshalsey, 2016.	297
Figure 93. Students do not occupy their desk space in this university. © L. Marshalsey, 2016.	297
Figure 94. Sound waves captured during quiet and busy tutorials in Case Study 2. © L. Marshalsey, 2015.	301
Figure 95. The participants documented their own home-based desk spaces through the Snapchat® method. © L. Marshalsey, 2016.	303
Figure 96. Food and sustenance in cafes, bars and at home is a recurring theme in the Snapchat® images. © L. Marshalsey, 2016.....	303
Figure 97. Still frames from the student’s filming task. © L. Marshalsey, 2016.....	306
Figure 98. A participants reflective Post-It® note on the filming task: “I had nothing worth filming at uni”. © L. Marshalsey, 2016.	306
Figure 99. Varying approaches to mark-making in the touch journals. © L. Marshalsey, 2016.	307
Figure 100. The four stages of analysis of Case Study 2. © L. Marshalsey, 2016.....	313
Figure 101. Stage 2 analysis: The 17 preliminary emergent categories drawn from the Case Study 1 and Case Study 2 databases are validated into four colour-coded descriptive codes. © L. Marshalsey, 2016.	315
Figure 102. Post-It® notes were clustered under one of the four descriptive codes (at this point, Place and Space were separated out). © L. Marshalsey, 2016.....	316
Figure 103. An art materials trolley used in timetabled classes. © L. Marshalsey, 2016.....	340
Figure 104. The process of narrative inquiry Stage 4 analysis: prioritising and re-interpreting the collated concepts to form key themes. © L. Marshalsey, 2016.	344
Figure 105. Collapsing the key themes A – M into six broader thematic categories. © L. Marshalsey, 2017.	355
Figure 106. As a research design template, the Methods Process Model (MPM) provides two methodological streams – A and B. © L. Marshalsey, 2017.....	360
Figure 107. The Methods Process Model (MPM) adjusted to investigate the implications for Communication Design practice within studio learning. © L. Marshalsey, 2017.....	365
Figure 108. The Methods Process Model (MPM) adjusted to support the community of practice within studio learning. © L. Marshalsey, 2017.	370
Figure 109. The Methods Process Model (MPM) adjusted to investigate the institutional structure and management within studio learning. © L. Marshalsey, 2017.....	374
Figure 110. The Methods Process Model (MPM) adjusted to investigate the role of the studio environment within studio learning. © L. Marshalsey, 2017.....	378
Figure 111. The Methods Process Model (MPM) adjusted to investigate pedagogical design and methodologies used within studio learning. © L. Marshalsey, 2017.	382

Figure 112. The Methods Process Model (MPM) adjusted to investigate meaning making of sensory affect within studio learning. © L. Marshalsey, 2017. 387

List of tables

Table 1. Searched scholarly databases. © L. Marshalsey, 2016.	67
Table 2. Previous contextual studies (1–3) and key texts forming the theoretical framework (4–6) in the field of study. © L. Marshalsey, 2016.	70
Table 3. 13 preliminary categories have been identified. © L. Marshalsey, 2016.	161
Table 4. Case Study 1: The chronological data collection via reflective group workshops and reflexive activities as individuals. © L. Marshalsey, 2016.	163
Table 5. Case Study 1: Post-case study data collection. © L. Marshalsey, 2016.	164
Table 6. The preliminary categories emerging from the focus group in Week 2. © L. Marshalsey, 2016.	168
Table 7. The preliminary category emerging from the focus group in Week 3. © L. Marshalsey, 2016....	168
Table 8. The preliminary category emerging from the logo drawing workshop in Week 4. © L. Marshalsey, 2016.	171
Table 9. The preliminary category emerging from the sonic-mapping exercise in Week 5. © L. Marshalsey, 2016.	173
Table 10. The preliminary categories emerging from the GoPro® filming activity in Week 6. © L. Marshalsey, 2016.	177
Table 11. The preliminary categories emerging from the reflective rug activity in Week 7. © L. Marshalsey, 2016.	178
Table 12. The preliminary category emerging from the focus group in Week 8. © L. Marshalsey, 2016.	184
Table 13. The preliminary categories emerging from my observational field notes. © L. Marshalsey, 2016.	191
Table 14. The preliminary categories emerging from my observational photography. © L. Marshalsey, 2016.	195
Table 15. The preliminary categories emerging from my observations of the studio. © L. Marshalsey, 2016.	198
Table 16. The preliminary category emerging from the use of sound recording in the studio. © L. Marshalsey, 2016.	201
Table 17. The preliminary category emerging from the student's image-making. © L. Marshalsey, 2016.	202
Table 18. Methods aligning to the research questions in Case Study 1. © L. Marshalsey, 2017.....	206
Table 19. The responses and key phrases from each student in Case Study 1 under the descriptive code Community of Practice. © L. Marshalsey, 2016.	234
Table 20. The frequency of the collated concepts appearing in Case Study 1 under the descriptive code Communities of Practice. © L. Marshalsey, 2016.....	235
Table 21. The responses and key phrases from each student in Case Study 1 under the descriptive code Sensory Affect. © L. Marshalsey, 2016.	242
Table 22. The frequency of the collated concepts appearing in Case Study 1 under the descriptive code Sensory Affect. © L. Marshalsey, 2016.	243
Table 23. The responses and key phrases from each student in Case Study 1 under the descriptive code Place / Space. © L. Marshalsey, 2016.....	253

Table 24. The frequency of the collated concepts appearing in Case Study 1 under the descriptive code Place / Space. © L. Marshalsey, 2016.....	254
Table 25. The responses and key phrases from each student in Case Study 1 under the descriptive code Tools. © L. Marshalsey, 2016.	258
Table 26. The frequency of the collated concepts appearing in Case Study 1 under the descriptive code Tools. © L. Marshalsey, 2016.	259
Table 27. The top 10 collated concepts from each descriptive code table have been selected and re-interpreted as a distinct set of identifiable key themes A-L. © L. Marshalsey, 2016.	263
Table 28. The key themes (A-L) from Case Study 1. © L. Marshalsey, 2016.....	265
Table 29. The preliminary categories from Case Study 1. © L. Marshalsey, 2016.	274
Table 30. Four further emergent categories were identified from Case Study 2. © L. Marshalsey, 2016.	275
Table 31. Case Study 2: The chronological data collection via reflective group workshops and reflexive activities as individuals. © L. Marshalsey, 2016.	276
Table 32. The preliminary categories from the focus group in Week 2. © L. Marshalsey, 2016.	283
Table 33. The preliminary categories emerging from the drawing activities in Week 2. © L. Marshalsey, 2016.	286
Table 34. The preliminary categories emerging from the sound drawing workshop in Week 4. © L. Marshalsey, 2016.	291
Table 35. The preliminary categories emerging from the reflective activity in Week 8. © L. Marshalsey, 2016.	296
Table 36. The preliminary categories emerging from my observations of the studio. © L. Marshalsey, 2016.	299
Table 37. The preliminary categories emerging from the participants' image-making. © L. Marshalsey, 2016.	308
Table 38. The preliminary categories emerging post-case study. © L. Marshalsey, 2016.....	310
Table 39. Methods aligning to the research questions in Case Study 2. © L. Marshalsey, 2017.....	311
Table 40. The 17 preliminary categories identified from both case study investigations. © L. Marshalsey, 2016.	314
Table 41. The responses and key phrases from each student in Case Study 2 under the descriptive code Community of Practice. © L. Marshalsey, 2016.	322
Table 42. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Communities of Practice. © L. Marshalsey, 2016.....	323
Table 43. The responses and key phrases from each student in Case Study 2 under the descriptive code Sensory Affect. © L. Marshalsey, 2016.	327
Table 44. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Sensory Affect. © L. Marshalsey, 2016.	328
Table 45. The responses and key phrases from each student in Case Study 2 under the descriptive codes Place / Space. © L. Marshalsey, 2016.....	334
Table 46. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Place. © L. Marshalsey, 2016.	335
Table 47. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Space. © L. Marshalsey, 2016.	336

Table 48. The responses and key phrases from each student in Case Study 2 under the descriptive code Tools. © L. Marshalsey, 2016.	341
Table 49. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Tools. © L. Marshalsey, 2016.	342
Table 50. The top 10 collated concepts from each descriptive code table have been collapsed into a set of identifiable key themes A – M. © L. Marshalsey, 2016.	346
Table 51. The key themes (A-M) from Case Study 2. © L. Marshalsey, 2016.	347
Table 52. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 1. Implications for Communication Design practice. © L. Marshalsey, 2017.	361
Table 53. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 2. Supporting the community of practice. © L. Marshalsey, 2017.	366
Table 54. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 3. Institutional structure and management. © L. Marshalsey, 2017.	371
Table 55. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 4. The role of the studio environment. © L. Marshalsey, 2017.	375
Table 56. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 5. Pedagogical design / methodology. © L. Marshalsey, 2017.	379
Table 57. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 6. Meaning making of sensory affect. © L. Marshalsey, 2017.	383

List of abbreviations

anon	Name not known
BMC	Black Mountain College
CoP	Communities of Practice theory
et al	And others
HD	High-definition
HE	Higher education
HECS	Higher Education Contributions Scheme
ibid	In the same place
MPM	Methods Process Model
NACAE	National Advisory Council for Art Education
nd	No date
op cit	In the work cited
QAA	Quality Assurance Agency for Higher Education
PAR	Participatory Action Research
PD	Participatory Design
SMD	Sensory Modulation Dysfunction
TEQSA	Tertiary Education Quality and Standards Agency
ZPD	The Zone of Proximal Development

Glossary of Terms

Action research	An iterative approach to research and a process of inquiry that actively involves the participants being researched, and with a view to solving issues within a community.
Affect	Affect broadly measures and influences feelings, emotions, moods, creativity and wellbeing, engagement. Affect can also yield multiple interpreted meanings, as evidenced by the work of many prominent philosophers. In the context of this investigation, affect is an understanding of perceptive and conscious sensation within contemporary learning spaces.
Case study	An empirical inquiry that investigates a phenomenon within its real-life context. A case study occurs over a sustained period of time and researches a particular person, group, or situation.
Community of practice	A group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.
Educational action research	Action research is often used in fields such as education. Educational action research directly involves educators as a means to improve classroom practice and seeks to restructure the nature of teaching by encouraging educators to take an active role.
Ethnography	The systematic study of people and culture. It is widely accepted as a research methodology and its techniques were drawn from social anthropology in the late 19th and early 20th centuries. Ethnographers spend considerable time in the field at a location, event, or setting to observe the patterns of behaviour, practice, and social rituals of its participants.

Experience	Personally, encountering an event or occurrence, which leaves an impression, such as being understood, remembered or perceived.
Intervention	Action taken to improve a situation or to address an issue.
Learning space	Implies an environment, in which learning and teaching takes place. In a taxonomy of learning spaces, it can be defined by its audience, activities, attributes (such as group size), technology and components (such as seating and production surfaces). Commonly referred to as a 'classroom', but may also refer to specialised studios, educational environments, studio-based classrooms, indoor or outdoor locations, and physical, blended or virtual learning spaces.
Methodology	The systematic, theoretical analysis of a specific set of methods applied to a field of study.
Narrative inquiry	A form of qualitative research that has been used to draw out storied phenomena from a dataset. The telling of these storied experiences is a unique way of thinking and understanding that is distinctive and embodied.
Participatory Action Research (PAR)	Participatory Action Research (PAR) facilitates a multi-modal methodology that is progressively open-ended and where the research activities are developed in a collaborative partnership with the participants. In PAR, participants interact and identify patterns and variations in their behaviours and practices by reflecting on sections of the collated data. This reflection-in-action allows the participants to react and plan future actions as they make improvements based upon judgments of accumulated evidence over time.
Participatory Design (PD)	Participatory Design (PD) (formerly known as co-operative design and used interchangeably with co-design in other fields) is an approach that is grounded in the involvement of people in developmental processes,

as it builds on the participants' experiences and it challenges conventional approaches to designing. PD has three main premises: the theoretical underpinnings and historical development of PD; the methods and tools for facilitating the PD process in a variety of contexts; and the descriptive and analytical discussions emerging from the processes and outcomes when PD is applied to real world projects.

Reflection-in-action

The process when participants partake in self-reflective inquiry to improve their own practice and engage in a cycle of continuous learning as they pay critical attention to everyday actions.

Sensory affect

Sensory evaluation is often used to evoke, measure, analyse and interpret experience. Sensory affect is the influence of experience detected through the body. It is perception through the senses, as a means for participants to analyse and interpret the impact of the environment around them. Participants may be sensitive to the sensory affects within their environments, yet the impact of these experiences may go unnoticed or simply be tolerated within the environment in which they are situated.

Sensory ethnography

Sensory ethnography challenges, revises, and rethinks core components of the ethnographic framework, stressing the numerous ways that smell, taste, touch, and vision can be interconnected and interrelated within research.

Studio

The traditional, specialist working place of a painter, designer, sculptor, or photographer, or, more recently, as a place where motion pictures are made or where the transmission of radio or television programmes occur.

A studio is a combination of three things: the physical space; the people who occupy that space; and the work they produce as project-based and problem-solving

activities form studio. Studio is often a casual space in which meetings, presentations, and critiques are scheduled, and in which people can congregate and disband at other times.

Visual ethnography

Situated in the field of social anthropology, visual ethnography is considered invaluable for generating interpretative research from data via visual methods, such as video and photography.

Workshop

A workshop involves a group of people engaging intensively via discussion and/or practical activity on a particular subject or project in order to explore aspects of an issue, skill or technique.

Zone of Proximal Development (ZPD)

Vygotsky's Social Development Theory recognised cognitive development as a consequence of interaction and learning in a social context. Vygotsky's definitive theory – the Zone of Proximal Development (ZPD) – proposes that a student on the threshold of learning a new concept can benefit from interaction with their peer group. Vygotsky's theory acknowledges that students are able to accomplish tasks through peer or educator collaboration that they could not achieve alone.

1 INTRODUCTION

1.1 Chapter overview

The purpose of this thesis is to investigate studio and studio-based classroom environments in contemporary Communication Design studio education. The main contribution to knowledge of this thesis, and grounded in the findings, is the support of students as they explore and engage with contemporary studio learning and the suggestion that the student's individual and collective relationship with learning can be supported in relation to practice, community, governance, the role of the studio, pedagogy and curriculum, and sensory affect. This is especially pertinent as technological concerns cross-cut and impact upon several of these areas. A secondary contribution can be made to an established investigative field examining complex thinking through the body, embodied knowing, the dynamic interaction between person and environment, and the range of behaviours and reactions that can be drawn out from affective processes incorporating the senses. A secondary contribution is also made to existing knowledge of reflective practice and thinking through the body using Participatory Design (PD) methods. This Participatory Action Research (PAR) study is comprised of two case studies in two distinct settings: a specialised art school in the UK and a college of art within a mainstream university in Australia. My thoughts and reflections as a Design educator are central to the action research and practitioner-based research approach. This study is qualitative and interpretivist in nature as I create and associate my subjective meanings in my interactions within the educational environments (Schwandt, 1994, p.118). This study draws mainly from narrative inquiry and is also rich in its methodological and theoretical complexity and innovation.

In this introductory chapter, I will first specify my positionality, and then establish the importance of the topic as I contextualise the study. I outline the challenges affecting Communication Design studio learning today and the nature of the research problem. Following on from this, I outline the research aims, questions and objectives of this investigation before I provide a brief overview of the fieldwork. I conclude this chapter with an indication of the thesis structure.

1.2 Author's positionality

As I am a Design educator and educational researcher, it is important that I outline my ontological position as a subjective investigator in the context of this study. Prior to this investigation, I began to question my own experiences and engagement levels in studio and studio-based environments as a lecturer within Communication Design education. I began to deconstruct the experiences of the spaces in which I teach every day, including the experiences of my place in the studio. I realised that my teaching practice has altered to suit differing conditions and locations.

A Hungarian psychologist, Mihalyi Csikszentmihalyi (1934-), pioneered the concept of flow as a theoretical model of optimal experience. Flow constitutes total involvement, engagement and participation in activities while engaging a positive psychological state. His writings on the effects of positive psychology manifested as flow in education are widely known (Csikszentmihalyi, 1998; 2002; 2008). Through adopting a reflexive approach in my teaching practice, I subsequently began to identify personal experiential comforts and frustrations in my teaching environment: I became attuned to the things both intruding and supporting my flow. To investigate how my flow might be sustained or interrupted, I collectively aggregated the impact of each sensory affect: noise, drafts, natural light, visual inspiration, and mess, among others. I began to realise that all of these factors reside in the immediate environment and can also be activated by the people in these settings. To understand these issues, I documented a series of connected sensory experiences in my immediate environment. From quietly observing my peers, colleagues and students, I realised that I am not alone in this stance. Sensory affect influences the experiences of many individuals and groups in studio education. Two Communication Design educators who I interviewed in the preliminary stages of this research, and prior to the pilot study, intimated:

The open-plan nature of the space leads to constant noise disruption from a whole range of sources; in this environment, my concentration is constantly broken by all the distractions and it can be difficult to hold the class's attention for sustained periods... [I]

feel as if being watched, not relaxed, constrained, unable to create a good productive environment, as if I'm in an office, not a creative space. (Design educator 1, pers. comm., December 2011)

[The studio] It's pretty traumatic. Noise seems to come from everywhere... Students have difficulty hearing/concentrating because of noise, which makes you feel that what you are doing is pointless... it is a source of anxiety because I am unable to exert any control over the environment and I feel that the students are not getting a good learning experience. (Design educator 2, pers. comm., June 2014)

Following these early educator interviews, I realised I would become an integral part of this study. My position as a Design educator means I have become an insider, a culturally embedded subjective researcher (McNess, et al., 2013). My situation is unique as although I research together with the participants, I also research independently of them. In the first case study, I function as an outsider-turned-insider action researcher in the institution I have no prior affiliation with, as part of this investigation. In a second case study, I research in the learning spaces I teach in every day. This has wider implications of a fluctuating and complex power shift between the participants and me, which affects the research process, how the research activities were managed, and the balance of my relationship with the participants in each institution. This study is also a study of my thoughts as an active, reflexive and reflective practitioner in my approach to this research investigation. Consequently, throughout this thesis, I have intentionally included my own voice from these perspectives where possible.

1.3 Context of this study

1.3.1 The challenges facing contemporary day-to-day design studio education

What follows is an account of the challenges facing design education and studio learning today because the traditional relationship between the educational institution and the student designer

has shifted (Rudd, et al., 2006, p.5). The impetus for this study grows from the important changes to the formal/informal division of learning spaces within contemporary higher education worldwide. To contextualise the relevance of these developments in recent years within art and design in further and higher education, it is worth highlighting that learning approaches and practices in specialist studio settings have seen some dramatic transformations:

The whole landscape of space use is changing: the hybridising of space, the dispersing of work, the annexing of non-traditional spaces or the freedoms and constrictions that comes with new technology and the blending and layering of physical and virtual work arenas. The learning environment is [...] in the front line of these volatile developments. (Harrison and Hutton, 2014, p.1)

In the UK, these developments started to appear in the 1960's (Figure 1), when the *Coldstream Report* outlined the formation of art diplomas following the first report of the National Advisory Council for Art Education (National Advisory Council for Art Education (NACAE), 1960). Degree status was awarded to recognised art school courses in the UK and the link between the study of art and design subjects and studio training was established (Thistlewood, 1992; Rust, et al., 2007). Following this, the *Robbins Report* (Robbins, 1963) pre-empted several changes in the delivery of higher education. This report argued that student-to-staff ratios generally should not be allowed to decline and there should be wider access to higher education.

Many art schools became part of the Polytechnic system in the 1970s and the guidelines governing quality in learning began to change (Rust, et al., 2007). The *Further Education Reform Act* in 1992 enabled polytechnic colleges to gain university status. Expansion, efficiency, economic and political accountability became the focus in education (Finlayson and Hayward, 2010). The *Dearing Report* (Dearing, R. and National Committee of Inquiry into Higher Education (NCIHE), 1997) continued to support the recommendations towards widening participation, student fees and lifelong learning opportunities, mainly in reference to women, ethnic minorities, and students with disabilities. This report also stated there should be a focus

on students' technological learning skills across a diversity of provision in higher education (National Committee of Inquiry into Higher Education (NCIHE) (U.K.), 1997). It also made key recommendation for the development of subject-specific benchmark standards for art and design (Buss, 2002).

The Quality Assurance Agency for Higher Education (QAA) was established in the UK in 1997 as an independent academic body assigned to monitor and advise on the standards and quality in higher education (QAA, 2016). In the first decade of the new millennium, significant public investment in higher education saw further growth of physical and digital education in the UK (Boddington and Boys, 2011, p.xi). The *Browne Report* (Browne, et al., 2010) endorsed the removal of capped fees that universities could charge student learners. Following this, in 2011, the *Higher Education: Students at the Heart of the System White Paper* continued to create a competitive market in education despite assurances to “see more investment, greater diversity and less centralised control” within universities (Moodie, 2015, p.3). With this in mind, the first decade of the 21st century saw a period of remarkable expansion as global tertiary student enrolments reached 170 million in 2009 (British Council, 2012). In the academic year 2015 – 2016, 2.28 million students were studying at higher education level at in the UK compared to 1.5 million students in 2005-2006 (Universities UK, 2016a; Higher Education Statistics Agency Limited (HESA), 2017).

A similar educational reform timeline exists in Australia (Figure 1); in 1957, the *Murray Report* was the first comprehensive investigation of Australian higher education (Murray, 1957; Marginson, 2002). This report revealed serious shortcomings in the standard of university education, with overcrowding, poor facilities, and low student retention rates cited as characteristics. It recommended increased expenditure so that universities could remedy these issues and support widening participation (Murray, 1957). However, it was not until the *Dawkins Report* in 1987 that key tertiary education reforms were triggered. This report pushed for quality, diversity, and parity of access to higher education while also cultivating the international competitiveness of Australian universities (Dawkins, 1987). Universities were now obliged to

justify courses and introduce income-tested student loans and tuition fees through the introduction of the *Higher Education Contributions Scheme (HECS)* and *The Higher Education Funding Act (1988)* (Parliament of Australia, 1989). Subsequently, the *West Report* and the *Kemp Report*, published in 1998 and 1999 respectively, reported a crisis of resources and made recommendations for increased levels of participation through low cost, high volume technology-based distance learning and the establishment of an economic market in higher education (Marginson, 1998; West, 1998; Kemp, 1999). In 2008, the *Bradley Review* targeted the recruitment of students from low socio-economic backgrounds, endorsed diversity and quality via funding allocation, and established the Tertiary Education Quality and Standards Agency (TEQSA) to enhance quality and support accreditation (Bradley, et al., 2008). In response to this review, the Australian Government released policies in 2009 that charted the comprehensive reform agendas for the following 10 years, including widening participation, a global diversity of provision, and the uncapping of student places in higher education. Australian universities recognised the impending income benefits of an increased student population (Bradley, et al., 2008; Wild, 2013).

University managements have attempted to reshape education and delivery in cost-effective ways, as business sensibilities have sought to harmonise with academia on a global scale (Wild, 2013). As wider access and participation in higher education increases, the student population worldwide embraces flexible forms of curriculum delivery, adaptable learning spaces and blended learning. As a consequence of this global expansion of tertiary education, higher student numbers appear to be transforming the culture of learning, leading to communities of practice that are qualitatively different from those of a less crowded era (Wenger, 2000). Today, these transformations affect teaching and learning innovation, as “more teaching for less” is expected in visually pleasing, formal and informal physical, virtual and online learning spaces designed to accommodate technology and peer collaboration for large numbers of students (Scott-Webber, 2012; Wild, 2013; Harrison and Hutton, 2014; Boys, 2014, 2015; Ryan, 2016; Vignoles and Murray, 2016).

Timeline of reform within Higher Education in UK and Australia

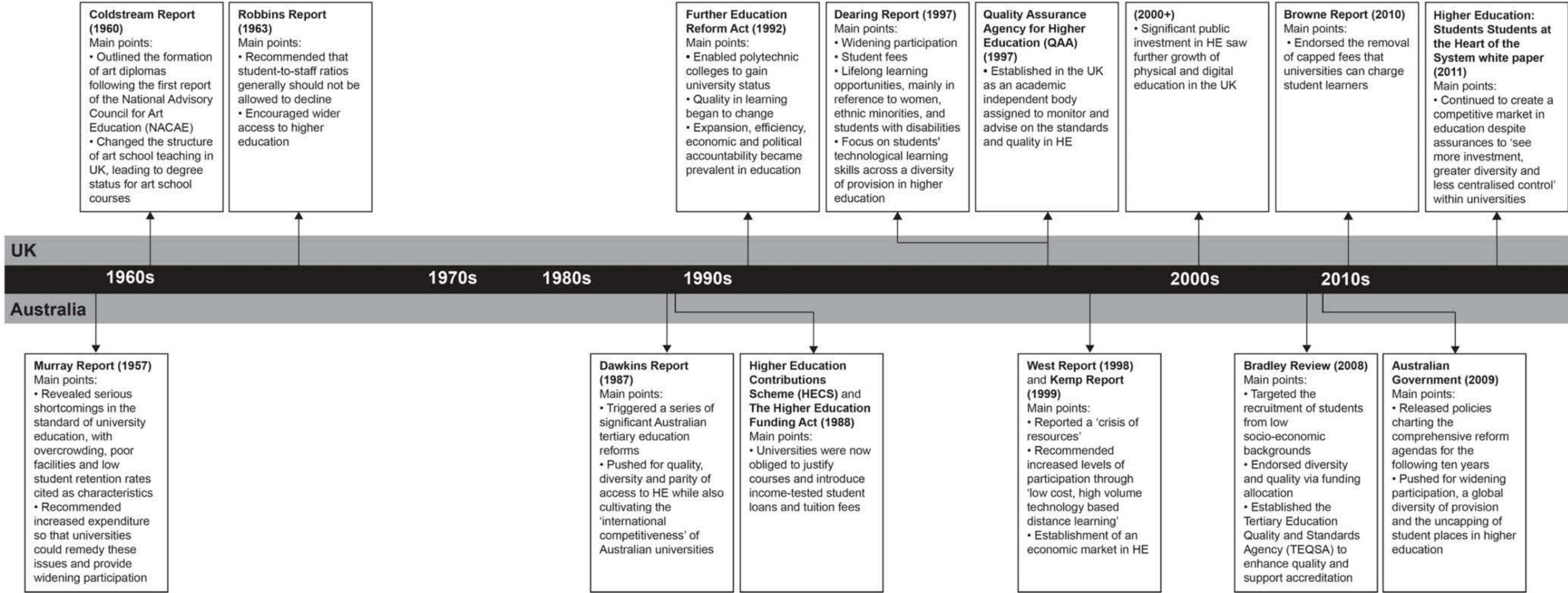


Figure 1. Timeline of educational reform in the UK and Australia. © L. Marshalsey, 2016.

Collini (2012) argues that in these challenging times, we must reflect on the different types of institutions within higher education and the distinctive roles they play. Accordingly, specialised art and design schools, colleges of art, and creative departments located within mainstream universities may assume different roles in the current commercialisation of higher education delivery. Financial pressure forces change on design education courses, resources, and learning space, as evidenced in recent literature and in the reporting of student and staff protests in the media (The Guardian, 2015; Munro, 2016; Harris, 2017). Based on my experience, I argue that in art and design education today more generally, the widespread transformations of specialist learning spaces (including fine art studio environments) and the changing socio-spatial interactions occurring within these spaces are becoming increasingly problematic. For Communication Design, this means the reduction of appropriate formal design studio space, coupled with the changing nature of its physical and digital practice. The increasing student studio population resulting from educational 'reforms' are creating a challenge, which is impacting on studio education today (Boys, 2010; Finlayson and Hayward, 2010; Boddington and Boys, 2011; Harrison and Hutton, 2014; Scott-Webber, et al., 2014; Boling, et al., 2016; Carvalho, et al., 2016).

1.3.2 Justifying Communication Design studio education in this study

The justification for this research study is closely associated to my background and practice as a Communication Design educator, and my personal experience of, and interest in, studio environments. My interest in studio learning developed largely from my conventional art school studio education in the 1990s, while my interest in Communication Design arose from the specific context in which it functions as a distinct discipline. Communication Design employs a different set of skills, applications, practices, and functions than those used in other design disciplines. Its project-based framework focuses on team working, client-driven projects, social interactions, and creative collaborations. The following sections outline more fully the explicit background of Communication Design, its terminology, and its unique practice.

Communication Design is a key phrase for a broad, mixed domain that was traditionally studio-based. It acts as an umbrella term for the design of visual and non-visual messaging, ideas, and information, with Graphic Design, Illustration, and Photography being its central disciplines. As a field of study, Communication Design can also encompass diverse, continually evolving non-visual methods in undergraduate curriculum, i.e., sound design, ambient advertising, or “new and as yet undefined products” (University of the Arts London Central St Martins, 2014).

One of Communication Design’s distinctive characteristics is its focus on undertaking design projects that actively identify a problem area where it can play a central and significant role (Frascara, 2004). In this way, the discipline makes a distinctive contribution in the curriculum, from the opening brief to the resulting creative outcome. It requires learning spaces and resources particularly suited to its ever-evolving and divergent practice, and socially constructed design studio communities (Sandbach, 2011; Cennamo and Brandt, 2012; Vyas, et al., 2013; Crowther, 2013; Ellmers, 2014; Powers, 2017, p.6). Generally, design education is concerned with the growth of knowledge and ways of “thinking and acting” (Powers, 2017, p.5).

Consequently, design studio education has the responsibility to profoundly shape students’ thinking, individual and group behaviour, as well as the practice and understanding of the culture of design. Time spent in the physical studio helps students to embrace an immersive, personalised, and self-regulated approach to learning, with students taking responsibility for their own learning journeys. However, as a creative field, Communication Design now assumes a different studio identity due to technological advancements in education and blended learning, and as learning spaces echo a changed industry studio model. Dedicated, physical studios are rarer in the changing face of design education. This is partly due to cost pressures and space provision, and many Communication Design students now mainly work online and offline within digitally portable spaces (such as laptops) for reasons of convenience for the institution (Sassoon, 2009). Digital technology has enabled designers to work external to a physical studio environment and has helped to reshape Communication Design’s conventional studio delivery.

It can be argued that maintaining a conventional face-to-face physical studio community in design education is important for several reasons. For example, physical learning spaces promote interpersonal relations between students, educators, and student peers. The ideal studio should foster trust, community, collaboration and camaraderie in an accessible, freely available space (Cennamo and Brandt, 2012). Conversely, online studios can pose a challenge to people forming trust within a group, with periods of technological interruptions, inaccessibility, and time limitations also causing frustration (Saghafi, et al., 2012). Furthermore, a studio environment can provide substantial physical space to work across desks, floors and walls, and can promote material thinking and process (Thrift, 2006). In a shared studio environment, creative work in progress is openly shared over longer periods of time in familiar and natural settings, which may foster a communal sense of place among the year group (Boling, et al., 2016, p.16).

To summarise, the studio-based pedagogy of Communication Design has changed dramatically in the past half century. The following two contrasting experiences of one person clearly reflect the changing context of design education from the 1980s to 2010s;

(1) [We] had our photograph taken on the first day by a photography technician on a medium format camera and were shown round the studio and facilities. We were each allotted our own desk, chair and storage drawer in a wall of plan chests. Projects were set via briefs that were typed and then photocopied on to paper and our outcomes or mock-ups were discussed with tutors and fellow students at critiques at the end of each project. If one of these coincided with a Friday afternoon, it was “all down the pub” afterwards, students and tutors alike. (N. Barnett cited in Sassoon, 2009, p.28)

(2) The students I greeted at the beginning of this academic year... have such a different experience awaiting them. Over one hundred and thirty of them make up the first-year cohort, which, in addition to the one hundred in the second year, make this...

Design for Graphic Communication a very large course indeed. The students' photographs were taken in situ on handheld digital cameras, as they completed enrolment formalities. There are no individual spaces for students to customise or call their own, just a constantly rotating "hot desk" environment in a large studio space. Facilities for computing consist of open access rooms with technical support staff and three teaching computer rooms, where students have opportunities to acquire skills in up to eight software packages. (N. Barnett cited in Sassoon, 2009, p.28)

Moreover, the wide range of multipurpose educational environments in which Communication Design is now taught within contemporary art schools, colleges of art, and university campuses invariably influences student and educators alike as the context and surroundings of the space a designer occupies directly affects their working practice (Lyons, 2006; Temple, 2008, 2014; Harrison and Hutton, 2014). Sandbach (2011) suggests that if the purpose of design education is to nurture real-world designers, then physical studio experience should be at the forefront of learning and teaching design. The significance of place, collaborative practice and face-to-face social interaction for learning and doing design should be fundamentally understood.

Therefore, to understand contemporary design and design education, one needs to also understand how design studios operate today (Shaughnessy and Brook, 2009). In the current ever-changing educational landscape, tension exists between the need to deliver both technological and craft-orientated forms of learning by doing while maintaining creativity and innovation in Communication Design (Rigley, 2011; Montgomery, 2012; Boling, et al., 2016). Despite current challenges to provision and space, it is still possible for students within some higher education institutions to engage with established traditional practices of production, such as letterpress – offering ink and paint-based techniques – alongside faster digital processes, such as laser cutting (Alexenberg, 2009; Sassoon, 2009; Facer, 2011; Cooper, et al., 2013; Turcotte, 2015). Design courses today can rarely afford separate dedicated studios, specialist workshop technicians, or resources that embrace both traditionally wet and digitally dry creative practice (Boling, et al., 2016, p.161). Thus, the students' experiential learning of this specialised

discipline, and its range of production methods, would seem to be lessening as traditional resources and space become less common (Dugdale, 2009, p.52; Scott-Webber, 2012).

1.3.3 Research problem

The impetus for this thesis has grown from the challenges facing day-to-day design studio education and the recognition that the formal/informal division of educational space impacts upon student learning and engagement in different ways. As specialist design studio facilities are being reconfigured into classrooms or open-plan learning spaces (often generically termed as 'studio'), it is, I believe, worth assessing how these recontextualised learning spaces impact upon students' senses.

1.3.3.1 *What is sensory affect?*

The character and structure of sensory experience must also be understood in order to understand developing conscious awareness of sensory affect in studio learning. Ackerman's (1992) seminal work 'A Natural History of the Senses' critically examines the five senses with rigorous depth and detail. She denotes that the senses aid the construction of meaningful patterns from experiences; as she says, "There is no way in which to understand the world without first detecting it through the radar-net of our senses" (Ackerman, 1992, p.xv).

The word affect means to 'have an effect on' or 'to make a difference to', and to influence, stir, impact, imitate or assume a particular state of feeling 'something'. It can be an emotion, desire, or mood associated with sharing or influencing an action, feeling, or notion as a means to effect changes in individuals (Wetherell, 2012; Oxford Dictionaries, 2016). Wetherell (2014, pp.221-222) describes affect as a feeling of control or lack of control. Patterns of affect relate to a sense of belonging. Pfaffmann and Norgren (1977, p.18) draw upon a scientific notion of sensory affect and motivational behaviour as having three possible reactions: approach and acceptance, rejection or withdrawal, or neutrality (Wetherell, 2014).

As stated previously, sensory affect is the awareness of control or lack of control of sensory inputs through the senses, that may interfere with learning and the creative flow. In short, sensory affect is experience, and the effect of those experiences, detected through the body. Although this qualitative investigation does not take a physiological or scientific approach, it is necessary to define the adjective *sensory* in these terms. Sensory relates to sensation and delineates stimuli produced from visual, aural, tactile, or olfactory experiences. Sensory evaluation is often used to measure, analyse, and interpret affective experiences and it can typically enhance sensitivities or stimulation to sight, sound, light, touch and temperature, among others (Kemp, et al., 2009, p.1). Reconfigured educational environments may impact upon student learning and, through interference in creative flow, could contribute to the stimulation, indifference, or irritation of their senses. Students may be sensitive to the sensory affects within their learning spaces, yet the impact of these experiences may go unnoticed or simply be tolerated within the environment in which they are situated. Understanding the relationship between learning and sensory affect and the value of place within studio and studio-based learning spaces is becoming increasingly important, particularly in light of the changing methods of design practice arising from reduced specialist facilities and more hybridised, online and blended forms of learning. It is argued that these changes to specialist learning spaces are impacting on students' sensory well-being, and their social, creative and educational needs in a variety of ways. The experiential impact of these changes upon creative flow is systematically explored throughout this investigation.

1.3.3.2 Synopsis of current literature in this field

In recent years, the majority of studies researching sensory and affective experiences are based on interdisciplinary, perceptual, and learning experiences as seen in the research studies of Fors et al. (2013), Stein (2013), Institute of Philosophy, School of Advanced Study (2014), Simm and Marvell (2015), Bolkan (2015), and Satpute (2015). In addition, the *Senses and Society Journal* (first published in 2006) publishes current sensory research trends, themes and experiences in wide-ranging variable contexts, including sensory museology, which examines

the history of display in contemporary curatorial practice. Articles in this journal explore heightened sensory experiences in design exhibitions, galleries and museums, the anthropology of sound and sensory overload.

A considerable amount of educational theory literature and numerous studies have examined the growth of the education-business industry teaching model that has been developing in recent years, as industry-led projects have become a measure of performance outcomes and targets for students (Sharman and Patterson, 2013; van Dellen and Cohen-Scali, 2015). In design research, studio spaces are often investigated within a professional or technological context and in disciplines other than Communication Design, such as architecture (Shaughnessy and Brook, 2009; Vyas, et al., 2013). Researchers who have studied the subject of studios and learning spaces in the context of education and who are of considerable interest to this study include Boys (2010; 2015), Boddington and Boys (2011), Scott-Webber (2012), Harrison and Hutton (2014), Scott-Webber et al. (2014), Carvalho et al. (2016), and Boling et al. (2016). These texts critically discuss the shape of learning environments within higher education today and much of this literature considers how everyday experiences of physical and social networking, and e-learning affect educational sites (Knox, 2014; Pektas, 2012). In particular, Boys (2015) suggests the appearance of newer, physical educational environments have commonalities with the minimalist, colourful and fabric look of corporate offices since higher education spaces often imitate business environments. Boys (2015, p.95) also proposes that new large-scale, self-directed “one stop shop” student learning spaces will emerge in universities, linking student recruitment and guidance with informal learning spaces, such as cafés for individual and group work in relaxed settings. Additional studies have also projected future trends of the campuses of tomorrow (Morrison, 2015; Brandt and Bachmann, 2016).

Scott-Webber (et al., 2000) (2004, 2013) argues that many current learning spaces fail to meet the needs of students and educators as sites of interaction, and do not consider the complex relationship that exists between behavioural perceptions and experiences and creative learning (Boys, 2010, 2015; Boddington and Boys, 2011; Boys, et al., 2014). The economic viability of

the increasing 'bums on seats' mind set should not be the impetus when designing potential educational environments (Scott-Webber, 2012, p.265; Scott-Webber, et al., 2014). Scott-Webber (2013) also insists students should be able to select and control the learning space best suited to their needs so as to become engaged and active learners.

Research studies that critically examine student designers' sense of place and habitus in the design studio are challenging to locate. Many studies centre their debate on local and global studio pedagogy, affective physical and digital environments, psychological inhabitation of studio, the roles of studio teaching and learning, and social media-based learning in the design studio (Hannon, 2014; Muhammad, et al., 2014; Güler, 2015; Marshalsey, 2015; Ghassan and Bohemia, 2015; Belluigi, 2016). Non-educational discussions of artists' and designers' situated practice, identity, and place within a studio environment are found in the older research studies of Bain (2004) and Pigrum (2007).

However, Powell (2010) positions the importance of multi-sensory research methods in drawing out relationships between place, lived experience, and community. Yet, it is difficult to locate educational studies that embrace the body as a multi-sensory affective component in conjunction with learning environments - and specifically studio (Fors, et al., 2013). While there has been a renewed interest in design studio inhabitation and the 'studio-as-pedagogy' model for learning in recent years, few texts explore the design students' experience of place in relation to physical and virtual studio education (Saghafi, et al., 2012). This gap is predominantly in relation to the impact that learning spaces may have on the connection between students' senses and learning or, indeed, investigating educational environments through the senses (Pink, 2008; Scott-Webber, 2012; Henshaw and Mould, 2013; Marshalsey, 2015).

Given that learning spaces are evolving in parallel with the rapid development of new technological tools, processes, and pedagogical practices, there is, I argue, an urgent need to investigate how students experience these spaces and how they impact on their learning and

creativity. This new knowledge will provide students and educators with a better understanding of how best to design for learning and how to equip themselves with new methods to support their pedagogical aims. This study argues for an analysis of the factors influencing student learning with particular reference to participants' experiences of sensory affect in contemporary Communication Design education. To date, there appears to be limited research of the experiential impact of sensory affect as a consequence of location and processes, and how it might impede or enhance student engagement specifically within a Communication Design studio context (Marshalsey, 2015). The gap that this research aims to address relates to the absence of empirical evidence to investigate and theorise the relationship between sensory affect and learning in studio education.

1.4 Research aims and questions

The purpose of this research study is to systematically examine the relationship between sensory affect and learning in the changing landscape of contemporary Communication Design studio education. I intend to present my findings of the different ways in which participants interpret a range of sensory experiences within the overlapping boundaries of virtual, technology-rich, and physical learning spaces. This study examines the impact of sensory affect as myself and the participants investigate the learning processes involved within a specialist practice-led discipline in the context of a studio environment. As discussed earlier, a pilot study helped me to develop the central research question: What is the relationship between sensory affect and learning? The intention of this study is to investigate a bricolage of collective personal perceptions and experiences, developing narratives and themes emerging from experiences of sensory affect in contemporary studio education. One of the outcomes of the research might be to develop awareness among students and educators of the important role that senses play in learning as a means to enable and empower them beyond current forms of engagement.

1.4.1 Research aims

The research has the following three aims;

- To explore the different ways in which students qualitatively interpret a range of sensory experiences within the shifting boundaries of virtual, technology-rich, and physical (studio and studio-based) learning spaces;
- To develop Participatory Design (PD) research methods that can be used to capture what students say about their lived experiences of their studio environment; and
- To consider how Communication Design studio pedagogy can be adapted in order to take account of and work with sensory affect more explicitly using PD methods.

1.4.2 Research questions

The Participatory Action Research (PAR) approach to this study seeks to elicit and understand the participants' and my conceptions of sensory affect, and how and in what ways sensory affect impacts on our studio learning (Chevalier and Buckles, 2013). Communication Design pedagogy in this study is the object of action research and is grounded in collaborative practice with students, as a method of engaging them as insider action researchers (McNiff and Whitehead, 2006; 2010). The students and I participate in self-reflective inquiry to improve our own practice, which is called "reflection-in-action" (Sullivan, 2009, p.67). This research study is concerned with exploring and developing methods that can be used to understand and capture what the participants and I say about our lived experiences of our studio environment and how to approach the development of these methods to investigate these experiences. This study attempts to better understand the relationship between learning and sensory affect. In other words, to understand the impact of sensory affect on studio learning and to identify the ways in which studio pedagogy might be re-designed and re-conceptualised in order to take account of

and work with the sensory dimension more explicitly. Examining and foregrounding the specific experiential characteristics of sensory affect in studio education can, I claim, allow students and educators to facilitate better engagement with their daily studio environment. This permits the investigation of the central research question:

1. What is the relationship between sensory affect and learning?

The following sub research questions arise from this central question:

- 1.1 What role does the studio play in the teaching of Communication Design?
- 1.2 What research methods can be developed to understand and capture sensory affect as a means to help students reflect on and manage their learning?
- 1.3 What meaning do students attribute to sensory affect?
- 1.4 How might Communication Design studio education pedagogy be adapted to support and develop an explicit exploration of the role of the senses in learning?

1.5 Overview of the fieldwork

1.5.1 The pilot study

Prior to this full study, I undertook a pilot study as a useful technique to develop a preliminary understanding of sensory affect within studio learning. The pilot study occurred over several days at two higher and further educational institutions in the UK and one higher education institution in Amsterdam. This allowed me to step out of my usual educational context to explore lived experiences of design studio education elsewhere and to gain a sense of orientation. The research questions and methodological approaches for the full study were developed in response to the evidence derived from this initial pilot study. Full ethical permission was granted from the participating institutions and 58 questionnaire responses were collected.

This small pilot research project was undertaken to elicit and understand participants' conceptions of sensory affect within their main working environment (such as their studio) and how this might impact on their own learning. This earlier study suggested that learning and achievement levels might fluctuate according to the 'sensory mix' of influences that students encounter in their studio environment. For example, data resulting from this initial pilot study highlighted digital practice as the preferred day-to-day studio method, yet traditional practice was deemed to generate more pleasurable and authentic sensory affect. This includes how students feel about their studio education – the socio-emotional aspects of their learning – and what meaning they are able to make of it.

1.5.2 Case study as method

This study uses a qualitative case study approach to investigate participants on-the-ground, lived experiences of Communication Design studio learning, explored through a series of co-designed sensory focused interventions in two distinct higher education settings – an art school in the UK (Figure 2) and a college of art in Australia (Figure 3). These two settings form the focus of two case studies for this research, with participating students from a single year group in each institution.

- **Case Study 1: An art school in the UK.** One case study within the Communication Design department at a higher education art school in the UK (Figure 2). The participating Graphic Design students are enrolled within a Communication Design curriculum.
- **Case Study 2: A college of art in Australia.** One case study within the Bachelor of Digital Media course at a higher education college of art in Australia (Figure 3). The participating Graphic Design students are enrolled within a Graphic Design curriculum.



Figure 2. Case Study 1: An art school in the UK. © L. Marshalsey, 2016.



Figure 3. Case Study 2: A college of art in Australia. © L. Marshalsey, 2016.

In each case study, the research activities took place over an eight-week period, beginning in the UK, followed by Australia. The aforementioned interventions were designed to illuminate, and make meaning of, the participants' experiences of sensory affect within their day-to-day learning and working environment. These interventions were intended to focus participants' attention on the senses. They provided a vehicle – a set of tools and practices – designed to enable research participants to individually and collectively respond to and reflect upon the experience of sensory affect within their own learning spaces, and to consider the influence of this experience on their creative design process. This approach encouraged the participants to develop a deepening awareness of their senses as experienced through their interaction with the mediating artefacts (the interventions), their learning spaces (the studio, incorporating both physical and virtual forms of learning), and their learning community. To aid the understanding of this approach, I developed a Methods Process Model (MPM) (Figure 106) as a transferable best practice methodological framework. This transferable methodological framework (MPM) is intended to be used by other educators and adjusted as necessary, depending on the formal or informal educational environment, to establish the most effective methods for differing studio circumstances.

This research focuses on (1) students' meaning making in relation to their developing awareness of their senses in the creative design process; (2) the value judgements they placed on these newly acquired insights; (3) their evaluation of the impact of sensory affect on their present practice; (4) evidence that this new knowledge had/has in terms of the future development of their own creative practice learning.

1.6 Overview of the thesis structure

The thesis is composed of ten themed chapters relating to the investigation. The content of each chapter is briefly summarised in the following sections.

Chapter 1 examines my positionality as the researcher in the study. Next, the challenges facing contemporary day-to-day design studio education are examined and the justification of the selection of Communication Design education in this study is contextualised. Here, I outline the research problem. I then examine a short synopsis of the current literature in this field. I outline the research aims and the research questions followed by an overview of the fieldwork.

Chapter 2 outlines a contextual review of learning spaces and studio as a site for learning. This section critically examines the contextual role of studio. I then consider, in further depth, the characteristics and current challenges impacting on studio learning and outline the necessity of understanding the role of place in contemporary Communication Design studio education.

Chapter 3 reviews the literature relevant to this research investigation. The pedagogical framework guiding the inquiry is critically examined using experiential learning theory, Social Constructivism and Communities of Practice theory. I also examine sensory affect in relation to reflective practice, embodied knowing, creativity, wellbeing, and learning. Then, I provide an overview of the current issues in the research of sensory affect and studio learning. Following this is an attempt to understand and visualise the complexity of sensory affect. I conclude the chapter by illuminating the gaps in the literature.

Chapter 4 details the ontological, subjective stance, and the interpretivist and constructivist epistemology of this investigation. The research design, the methodology and the chosen methods used for this study are also examined. The Participatory Action Research (PAR) and case study approach are outlined in detail in this chapter, as is Participatory Design (PD) and its relationship to educational action research. I assert the usefulness of narrative inquiry as a form of qualitative research, as I identify the participants voices in this study. The next section examines how phenomenography was used in the study. I then explain the ethical considerations through a discussion of my and the participants' roles as researchers in the study. This chapter concludes with a discussion of the visual, sound and sensory ethnographic methods used and a critique of the potential issues arising from these methods.

Chapters 5 and 7 are the two case study chapters, presenting the detailed chronological research investigation of each of the two case study sites in the UK and Australia. Chapter 5 describes in detail Case Study 1 - the art school in the UK. Chapter 7 describes in detail Case Study 2 - a college of art in Australia. Each of these chapters examines the purpose and rationale of the respective case study, with a discussion of orientation and recruitment. I outline the characters of the student researchers involved in each case study and explain the data gathering procedures; the reflexive activities as individuals; the weekly reflective workshop activities in groups; and my observations of studio learning. I provide the preliminary categories and outcomes arising from each case study in the conclusion.

Chapters 6 and 8 presents the analysis chapters for Case Study 1 and Case Study 2. These two chapters examine and critically reflect upon the outcomes of each case study investigation and are supported by evidence-based tabular data. I explain the management of the case study data and the development of the four-stage approach to analysis. I conclude by identifying, interpreting and summarising the key themes arising from each case study.

Chapter 9 examines the findings of the two case studies. I revisit the research aims and summarise the six broader thematic categories deriving from the key themes, and emerging from the analysis of two case studies. I then review and note the implications of the main findings and their practical significance, and discuss the transferable Methods Process Model (MPM). I then discuss the limitations of this study.

Chapter 10 summarises the thesis and the main findings derived from using sensory affect as a lens to focus the research. I restate the significance of the findings in relation to the novel contributions of this study in understanding the relationship between student engagement and studio learning in contemporary Communication Design education. I then make recommendations for future research in this field. To conclude this thesis, I outline my autobiographical reflection and end with concluding remarks.

2 CONTEXTUAL REVIEW OF THE STUDIO AS A SITE FOR LEARNING

2.1 The studio as a site for learning

The purpose of this chapter is to situate the studio context; to provide a chronological development of the changing nature of the studio; and to understand the key role that the studio plays in the teaching of Communication Design today. I begin with an examination of studio character and structure, which is further supported with a brief chronological exploration of print culture and studio practice. The role of the studio in contemporary learning spaces and Communication Design pedagogy, and the challenges facing studio learning today, are considered. The chapter concludes with a discussion of the need to shape a sense of place in studio learning today in order to contextualise contemporary studio learning. In the next chapter, there follows a systematic literature review of learning theories and sensory affect.

2.1.1 The character of the studio

A studio is a combination of three things: the physical space, the people who occupy that space, and the work they produce. (Shaughnessy and Brook, 2009, p.12)

The character of studio training has changed considerably over time, with its heritage stemming from the workshops of 13th-century Europe (Amirsadeghi and Eisler, 2012). Originally, a team of people in a workshop environment produced work according to instructions. The master of the workshop, normally a reputable artist, would supervise, train, and pass on knowledge to groups of students (generally craftsmen), teaching by example. In the mid-16th century, the master/apprentice model evolved into art academy training, which included lecture theatres alongside studios. These academies sought to produce a well-balanced exchange between knowledge, experience, and instruction. This prepared the student to manage the transition out of education and studio-style instruction into his or her own studios within industry.

In the 20th century, artists and designers seized derelict warehouses, factories, and buildings as fashionable workshop spaces, changing the interior and architectural dynamic of studio from the 1960s and 1970s onwards (Blazwick, 2012). Today, many designers have discarded the conventional artist's studio model in favour of new modes of working facilitated by technological advances. For example, a studio can now exist as a virtual "studio of the mind", or as a computer-based studio desk, and not only as a physical large or small room space (Amirsadeghi and Eisler, 2012, p.6). Combined working and living studio spaces also commonly exist. Every studio, I believe, should have its own identity, character, and zones to facilitate privacy, freedom, activism, refuge, and expression. The studio should act as a laboratory of ideas and as a gallery space for display (Blazwick, 2012). The commercial studio can function as a reaction against everyday convention, yet still offer a necessary source of employment (Amirsadeghi and Eisler, 2012). These far-reaching transformations from the original studio context since its inception also reflect a changing print culture and design practice over time, and influences the role that studio plays in the teaching of Communication Design today.

2.1.2 A brief chronology of print culture and studio practice

The following section charts print culture's timeline of development over centuries and how it has evolved towards contemporary forms of visual and non-visual Communication Design practice. Certain terms became preferential through differing periods of time, and 'Graphic Design' was a term coined by William Addison Dwiggins in 1922 to reflect his design practice at that time (Meggs and Purvis, 2011). Graphic Design as a term existed alongside 'commercial art' during the 1940s, until Graphic Design became the principal expression used. Graphic Design now sits alongside 'visual communication' and 'communication design', with the latter arising from current broad forms of innovation and practice. Contemporary Communication Design practice exists across a wide range of media contexts, including Typography, Graphic Design, Illustration, Interaction, Moving Image, and Photography. Therefore, Communication Design studio education can embrace hybrid practices, as cross-disciplinary experimentation

and exploration is key to its current professional design approaches (Central St Martins College of Art and Design, 2016).

Print culture originated with the advent of the Western printing press and the mechanisation of visual reproduction (later evolving naturally into Graphic Design). These transformative developments to print proceeded to flourish when Johannes Gutenberg (1395-1468) invented moveable type c.1450. The subsequent introduction of the printed written word spread quickly throughout Europe (Meggs and Purvis, 2011). Consequently, 'print culture' was a term coined to represent all forms of printed materials and the emergence of advertising and publishing as two distinct branches of visual communication (Eisenstein, 1980; 2012; Meggs and Purvis, 2011). Then, in the early 1800s, the shift from oral to print culture continued as a consequence of the Industrial Revolution and the age of steam, canals and factories between 1750 and 1850 (White, 2009). At this time, newspaper production thrived, representing a rising population and economy, increased literacy, and political interest (Musson, 1958). In addition, the production of magazines helped to define classes and cultures (Mizuchi, 2008). With mass production and the application of photographic images into editorial and advertising communications now possible, the accompanying rise of consumerism began. The extensive use of commercial art in early advertising and promotion unleashed a flood of colourful visuals onto packaging and advertising (Meggs and Purvis, 2011).

In 1891, William Morris (1834-1896) encouraged better standards of production in the UK when he founded the Kelmscott Press in Hammersmith. This may be considered as the foundation of a renewal in the craftsmanship of fine printing, binding, and papermaking. Moving on, in the first half of the 20th century, the advent of higher quality printing presses improved the legibility, clarity, and design of commercial typography and typesetting. This is in part due to the need to communicate specific messages quickly (and to obtain a desired response or initiate transactions) through knowledge transfer, political propaganda posters, and pictorial modernism, among others (Frascara, 2004; Armstrong, 2009).

Key movements, such as Dada, Surrealism, Futurism, Constructivism and de Stijl influenced the development of modernist design in the first half of the century. This gave way to an era characterised by industrialisation, social change, consumerism, and scientific innovation (Meggs and Purvis, 2011). The evolution of print culture continued into the 1950s and 1960s, when the lens of design focused on the move from formal and representational concerns towards explorations in semiotics and meaning making. Corporate identity and visual symbolic design continued to develop in this era. Then, in the 1980s, postmodernism encompassed many design movements of the late 20th century. It emerged as a revolution against the legible ideas of modernism, with visual forms of deconstruction and grunge typography developing (Moszkowicz, 2009; Meggs and Purvis, 2011). Later, the digital revolution and the advent of computer technology meant designers could investigate new technological and experimental processes in practice. The notion of the designer as author, producer, activist, creative entrepreneur, curator, and collaborator meant these multi-faceted roles represented visual Communication Design in the 1980s and 1990s (Blauvelt, 2008; Armstrong, 2009; McCarthy, 2013).

In the last 20 years, the digital revolution has expanded the boundaries of Communication Design production, creativity, and knowledge into processes that are still evolving today. The merging of analogue and digital creates new aesthetic opportunities for expression, and design itself is in the centre of a sizeable paradigm shift across all disciplines. Consequently, communication designers today frequently adapt their cultural and contextual practice, as the discipline continually moves between “anonymity and authorship, the personal and the universal, social detachment and social engagement” (Armstrong, 2009, p.9).

Consequently, institutions delivering a Communication Design curriculum have attempted to evolve their studio processes and practices in a mixed, uneven landscape of hand-driven, digital, and post-digital production in an effort to address complex new media.

2.1.3 The role of the studio in contemporary learning spaces and pedagogy

Nearly four decades ago, McLean (1980) outlined the optimal conditions in which each designer needs to work within studio environments. These conditions included a minimal use of equipment, working at a steady solid desk with an ergonomically designed chair, and having ample storage and a wallboard for display purposes (McLean, 1980, p.36). He also construed that daylight lighting should be carefully considered against the less preferable artificial lighting available. The idealistic basic and advanced studio desk workstations from this period (Figure 4) contrast with the current desk provision I have observed in contemporary Communication Design studio education, as shown in Figure 5 and Figure 6.

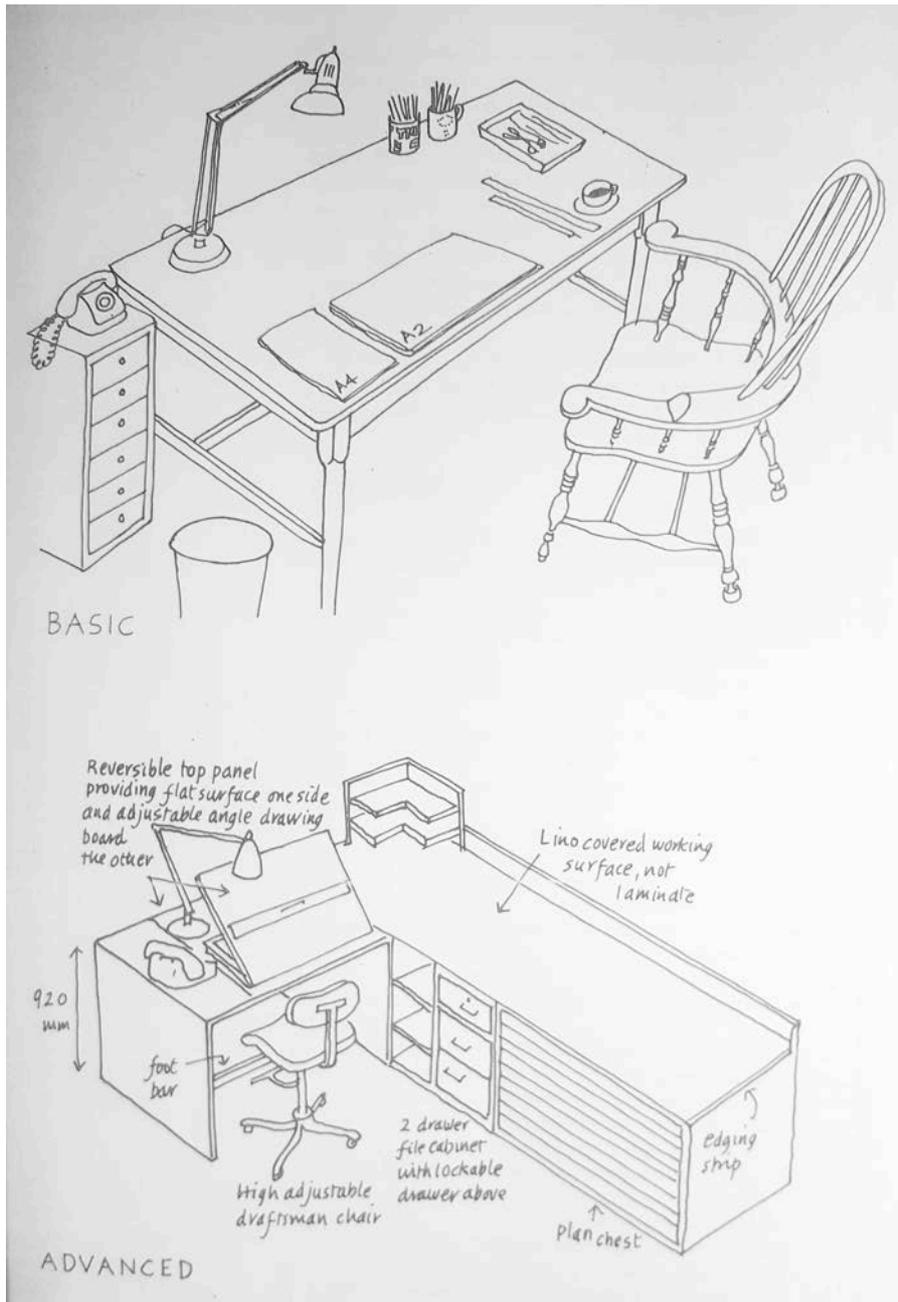


Figure 4. Basic and advanced studio worktables and resources for designers, circa. 1980. (McLean, 1980, p.35).



Figure 5. A typical desk space in the studio of Case Study 1. © L. Marshalsey, 2016.



Figure 6. A typical 'hot-desking' studio within Case Study 2. © L. Marshalsey, 2016.

Today, studio environments within older art school buildings may still be housed in old 19th and 20th century buildings designed for traditional forms of practice in closed-plan studio spaces (Ascott, 2008, p.52). Historically, the timeline of transition from closed art rooms to open-plan studios began around the 1950s, driven by the need for a more student-centred pedagogy (Woolner, 2010; Harrison and Hutton, 2014). Interestingly, during this early transition period, a wealth of literature contended that the impact of open-plan environments would be minimal (Woolner, 2010). Yet, Bloomer and Moore (1978) critiqued the design studios of the 1970s as having become nothing more than a series of “faceless filing cabinets” that ignored the qualitative needs of human presence or experience (Woolner, 2010). Several decades later, anthropologist David Howes (2005) expresses a not too dissimilar view of modern university

spaces: “in the modern university... walls are flat and smooth, corridors are clear, the air is still, the temperature is neutral” (Howes, 2005, p.25).

Recent research studies (Biddick, 2014; Saltmarsh, et al., 2015) have identified intrusive acoustics, light/thermal discomfort, and issues of privacy as being common problems in open-plan environments. However, alternative smaller studies have suggested that a younger demographic enjoy the very complex, interwoven nature of an open-plan space (Rasila and Rothe, 2012). It would appear that some educators consider the open-plan nature of specialised design studios as being ideal for cultivating subject-specific interaction and communal design thinking because of the possibility to create multiple places within spaces. This can be observed today in the fashionable use of hubs and pods to sub-divide space, including the use of dividers, partitions, and walls in most communal areas (Figure 7) (Harrison and Hutton, 2014).



Figure 7. Presentation pods. © Used with kind permission Paul Wright, Macquarie University, Australia 2016.

Generally, students in modern campuses are offered a range of places with the choice and control to select the best environment for their needs. This notion might not apply to specialist studio education, as there appears to be a shift from formal craft and skill-related workshop instruction, where students occupy their own personal studio desk space within the studio, to informal, blended and classroom-based teaching approaches common in modular delivery (Scott-Webber, 2013). Moreover, ‘hot-desking’ is common (where students work in whatever free unallocated desk spaces they find) and increasingly ‘no-desking’ (where students work in

whatever free unallocated place they find) arrangements have become widespread in design education, encouraging a reliance on digital skills and communication (Figure 6). Boys (2008) suggests that the formal/informal divide hides more than it reveals about the complex relationships between learning and the spaces in which learning takes place. The manner in which a space is organised in studios is vitally important to students' learning and community of practice within these environments, and the resulting lattice-work of intricate relationships and actions that supposedly create conducive experiences there (Woolner, 2010). The differing studio space definition and provision between the specialist art school and the broader, modern university campus leads to an unstable partnership with Communication Design education today (Boddington and Boys, 2011).

2.1.4 The current challenges affecting studio learning

To elaborate on the multifarious dialogues on Communication Design studio education further, the various components challenging the discipline today must be understood. It is acknowledged that contemporary Communication Design education produces fields of representation distinct from other branches of design as the “operating system of the 21st century”, impacting profoundly on culture, finance, globalisation, localisation, politics, policymaking, socio-economic development, sustainability, and beyond (University of the Arts London Central St Martins, 2014). Communication Design education also encourages face-to-face and online global-market and industry collaboration (University of the Arts London Central St Martins, 2014; Brody, 2014; Glasgow School Of Art, 2014; Parsons The New School for Design, 2014; School Of Visual Arts, 2014).

To reiterate, as Communication Design practice-led processes, learning, and terminology have all evolved, so too has the pattern of studio use within higher education. Art and Design education, more generally, appears to have seen a shift from closed classrooms to open-plan, live-in to drop-in, and, to some extent, physical to digital teaching and learning. In recent decades, studio learning has become fashioned by activities and events rather than the space

itself, with students attending the studio space solely for necessary critiques, group work, project launches, or assessment purposes (Boddington and Boys, 2011; Scott-Webber, et al., 2014; Boling, et al., 2016). Today, Communication Design practice and learning often spans the formal educational (studio) environment of institutions, informal environments of home and non-owned spaces, such as museums and cafés, and physical and digital forms of learning space.

Therefore, because studio pedagogy is perceived and practiced in various formal and informal spaces and embedded in a wide range of curriculum programmes, the character and delivery of studio activities can vary. Depending upon the preferences of the institution delivering Communication Design education, students are now experiencing the studio without a consistent sharing of studio features or attributes in an irregular landscape of provision (Boling, et al., 2016). Evidencing this, the two case study higher education institutions in this investigation deliver very different Communication Design curriculum programmes. The programme requirements being taught within these two different organisations dictate the use of the studio space and the specific practices of the students in each case study. Therefore, an outline of the two different curriculum design and delivery approaches is sketched below.

In the art school in the UK (Case Study 1), the participants are located within one large interconnected, open-plan, physical studio environment designed to accommodate three Communication Design specialist areas (Photography, Illustration, and Graphic Design) and with a mix of year groups. The location specific terminology used by this institution for this learning space is 'studio', and refers to active, experiential pedagogy. Each student has one small desk assigned to them with many other students in close proximity. Desk dividers allow a small amount of privacy between each workstation. Wall space is a highly sought-after commodity and priority is given to students in years three and four. However, this curriculum encourages a more fluid use of space within studio learning. Group and individual critiques can occur at communal sofa areas, in-situ at desks, within the many workshop spaces, or in corridors, with the workflow expressed in each context. Students are expected to attend this studio space full-time and, through a process of engagement and community, the students are

made aware of the value of studio through curriculum activities (for example, formally and informally working together). The studio component is an assessable part of the degree course. The students are not defined by their specialisation within this Communication Design curriculum, but through their creative interpretations and articulation of the project briefs delivered to them. There are no medium-specific briefs. Instead, diverse interests are dispersed across the Communication Design programme, with overlapping interests, sub-communities, and activities, such as film screenings and speaker events, bringing students with common interests together. This art school facilitates and encourages the students and tutors to socialise together in one fluid, informal studio setting.

The college of art in Australia (Case Study 2) is more formal in its approach to a Communication Design curriculum. The students attend short, fixed timetabled tutorials dictated within studio-based classroom spaces and in one lecture theatre. The location specific terminology used by this institution for these learning spaces is also 'studio', and refers to active, experiential pedagogy. Students are not assigned an individual desk space, as they do not inhabit one studio. Instead, hot-desking or no-desking is common practice. Group and individual critiques occur within timetabled tutorial sessions in the classroom and the workflow is not expressed in variable physical contexts. This curriculum encourages a fixed use of formal space within studio learning. Students are expected to attend classes only for the duration of the timetabled session. However, they do engage with activities constituting studio practice, such as working together in groups on project briefs. They are not bound by a physical space, but by common interests, and individuals cluster accordingly. The studio component is not an assessable part of the course, as it does not appear in the students' learning outcomes. The students are defined by their specialisation and they work on centralised, medium-specific set briefs in this Communication Design curriculum. This college of art facilitates the students' and tutors' formal socialisation through the allocated timetable sessions in the studio setting. To a lesser degree, overlapping interests, sub-communities, and activities bring students with commonalities together.

There is a growing trend of teaching design in non-traditional environments by adapting the knowledge and approaches from within studio pedagogy, known as a 'signature pedagogy', to classroom-based learning (Shulman, 2005; Sims and Shreeve, 2012; Crowther, 2013; Boling, et al., 2013). Studio learning is now often synonymous with classroom learning (as discussed in Case Study 2) as the roles that these two environments assume now overlap (Boling, et al., 2013; Knaub, et al., 2016). Studio normally involves a passionate and driven investment and membership in a creative learning space where a unique set of skills and thought processes are taught. Physically, a design studio provides students access to the studio environment at irregular hours and with space to work, while work in progress remains on display in their allocated desk space. Classroom environments are timetabled, learning spaces, which are found across all educational institutions, delivering creative and non-creative learning, from early childhood to postgraduate education. A classroom is often a carpeted room in which a group of students at desks are taught, with no reference to the traditional workshop (Oxford Dictionaries, 2016). In these generalised educational environments, studio lessons can be facilitated via "interactive boards and display devices in the classroom" typically seen as an attempt to plan, control, and orchestrate the studio learning experience in a non-specialised learning space (Scott-Webber, et al., 2014, p.153). In recent years, a studio-based classroom often exists as an accessible online educational content management system using software, such as Moodle, VLE (Virtual Learning Environment), Blackboard, Adobe Connect, or Google Classroom (Pektas, 2012; Güler, 2015; Google, 2016). In consideration of these changes, recent literature now points to studio learning as being dissimilar to traditional studios, with certain educators now having a "received understanding" of studio, having imagined it and read about it yet not having traditionally experienced it (Boling, et al., 2016, p.5).

Scott-Webber (2012) argues that institutions, educators, and designers must work together to address the issues relating to contemporary learning in spaces that were designed for an older, factory-education spatial model. Today, institutions should tackle the problematic density caused by large student numbers and ensure learning spaces are used more effectively in order to bring together pedagogy, technology, and space. Educators should ensure 'meaning making'

is at the forefront of their delivery and practice, rather than an outmoded 'content experts' arrangement. Designers should also recognise emerging user needs in education as well as pedagogical changes. Scott-Webber (2012) also highlights that learning spaces should be designed from the inside out. However, designers who are designing learning spaces often rarely consult educators, with designers preferring to create beautiful, technological spaces, leaving little room for creative mess and play. As a Design educator teaching within new design studio learning spaces at my current institution (also the location of Case Study 2), I was not permitted to touch or use the walls for lesson delivery. In these studio-based classroom spaces, using the walls as broader areas to display artwork or as interactive work in progress surfaces was strictly off limits. Instead, the classroom was furnished with a small whiteboard area and magnetic pin-board wall upon which to attach mobile phones. The three remaining walls in the studio display large digital screens, which continue to function intermittently (Figure 8). Institutional rules dictate that the estates department and technical staff regulate these new spaces.



Figure 8. Classroom-based studio space. © L. Marshalsey, 2016.

Older, less valued learning spaces seem to function better as fluid, creative studios, and are generally less regulated. In addition, educators often do not know what they want or need in relation to designing learning spaces with designers. Therefore, it would seem that there exists

a miscommunication between institutions, educators, and designers when designing contemporary design studio environments. This is problematic particularly because the design of these learning spaces will shape the way in which we think about, experience, and manage design education for the next several decades (Rudd, et al., 2006).

Many studies (Muhammad, et al., 2014; Morrison, 2015; Perks, et al., 2016) propose that innovative and inspirational learning spaces should be decluttered and comprise mobilised furniture, air conditioning, whiteboards, amplification, and digital screens. However, these researchers have not considered sensory affect in these spaces and continue to take advantage of technological innovation in education. Instead, personalising an engaged specialist design studio education should be at the forefront of space design, so as to allow students opportunities to understand the studio as a site for learning without bias (Goldblatt, 2006, p.21).

The ensuing concept of personalisation in education suggests a need to create learning spaces that account for the needs and interests of individuals (Waldrip, et al., 2016). Accordingly, teaching staff are increasingly aware of the challenging relationship between learning space and community as they adapt their delivery, confront their own limitations, and acknowledge the need for change within physical learning spaces (Austerlitz, 2008; Scott-Webber, 2012, et al., 2014; Boling, et al., 2016). As educational funding is reduced, financial cost cutting may lead to inadequate resources and space for specialist creative disciplines, and even if dedicated learning spaces are established, they are difficult to justify and retain (Educause, 2010; Morgan, 2014a; 2014b; Boling, et al., 2016). Likewise, university administration and estate management does not always support interdisciplinary practice or shared space between departments, or the movement of Communication Design students to non-owned or non-designated learning spaces (Temple, 2014).

Art and Design as a subject was given “parity of esteem” by the UK government in 1988 with other core disciplines after being enlisted as mandatory in school education by the Educational

Reform Act. In 2012, the UK Government threatened to side-line Art and Design in favour of other subjects in the school curriculum, therefore having consequences for progression onto further education and university (Creative Review, 2013; Baynes and Norman, 2013). The long-term effects of this on studio learning remain to be seen. One might question whether these current and future challenges might prepare students for a globally dispersed design practice and if a sense of place in contemporary Communication Design studio learning might be lacking (Barker and Hall, 2010, p.9).

2.2 Summary

In this chapter, I explore how the context and evolution of the studio as a site for learning has framed the nature of studio education today. Elevated costs and political pressures have meant the role of studio in contemporary design education has changed from an idealistic traditional form of studio practice into diverse definitions of studio and studio-based classrooms, with scattered provision across higher education at this present time. Specialist Communication Design studio education has seen a shift from formal craft and skill related workshop instruction to informal, blended, and classroom-based teaching approaches common in modular delivery. Consequently, there is a marked need to create a communal sense of place in a diverse range of spaces designed for larger numbers of transient students, especially because students may perceive a sense of place differently. The chapter that follows moves on to consider and critically evaluate previous studies in this field. It then summarises and synthesises the literature surrounding experiential learning theory, social constructivism, communities of practice, and sensory affect theory within the context of studio education.

3 LITERATURE REVIEW

3.1 Introduction

A key aim of this chapter is to establish and articulate the theoretical framework used in this study. This is an interpretivist research study that does not investigate a proposed hypothesis from the beginning. Instead, the theoretical perspective described in this chapter, drawn from literature, acts as a lens through which to focus this research investigation and to interpret the process of constructing meaning from the lived experiences of studio learning. To understand this world of meaning, one must interpret it (Schwandt, 1994, p.118). The role of theory in this thesis acts as a navigational aid to support the research aims and questions, since the categories and theories emerged from the data throughout the research process (Kara, 2016). A second aim of this chapter is to engage with the literature in an attempt to find places of agreement and departure, support and tension.

The following sections aim to define the key terms of, summarise the relevant texts on, and clarify the major themes of Communication Design studio education to situate the field today. What follows presents a critical and evaluative framework of the key ideas and theories, drawn from a variety of contexts that focuses on their application to Communication Design studio learning. This helps to scaffold the design of the two case studies as well as to support the interpretation of the data explained later in this thesis. Subsequently, this enables the impact of sensory affect to be drawn out from an examination of the participants' and my on-the-ground experiences within the learning spaces. This critical evaluation of literature enables the identification of gaps in the field, and permits the positioning of the research questions, aims of this investigation and findings, within these gaps.

Searched scholarly databases					
Social Sciences Citation Index	ERIC (Education Resources Information Center via ProQuest)	ProQuest Education Journals (via ProQuest)	Google Scholar	British Library EThOS service	Bauhaus-Archiv/ Museum of Design
SAGE Journals Online	International Journal of Art and Design Education (iJade)	Wiley Online Library	Elsevier's Scopus database	Design and Applied Arts Index (DAAI) (via ProQuest)	National Centre for Vocational Education Research
Trove (The National Library of Australia)	EBSCOhost Online Research Database	The Senses and Society Journal - Taylor and Francis	ARTstor Digital library	Other Taylor and Francis Journals	JSTOR Digital library

Table 1. Searched scholarly databases. © L. Marshalsey, 2016.

I completed a comprehensive review of relevant literature from a thorough search of scholarly databases to position and understand the field of study as it stands today, as shown in Table 1. Australian and UK government databases were also researched for educational policy and statistics. In order to be comprehensive in my research, I originally explored databases outside of my specific subject areas of higher education, sensory research, visual arts, and design (not listed above in Table 1) and searched citation databases. These additional databases included science, psychology, medicine, and occupational therapy catalogues as a means to focus the lens of the literature review in the initial stages. From this, I identified the key search terms listed below:

- Learning spaces / educational environments / blended environments
- Design studio / studio learning / studio education / studio pedagogy
- Communication Design (education) / Graphic Design (education)
- A sense of place / place-based / place-making / architectural phenomenology / space and place
- Higher education / design education / signature pedagogies in design

- Embodied knowing / embodied experience / becoming aware
- Sensory affect / the senses / sensory experience

These search terms included synonyms, acronyms, and wider subject areas, as well as combinations of search terms. For example, 'Communication Design' was also searched for as 'Graphic Design' and 'studio learning' as 'studio pedagogy'. In addition, I collaborated with specialist visual arts and design university librarians to aid my search. In particular, journal texts and academic theses from the last five years were searched, and texts from the last two years in the closing stages of this investigation.

3.2 Outlining the literature review

This research study has three aims: (1) to explore the different ways in which students qualitatively interpret a range of sensory experiences within the shifting boundaries of virtual, technology-rich and physical (studio and studio-based) learning spaces; (2) to develop Participatory Design (PD) research methods that can be used to capture what students say about their lived experiences of their studio environment; and (3) to consider how Communication Design studio pedagogy can be adapted in order to take account of and work with sensory affect more explicitly using Participatory Design (PD) methods. This chapter will map these three aims against the theoretical framework and key texts. Therefore, the role, implementation and justification of theory in this study will be clearly explained, including how it informed the research design.

To begin, this chapter compares this research investigation to previous studies in this field, giving a brief synopsis of the relevant literature as shown in Table 2. Following this, the literature surrounding the studio as a site for learning, learning spaces, and a sense of place is discussed prior to a systematic and critical evaluation of the theoretical framework via the following four branches of knowledge: experiential learning theory, Social Constructivism, Communities of Practice theory, and sensory affect theory.

The literature review will help map and define the field of study as a theoretical framework (as shown later in Figure 10). To conclude this chapter, the closing section illuminates the gaps in this field and establishes the need for this research study.

3.3 Comparing this research investigation to previous studies in this field

In this section, I compare and discuss how the focus of this investigation supports and contends with previous studies in this field, as I consider the strengths and weaknesses of alternative interpretations of studio learning.

Previous studies in the field					
1	2	3	4	5	6
Studio as a site for learning	Learning spaces	A sense of place	Experiential learning (section 3.4.1), playful, situated (section 3.4.3) and social learning (section 3.4.2)	Reflective practice and embodied knowing (section 3.4.4)	The senses, sensory research and sensory affect (section 3.4.4)
Frascara (2004) Salama and Wilkinson (2007) Cennamo and Brandt (2012) Saghafi, Franz, and Crowther (2012) Amirsadeghi and Eisler (2012) Blazwick (2012) Pektas (2012) Vyas, van der Veer and Nijholt (2013) Crowther (2013) Boling, Siegel, Smith and Parrish (2013) Ghassan and Bohemia (2015) Güler (2015) Boling, et al. (2016) Knaub, et al. (2016)	Scott-Webber (2004) Rudd et al. (2006) Temple (2008) Boys (2008) Dugdale (2009) Melhuish (2010) Woolner (2010) Boys (2010) Boddington and Boys (2011) Scott-Webber (2012) Boys, Melhuish and Wilson (2014) Boys (2014) Biddick (2014) Temple (2014) Harrison and Hutton (2014) Scott-Webber, et al. (2014) Morrison (2015) Ellis and Goodyear (2016) Brandt and Bachmann (2016) Ryan (2016) Carvalho et al. (2016)	Bloomer and Moore (1978) Norberg Schulz (1980) Bachelard (1994) Seamon (1996) Walter (1998) Seamon and Mugerauer (2000) Ingold (2002) Malnar and Vodvarka (2004) Relph (2008) Pallasmaa (2009, 2012a, 2012b) Aravat and Neuman (2010) Otero-Pailos (2010) Sandbach (2011) Ellmers (2014)	Brooks and Brooks (1993) Austerlitz (2008) Sims and Shreeve (2012) Collini (2012) Lyon (2011) Baynes and Norman (2013) The Montessori Foundation (2013) Tovey (2015) Powers (2017)	Merleau-Ponty (1962) Schön (1971; 1984; 1990) Varela (1993) Levin (1994) Gendlin (1991) (1996; 1997) Moon (2006; 2009) Depraz, Varela and Vermersch (2003) Cain (2013)	Pfaffmann and Norgren (1977) Tellegren (1989) Howes (1991, 2004, 2005) Kensinger (1991) Ackerman (1992) Russ (1993; 1998) Classen (1993) Bachelard (1994) Shaw and Runco (1994) Parham and Mailloux (1996) Mooney (2000) Massumi (2002) Sec, et al. (2004) Mainar and Vodvarka (2004) Marinetti (2005) Ikemi (2005) Pink (2006, 2009, 2014) Lillard (2008) Brophy (2009) Cole (2011) Gumtau (2011) Pallasmaa (2012a, 2012b) Henshaw and Mould (2013) Fors, Bäckström and Pink (2013) Rappaport (2013) Muhammad, et al. (2014) Marshalsey (2015) Satpute, et al. (2015) Cseh, Phillips and Pearson (2014; 2015)

Table 2. Previous contextual studies (1–3) and key texts forming the theoretical framework (4–6) in the field of study. © L. Marshalsey, 2016.

3.3.1 The studio as a learning space and as a site for learning

As outlined in Chapters 1 and 2, the studio as a site for learning has changed since its initial inception and therefore, research of contemporary approaches to design education continues to produce new perspectives on studio learning. Salama and Wilkinson (2007) consider the idea of emotions as influencing many educational aspects of studio. They suggest that the quality of the learning environment is strongly associated with, and affected by, the emotions the students feels towards the instructor and those emotions that arise throughout the student–instructor dialogue. However, although I contend that this idea is relevant to this study it goes much further than a consideration of relational emotions. Cennamo and Brandt (2012) argue for the importance of reflective dialogue in the studio, an idea that is embraced in this study, as participants attribute meaning to their studio experiences. Reflective dialogues are intimately linked with particular social interactions and studio practices, and because the educator–student dialogue frequently facilitates problem-solving, educators can support students in exploring the different ways in which they can qualitatively interpret a range of sensory experiences in their studio learning. In my situation, such an approach provides opportunities for the participants and me to learn from each other within the studio. In addition, the Participatory Design (PD) research methods, developed to understand and capture sensory affect as a means to help participants experience studio, are similar in terms of goals and context, yet offer opportunities for variation in the educator–student and student–student dialogue.

An individual's experiential, environmental, and functional working relationship with the studio and its community also need deliberation. In consideration of this, Saghafi et al. (2012) placed greater emphasis on the physical design studio to promote communication and interaction. Degrees of participation in studio learning can depend on the quality of the relationships between the students as well as the quality of the physical environment. However, Pektas (2012) claims that delivery modes in studio teaching have not evolved as a response to changing physical environments and developing technology. My own investigation clearly outlines two case study institutions delivering two very different curriculum models in relation to

physical and blended Communication Design studio education and within differing cultural contexts.

Although a blended design studio can combine the strengths of traditional and online learning methods, Vyas et al. (2013) argue that a typical design studio has a high material character in the sense that it is full of material objects and design artefacts. They continue to emphasise the importance of artefacts as a visible externalisation of thoughts, ideas, and concepts on a range of studio surfaces, such as designers' desks, office walls, and notice-boards (Vyas, et al., 2013). For this reason, the methodologies used in this investigation have produced a repertoire of artefacts to support the externalisation of the participants' developing awareness of studio as they make meaning; place value judgements on these newly acquired insights, and then evaluate the impact of sensory affect on their present practice. The methodological approach in this investigation evidences that this newly acquired knowledge has potential in terms of the future development of the students' creative practice in studio learning. Additionally, when artifacts are made visible on shared studio surfaces they may play an important role in encouraging and supporting collaboration between co-workers (Vyas, et al., 2013). In further consideration of innovative research methods, Güler (2015) argues that the pedagogic implementation of social media as a communication tool in contemporary design studios might help improve the efficiency of studio critiques and peer interactions in these learning spaces.

The field of research of this study is broadly in line with those researchers who examine learning spaces, among them Melhuish (2010), Scott-Webber (2012), Boys (2014), and Harrison and Hutton (2014). This group of researchers examine perceptions of learning spaces and their impact on the learning and teaching process. In particular, Boys (2008; 2010; 2014; 2015) explores space in varying forms: conceptual, formal to informal, physical and virtual space. Boys (2008) and Temple (2008) argue that the complex relationships within learning spaces in higher education today are an under-researched area. My study certainly addresses the gap in terms of investigating the impact of sensory affect on student engagement within a variety of spaces - formal to informal. However, Biddick (2014) takes the notion of open-plan

learning spaces further than this investigation does, as he discusses student movement, noise, and pedagogical delivery. My study examines the sensory impact of mainly physical learning spaces, and, as an example, identifies the elevated sound levels within these spaces as resulting from teaching larger student numbers.

Ellis and Goodyear (2016) examine learning spaces in a variety of arenas, including architecture, the learning sciences, environmental psychology, and elsewhere to identify the relationships and gaps in this field. I concur with their assessment that learning space research is a relatively new field of study aimed towards understanding and managing pedagogical environments and that there may never be a singular model to serve all needs (Ellis and Goodyear, 2016). Positioning itself within this new field, this research investigation explores the experiential impact of sensory affect on social interaction and community, in physical learning spaces, and in tools, methods and strategies employed to cope with sensory affect and engaged studio learning. Ellis and Goodyear's (2016) study is compatible with my investigation as I seek to understand the impact of the shifting boundaries of physical learning spaces from a ground-up perspective and to engage directly with the stakeholders from an insider viewpoint e.g. within the learners' community of practice. Although many studies support this field of research in several ways, my investigation is (to some extent) at odds with that of Knaub, et al. (2016). In contrast, Knaub et al (2016), argue for a studio-style instruction within classroom-based environments with a frequent emphasis on instructional technology, such as laptops and whiteboards, to support active learning. Many other studies also chart the studio-to-classroom education model in various forms for architecture, interior, and art-based disciplines. Yet none, to my knowledge, focus on Communication Design. There is no direct study that specifically argues for sensory affect to be taken into account in Communication Design or indeed within a broader studio education.

3.3.2 A sense of place

Literature that focuses on sense of place can be found in the fields of inquiry occurring within ethnography, anthropology, and architectural phenomenology (Bloomer and Moore, 1978; Norberg-Schulz, 1980; Bachelard, 1994; Seamon and Mugerauer, 2000; Relph, 2008; Pallasmaa, 2009, 2012a, 2012b; Aravat and Neuman, 2010; Otero-Pailos, 2010).

Understanding a sense of place in higher education is important for the students to foster a deep immersion in learning spaces, to mediate the feelings they experience in these spaces, and how this might affect their learning and engagement (Ikemi, 2005; Rappaport, 2013; Boling, et al., 2016). Developing a sense of place is aligned to both the conscious and unconscious ways in which students are enabled to work, guided by their senses as an integral part of their learning. This is also closely linked to the degree to which learners are actively embedded in the communities of practice they inhabit. Undeniably, the relationship between sensory affect and learning within a learning space is complex.

A 'space' may be understood in terms of the affective bond between people and place; as the essence of understanding experiences within space (Aravat and Neuman, 2010). In comparison, we may consider 'place' as being continually sensed, revealing more of itself as we encounter and inhabit a particular space. It is relative to the being whose environment it is (in this case, the student) (Malnar and Vodvarka, 2004). As such, one cannot exist without the other, as the body and environment shape and develop each other (Ingold, 2002; Malnar and Vodvarka, 2004). According to Relph (2008), four themes define how place is experienced:

Firstly... relationships between space and place are examined in order to demonstrate the range of place experiences and concepts. Second, the different components and intensities of place experience are explored... Third, the nature of the identity of places and the identity of people with places... Fourth, the ways in which sense of place and attachment to place are manifest in the making of places. (Relph, 2008, preface)

Placeways (1998) author E. V. Walter asserts that people experience a sense of place in their daily interactions within space (Malnar and Vodvarka, 2004, p.60). The strongest sense of place experience is what Relph (2008, p.55) terms “existential insideness”. This is a situation of deep, unselfconscious immersion in place and the experience most people know when they are at home or in their own community. The opposite of existential insideness is what he labelled “existential outsideness”: a sense of strangeness and alienation (Relph, 2008). As evidenced throughout this thesis, there is a marked need to create a communal sense of place in a diverse range of learning spaces designed for larger numbers of transient students. But how can this be achieved? Is it indeed possible to create a sense of place in the context of contemporary Communication Design studio education, especially when it may exist in other models of delivery in both virtual and real environments integral to pedagogical space (Davidts and Paice, 2009, p.10)?

This search for authenticity of place surfaces from a disconnectedness between person and environment, and this is referred to as placelessness, which is often a result of industrialisation or technology in modern day space (Seamon, 1996; Relph, 2008). A studio space can never be a place unless an intimate attachment is formed and placelessness within studio can foster negative feelings in students (Ingold, 2002; Malnar and Vodvarka, 2004; Relph, 2008). Our perceptual experiences of learning spaces imitating studios can be momentary, unremarkable or disconnected and feelings of boredom or anxiety may surface in educational environments often containing a high turnover of bodies on a daily basis (Csikszentmihalyi, 1975; Malnar and Vodvarka, 2004; Relph, 2008; Sharp, et al., 2016). However, Pallasmaa (2012a) positions melancholia as the embedded enigma of all insightful thinking and creative effort; not in a despondent sense, but as an unintentional sensation of being in a place. Likewise, Relph (2008, p.42) suggests drudgery will remain an ingredient of place as mundane experiences partner the more invigorating studio experiences during pedagogical processes (Brooks and Brooks, 1993, p.3).

The French poet Charles Baudelaire (1821-1867) noted that in large structures, such as a palace, “there is no place for intimacy” and we must identify “centres of simplicity” in buildings with many rooms (Bachelard, 1994, p.29). This notion also applies to university buildings, as students identify their own embodied place within them. This enables the process of the connections made between the physical space, the people who occupy that space, and the work they produce in studio learning (Shaughnessy and Brook, 2009). In addition, students may exhibit differing responses and perceptions of a sense of place (in both beneficial and unfavourable ways) depending on their previous and current experiences of learning spaces (Heschong Mahone Group, 1999; Boys, 2010, p.95).

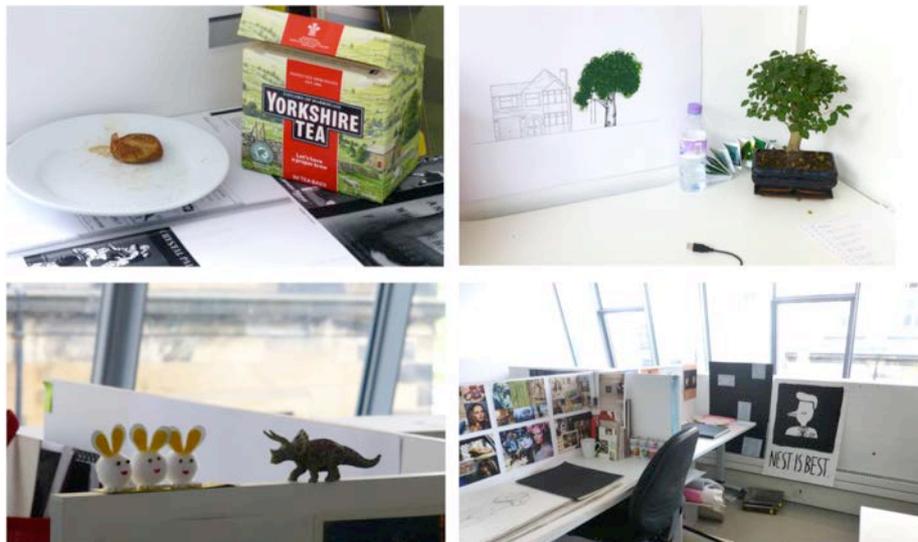


Figure 9. Photos illustrating the many ways in which Design students support place making within their learning spaces. © L. Marshalsey, 2015.

Indeed, students may come to cherish a place they spend periods of time at. This may result from their productivity, sociality, meditation, and solitude in their educational environments, as in the places of creative learning and practice (Seamon, 1996; Relph, 2008). Place-making can assist the ways in which students relate and interact with the specificity of place as well as with each other through objects and actions. Students use creative or memory-laden artefacts, such as readymade posters, self-initiated artwork, personal objects, and associated comforts to project their ownership of space within a space (Figure 9) (Vyas, et al., 2013). Acts of place-making speak of the students’ design process, rituals, habits, or self-reflective journeys to

improve their experiences of day-to-day studio learning. In the context of Communication Design education, these can be viewed as psychological and sensory tools that help learners inhabit place, as Bloomer and Moore indicate:

By maintaining recognisable artifacts at key points along the boundaries and in the centre of public places the identity of the human can be projected outward into the community or back into it... (1978, p.54)

The subjective actions of populating a studio with artefacts may be limited in classroom-based learning spaces due to the reduction of wall space, small or temporary personal work areas and insecure boundaries. Furthermore, it is challenging to support a critical sense of ownership in hot-desking and no-desking educational environments. Contemporary design studio learning has also become increasingly transient and fluid, with a less visibly defined footprint in which to create an anchored identity in the studio. Therefore, the ability to define a sense of place in Communication Design learning spaces can be instigated or activated by an individual's internal or external actions.

The following sections examine the theoretical framework of this thesis. Collectively, the theories outlined below aid an understanding of the critical role of studio education in the context of this investigation.

3.4 Theoretical framework

In this section, I explicate how I intend to use theory, drawing upon learning, social participation, community, and sensory affect as a means to describe and illuminate elements of the setting of this investigation. Halverson (2002) argues that theories – when viewed as conceptual tools for making sense of a field of study – have four principal attributes: descriptive power; rhetorical power; inferential power; and application power. To apply these notions to this study of contemporary Communication Design studio learning, descriptive power describes the studio and studio-based classrooms as well as critiquing the application of technology and practice

within them. Rhetorical power maps the description of studio things to ourselves, and how these things might be communicated to others. Inferential power is the studio phenomenon that is not yet fully understood enough to know where or how to implement the methods to investigate it. This can lead to insights for studio learning as the consequences of introducing change into a particular setting using the Participatory Design (PD) research methodologies might be predicted. Lastly, application power facilitates how theory is applied to the environments of studio learning for practical reasons (Halverson, 2002).

The multi-theoretical pedagogical framework as shown in Figure 10, which is drawn from several established areas of learning theory, includes Dewey's philosophy of the interconnectedness between experience and education (Dewey, 1936) and Wenger's (2000) Community of Practice. The key pedagogical theories relevant to this research study are as follows:

3.4.1 Experiential learning theory

Kolb and Fry

The existing educational theories of John Dewey

3.4.2 Social Constructivism

Lev Vygotsky and the Zone of Proximal Development (ZPD)

Jean Piaget

3.4.3 Communities of Practice theory

Etienne Wenger

3.4.4 Sensory affect theory

Enactive Cognition: Embodied knowing and becoming aware (Varela)

Embodied Situated Cognition: The "Felt Sense" (Gendlin)

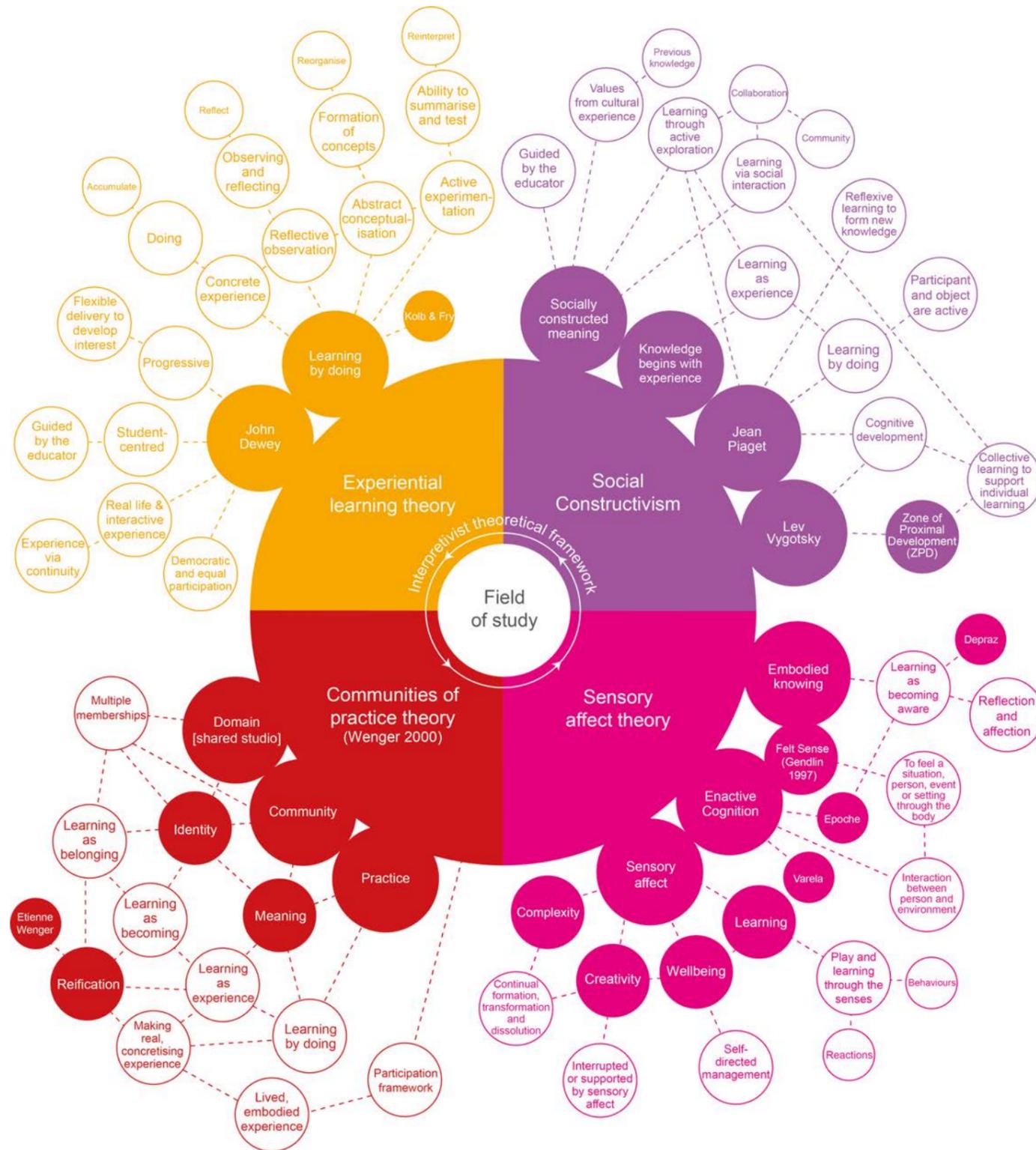


Figure 10. Mapping the field of study. © L. Marshalsey, 2016.

3.4.1 Experiential learning theory

David A. Kolb and Roger Fry's experiential learning by doing model focused on the theory that the learner must be willing to be actively involved, reflect and conceptualise. Learners must utilise decision-making and problem-solving skills during a continuous process of cyclic experience (Fry, et al., 2008). Briefly, Kolb proposes the four stages of learning from experience as the concrete experiences of (1) doing, (2) observing and reflecting, (3) forming concepts, and (4) being able to summarise and test in new situations as a means to emphasise the central role that experience plays in the learning process (Kolb, 1983, p.20; Gray and Malins, 2004; Kolb and Kolb, 2005). This research investigation focuses on capturing participants experiences of studio by applying cyclic experiential learning through engagement with research methods combined with critical reflection, similar in nature to the study of Simm and Marvell (2015). One of the aims of this study is to consider how experiential techniques of doing might support the development of the Participatory Design (PD) methods and allow change to take place within studio pedagogy. The broad, student-centred tactic applied in this investigation can be linked with the educational theories of John Dewey.

3.4.1.1 *The educational theories of John Dewey*

American philosopher and educator John Dewey (1859–1952) advocated a progressive, student-centred democratic approach to education and of shaping experiences through well-planned environments (Mooney, 2000):

An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment, ... The environment, in other words, is whatever conditions interact with personal needs, desires purposes, and capacities to create the experience which is had. (Dewey, 1936, p.43)

According to Dewey, real-life active and interactive experiences in education encourage experimentation, social community, and independent thinking. Dewey also insisted that

education and experience are related but not equal. Furthermore, an experience can only be educational when it adds to the understanding of the life-world (Dewey, 1936, 2009; Mooney, 2000; Goldblatt, 2006). This notion may be applicable to contemporary studio learning, as some classroom-based studio experiences may not foster the necessary conditions for learning. Yet, the interactive and innovative research methods used in this study may encourage others to explore and interpret a range of experiences from the broad, student-centred autonomous approach (Marton, 2014).

In addition to advocating progressive educational experience with a flexible curriculum delivery to develop students' interests, Dewey noted the importance of shaping sensory forms of experience and he explicated sense qualities as the carriers of meaning (Dewey, 2009, p.118). Dewey argues that through interactions with the environment, individuals receptively accumulate experiences; they are constantly reflecting, reorganising, and reinterpreting the confusion of sense information in their day-to-day events (Goldblatt, 2006, pp.18,19). Accordingly, Dewey thought educators should understand students' "instincts and impulses", and subsequently guide them into productive activities leading to the development of judgement (Goldblatt, 2006, p.22). Dewey's philosophy of the interconnectedness between experience and education applies to the action research approach taken throughout this research study. This is with a view to eliciting the students' responses to the phenomena of sensory affect (from each of the two case studies) as they consider their past, present, and future sensory experiences to shape their "continuity of experience" ((Ozkar, 2014, p.12) cited in Moszkowicz, 2009, p.199). Their learning occurs through the social process of concrete experiential education (Dewey, 1936).

3.4.2 Social Constructivism

German philosopher Immanuel Kant (1724-1804) was the major influence on the creation of Social Constructivism (Given, 2008). He proposed that experience leads to the formation of broad conceptions or constructs that are models of reality. Kant focused on how meaning is

made and argued that all knowledge begins with experience (Varbelow, 2015). In Kant's view, the human mind does not passively receive sense data. Instead, it actively digests and organises sense data cognitively to make meaning, interpreting perceptions and experiences (Kant, 1781). Consequently, experiential learning relates directly to Social Constructivism and evolved as an antithesis to a one-directional transfer of knowledge from educator to student. Socially constructed meaning emerges through three fundamental principles. The first principle denotes that learning is constructed as a response to each individual's experiences, with values placed on cultural experience and previous knowledge; the second is that learning occurs through active exploration; and the third principle is that learning occurs through social interaction and the processes of collaborative peer learning (Gray and Malins, 2004; University College Dublin, 2016).

In a Constructivist learning space – and similar in nature to the methodological and reflective approach used in this study – the educator guides the class discussion through presenting particular concepts, problems, scenarios, and information in social settings. Therefore, peer groups construct knowledge from one another, as learning cannot be separated from action (Kurt, 2009). Following this, concepts are questioned as a means to provide students with opportunities to test their understanding and to develop an awareness of their experiences of studio learning. The student continuously builds and adjusts their earlier structures of experiences, as new and evolving experiences, actions, and knowledge (University College Dublin, 2016). Social Constructivism infers that systems of meaning and a shared reality are formed between student, educator, and peer participants who directly explore learning (with time and encouragement to reflect on what they are learning) (Vygotsky, 1978; Fry, et al., 2008; Kurt, 2009; Woolner, et al., 2012). The Constructivist approach is applicable to this study as the students were encouraged to make meaning in relation to their developing awareness of their senses over several weeks. Their cognition occurred individually and collectively in this investigative process of studio learning.

3.4.2.1 *Lev Vygotsky and Jean Piaget*

Lev Vygotsky (1896-1934) was considered Social Constructivism's first major theorist, while Jean Piaget (1886-1980) was one of the first to articulate its principles (Piaget, 1954; Vygotsky, 1978; Daniels, 2001; Kozulin, et al., 2003). Educational psychologist Piaget was one of the most prominent theorists in cognitive Constructivism to emerge from the 20th century (Piaget, 1952). Piaget's seminal works from the 1950s focused on internal and individual cognitive growth rather than interactive abilities, albeit for very young children. He encouraged active learning through the senses and reflexes to form new knowledge constructions (Mooney, 2000). According to Piaget, haptic exploration and learning by doing enables a student to gather information about their learning environment, and therefore, understand it better. Encouraging a sensorimotor response to the manipulation of materials and real-world stimuli, students construct their own knowledge by giving new meaning to people, places, and things in their world (Piaget, 1954; Mooney, 2000). Piaget believed there is no knowledge without sensory experiential learning when both participant and object are active (Piaget, 1954; Serulnicov, 1999; Mooney, 2000; Minogue and Jones, 2006).

The co-creation of meaning arising from the experiential interactions between the students, their artefacts, and environment echoes Piaget's beliefs. The participants' embodied knowing as they become aware of sensory affect involves reflection and affection in their dynamic interactions between themselves and their environment. The participants draw meaning from the research process through feeling their social situations, their community, and practice-led events more deeply than ever before. In this way, the participants evaluated the impact of sensory affect on their present practice by actively participating in and experiencing the carefully constructed research methods. These methods conveyed the process of sensory affect in studio and studio-based classroom learning through practical activities and activated "learning through reflection by doing" (Felicia, 2011). These participatory methods included a focus group, which examined the participants own place-making objects as a tool for reflection.

Furthermore, Vygotsky's Social Development Theory recognises cognitive development as a consequence of interaction and learning in a social context. It is co-created between students with differing perceptions. Vygotsky argued that personal and social experience cannot be separated. His definitive theory – the Zone of Proximal Development (ZPD) – proposed the notion that a student on the threshold of learning a new concept can benefit from interaction with their peer group (Vygotsky, 1978; Kozulin, et al., 2003; Michael, 2008). Vygotsky's theory acknowledges the crucial role that teachers and peers can play in fostering a connection between independently acquired knowledge and collaboratively acquired understanding. Collective learning can support individual learning. Vygotsky argued that learning occurs in the social cultural context in which people act and interact in shared experiences. Students are able to accomplish tasks through peer or educator collaboration that they could not achieve alone and through the development of higher cognitive functions that see reasoning emerging from practical activity in a social environment (Beck and Kosnik, 2006).

In the context of contemporary Communication Design learning, students should achieve the co-creation of meaning together in their social community-based studio learning context (their community of practice) to develop a personal representation of knowledge (Rieber and Carton, 1987; Wenger, 2000; Hand and Bryson, 2008; Woolner, et al., 2012). The students learn alongside an educator, peer, or even a computer, as knowledge is transferred to them through social interactions. Because social interaction precedes development, consciousness, and cognition, these students already possessed an understanding of studio learning to some degree and had prior knowledge and experience in this field. In the context of this study, this notion of co-creating meaning together as a community-based studio learning group is expanded using the Participatory Design (PD) methods. These methods illuminate and capture what students say about their lived experiences of their studio environment via practical group-based tasks, processes, or concepts.

Therefore, since the majority of contemporary Communication Design project-based curricula have one common denominator – social context as a vehicle for learning and as a means to

building community through the students' engagement in studio learning – so the learner becomes the central actor as they simultaneously participate in situated learning and engage in sensory affect. Contemporary design curricula invoke the key principles of Social Constructivism: knowledge is constructed by the learner (as a member of a group or as an individual), knowledge is experience-based, learning is social, learning communities should be inclusive and equitable, and participants are connected to projects via their attitudes, emotions, values, and actions (Beck and Kosnik, 2006). Because individual and collective knowledge of sensory affective studio experience is constructed through the workshop and focus-group based activities in this investigation, the participants can explore the qualitatively different ways they are interpreting a range of learning spaces, with an emphasis on their own studio culture and the social context for cognitive development.

3.4.3 Communities of Practice theory

Learning is a process that takes place in a participation framework, not exclusively in an individual's mind. It exists in the differences of perspective among the co-participants within studio learning. In Communication Design education, the students improvise, adapt, negotiate, and renegotiate their experiences of studio learning according to their meaningful experiences of sensory affect within their community of practice. It is the participants of the community who learn together, yet it is the individual who internalises and manipulates structures to alter their conceptions of learning (Lave and Wenger, 1991, p.15). Fors et al. (2013) propose a theory of "sensory-emplaced learning" as understanding the correlation between the embodied and environmental in everyday learning processes (Fors, et al., 2013, abstract). The idea of the lived, embodied studio experience being intertwined with community is a powerful notion, as students participate and contribute to their community of practice. Communities of Practice (CoP) theory combines experiential learning and Social Constructivism in its domain, community, and practice and that broad theories such as these can be applied to this study.

Although not a direct reference to Communication Design specifically, CoP theory is relevant to studio education. Communication Design is the common interest that connects and holds this design studio community together, connected by the shared practical activities, critiques and discussions the students undertake. Through collaborative activities and shared discussion, the student cohort interacts and learn together. They invoke a shared repertoire of experience. The students' own practice informs their participation in the community; and what they learn from the community affects what they do in return (Wenger, 2000). The studio also provides a shared domain for the community to self-reflect on the nature of its own practice. Since a community denotes a greater identity through the presence of multiple perceptual bodies than an individual self does, the students learn to value their collective, participatory membership of the studio (Schön, 1984, 1990; Wenger, 2000; Relph, 2008). The students retain multiple memberships in the studio community, aligning to their individual and collective preferred creative practice and influences. These memberships could include print or web communities, formal and informal memberships within hidden and open physical or online communities, and in and across friendship groups, working groups; and the wider institutional communities. Many micro and macro memberships overlap depending on the students' own identity, practice-led interests, community and social preferences, and on the meaning that they assign to learning experiences. Intersubjectivity – our inherently social being – becomes a bridge between the personal and the shared, the self and the others in my investigation of studio learning. This is an idea that Boys (2010) emphasises when stating “teachers, students... are... all members of... two intersecting communities of practice: the educational institution and their own specialist subject or subjects” (p.44).

Learning spaces are experienced and interpreted by its participants in a complex mapping of social and spatial processes. These experiences exist in the communities of practice in education, transformative design processes, and differing participant perspectives of these processes and resources (Boys, 2010, pp.78, 85). In his influential work on CoP theory educational theorist and practitioner Etienne Wenger (2000) calls this ‘reification’. That is, making concrete the shared domain of interest in learning, commitment to the learning

community and a shared competence of the discipline (Lave and Wenger, 1991; Wenger, 2000). Student participants can form identity in their own practice and activate modes of belonging within studio education (Lave and Wenger, 1991; Wenger, 2000; Coffield and Williamson, 2011). The evidence from this investigation is influenced by and is closely aligned to CoP theory and supports the idea of reification through the methodological approach used. As participants, the students and I concretise the learning and sensory affect we are immersed in every day. However, as participants “we recognise ourselves in each other, in reification we project ourselves onto the world and not having to recognise ourselves in those projections, we attribute to our meanings an independent existence” (Wenger, 2000, p.58). By viewing learning as belonging, as doing, as experience, as becoming, and as concretising, we see our experiences as being fundamental to our specialist studio community, and the research design of this study provides a process of “giving form to our experiences... to create points of focus around which the negotiation of meaning becomes organised” (Wenger, 2000, p.58). Therefore, these notions of reification, community, practice, meaning, and identity frame the focus of this participatory design research study.

3.4.4 Sensory affect theory

This portion of the literature review seeks to critically examine sensory affect and its complexity within studio education more fully and to discuss the aspects of the sensory affective framework of my thesis. To begin, brief explanations of embodied knowing, enactive cognition, and the character and structure of affective experience are fundamental to understanding sensory affect. The following sections examine how experiencing sensory affect can impact students’ creativity, wellbeing, and learning, and explore the issues prevalent in sensory affect and studio learning research studies. The concluding section considers the ways in which sensory affect might be visualised and understood via creative visual representations of complexity.

3.4.4.1 *Embodied knowing and becoming aware in studio learning*

Philosopher Merleau-Ponty conceived of the manifestation of embodiment when he described the bodily character of experience as speaking “to all my senses at once” (Merleau-Ponty, 1962, p.203). According to Merleau-Ponty, the human body is the centre of the sensory experiential world as a two-way, intertwined affiliation, indivisible, conversant and creating embodied presence in the daily environment. For many years, it has been recognised that students’ awareness of their own conscious, embodied, and qualitative learning experiences arise via the perspective of being reflective practitioners - ‘becoming aware’ (Schön, 1971, 1984, 1990; Moon, 2006; 2009). Depraz (2003) proposes that the basic structure of ‘becoming aware’ involves an iterative cycle of reflection and affection (Depraz, et al., 2003). Prior to developing research methods to understand and capture sensory affect, steps were taken to draw out the meaning that the participants and I attribute to sensory affect. This is with a view to iteratively reflecting and understanding practice, social interaction in the studio community and as a means to understand the role of the senses in our studio learning.

3.4.4.2 *Enactive cognition and the “Felt Sense”*

Enactivism, or enactive cognition, is the dynamic interaction between person and environment. In the context of this study, it concerns student and learning space (Varela, 1993). When exploring the experiential impact of sensory affect the student’s body, mind, and the learning space converge in the active relations within the studio or studio-based classroom. As participants become self-aware, they may assume epoché in the reflective process. “Epoché” is the act of all judgments of the external world becoming suspended whilst judgements are internalised as evidence (Varela, 1993; Depraz, et al., 2003, p.26). The three phases of “epoché” – suspension, redirection and letting go – serve as evidence of the cyclical reflecting act (Depraz, et al., 2003, p.25). Therefore, by paying attention to their lived experiences within the learning space every day, Communication Design students might reflectively turn their gaze inward and embrace an “infrastructure of imagination” composed of “orientation, reflection and

exploration” via new eyes (Wenger, 2000, p.238). This allows the participants to react and plan future actions within the studio or studio-based classroom as they gather data and results, and question assumptions and behaviours (Brookfield, 1995).

Developing a reflective mind-set and enacting embodied knowing without conscious thought can also be described as the ‘felt sense’ (Rappaport, 2013). American philosopher and psychologist Eugene T. Gendlin (1926-) termed the phrase to describe embodied knowing as a phenomenon of experiential and focused-orientated meaning (Levin, 1994; Gendlin, 1996; Rappaport, 2013). Gendlin drew influence from Dewey and Merleau-Ponty among others to form his theory (Levin, 1994, p.346). The felt sense is to feel a situation, person, event, or setting more deeply through a bodily, physical awareness and not primarily through a mental experience (Gendlin, 2003, p.32). Gendlin (1997) examines how fluctuating between what is already expressed and what is yet to be articulated enables a new kind of thinking through the body. This thinking begins from the complexity of felt meaning and returns to it repeatedly (Gendlin, 1997, abstract). Embodied knowing and becoming aware identifies and changes the way that thoughts and emotions are held within the body, which can instigate dramatic shifts in a student’s understanding and insight of the meanings they attribute to their experiences of sensory affect. In the context of this investigation, the learners might become better equipped to make the positive changes necessary to improve and enhance their learning as they become aware of sensory affect. The following section examines sensory affect more critically as a means to understand and capture sensory affect, and to help frame the meanings that participants might attribute to sensory affect.

3.4.4.3 The character and structure of affective experience and the senses

Arguably, emotions, moods, creativity, wellbeing, motivation, engagement, and learning are affected by the conditions present in studio education. Therefore, the character and structure of affective experience and the senses should be examined. As a means to shape the broad meaning of affective experience, emotion is a subset of affect and it may intimate a range of

reactions, such as tension and excitement (Tellegren, 1989). It is distinctly separate from cognition, which processes thought, reasoning, and understanding (Russ, 1993, p.7). Affective experience may also influence behaviours, such as direction, intensity, and persistence, affecting goals and commitment (Seo, et al., 2004). In the context of this investigation, affective experience is an understanding of perceptive and conscious sensation within contemporary studio learning environments.

As stated previously, Merleau-Ponty (1962) placed sensation at the heart of human experience, arguing that the human body determines the nature of our sensory and motor capabilities to recognise the world in a particular way (Moran, 1999, p.423). As humans experience the world that surrounds them, the mind travels the entire body as it makes sense of the index of touch, taste, smell, sound, and vision to know their territory (Ackerman, 1992). The following sections very briefly discuss each of the five senses in combination with their immediate affects within studio learning.

To begin, touch often combines with other senses and together affects the whole body, particularly as each student comes into contact with surfaces, materials, and other bodies within the studio community. Merleau-Ponty placed significance on the ability to “touch ourselves, to touch and to be touched” (Merleau-Ponty cited in Moran, 1999, p.423). He contends that touch and being touched cannot happen concurrently as they are exclusive to each other (Gumtau, 2011). Yet, German philosopher Edmund Husserl (1859-1938) placed an emphasis on “double-touch” and how the body both touches things and is touched in return. For example, when a hand pushes a door open, the door pushes back on the hand in return (Cerbone, 2006). Touch sensors can also be activated by stimulation or tedium, in line with constant or irregular pressure over time – short and sharp or steady and consistent. Touch also stops responding to regular stimuli over time as it adapts to and recognises familiar, repetitive everyday sensations in the studio (Gumtau, 2011). In the last 20 years, the boom in digital practice within higher education means information about the world is mainly relayed through touching screens and computers on a daily basis (Howes, 2005:30; Facer, 2011). To experience and know their

studio territory, students touch the materials and processes commonly used for Communication Design projects and the physical environment.

Hands are perceived as direct tools of engagement as they are the conduits by which knowledge has entered the body (Kensinger, 1991:40). Marinetti (2005) argues that a visual sense is born in the fingertips. According to him sight, smell, hearing, touch, and taste are modifications of touch, divided in different ways and localised in different points (Marinetti, 2005, p.331). Conversely, Holl et al. (2006, p.29) argues that the senses form a hierarchical system from the highest sense of vision down to the lowest sense, touch. Pallasmaa (2012b) argues that vision is the overriding sense among all the senses. He reasoned that the life-world must include a blend of our five senses in order to fully understand it. Likewise, Massumi (2002) insists that the senses co-function. As vision anticipates texture and touch then using vision alone without touch means to assume a new texture rather than experience it (Massumi, 2002, p.158). Furthermore, a human has to have known texture already through repeatedly touching it previously.

I contend that smell and taste might not prevail as often as touch and vision in the creative processes that take place in studio today. Nonetheless, every environment has its own particular smell, which is unique and embedded (Bachelard, 1994). Visual memories erode with time; however, scent memories have a long recall (Malnar and Vodvarka, 2004). Smell is a lingering sense as it provokes memories more than any other sense. In the traditional design studio, the smell of wet-based production processes (such as the smell of letterpress inks and solvents) might linger for years and evoke memories of previous eras of creative learning to students (Jury, 2011). Smell and taste are passive senses and are frequently inseparable (Tuan, 1978). Satisfying taste and smell means that the students would work better if they were not hungry or thirsty in the studio. Moreover, as taste is also referred to as the social sense, students may congregate together on campus over food and drink to discuss projects.

Social knowledge is also gained through and resides in the ears (Kensinger, 1991:42). Hearing can be social (Ingold, 2002, p.252). Martin Heidegger (1889-1976) positioned the notion that we do not hear bare sound. Instead, we hear the sound of everyday things and activities (Ingold, 2002, p.244). However, the ear favours sound from any direction and might not be able to exclude unwanted sound (Seamon and Mugerauer, 2000, p.87). Even in designated quiet or silent spaces, I have experienced unwelcome sound originating from people, which demands unintentional participation. Wanted sound in learning spaces comes from music, conversation, or silence (Carvalho, et al., 2016, p.97). Only when the eyes are closed and vision excluded can unadorned sounds, such as music or silence be heard, as the auditory world is vibrant and the visual world still (Ingold, 2002, pp.244, 251). In particular, music rhythmically impresses on the senses; the beauty of its sound is of greater value than the meaning and the more alive the impression on the ear becomes (Steiner, 1996, p.23).

In these few paragraphs, I have briefly touched upon the character and structure of affective experience and the senses as the first step towards understanding how sensory affect may influence studio learning. This also raises questions about the experiential impact of sensory affect on students' creative processes and their engagement within studio education. The following section discusses the connection between sensory affect and creativity more fully.

3.4.4.4 Sensory affect and creativity

Creativity is the ability to produce something novel and original, and which actualises something real that was previously only potential and unreal (Shaw and Runco, 1994). Russ (1993,1998), Shaw and Runco (1994), Brophy (2009) and Cseh et al. (2014, 2015) address the importance of affect in creativity and the affective components and mechanisms of the creative process. In education, this can be understood in the way that students let their thoughts roam and go back and forth between varieties of affective processes and their cognitive abilities. Specific affective processes include affect-laden thoughts of thinking and play; openness to affect states, such as anxiety and comfort; and affective pleasure in challenge and problem-solving. The cognitive

abilities involved in creativity include divergent thinking, transformative capabilities, sensitivity to problems, practising with alternative solutions, a wide breadth of knowledge and insightful evaluation. The model shown in Figure 11 also links personality traits to specific affective processes and the emergent cognitive abilities involved in creativity (Russ, 1993, p.10).

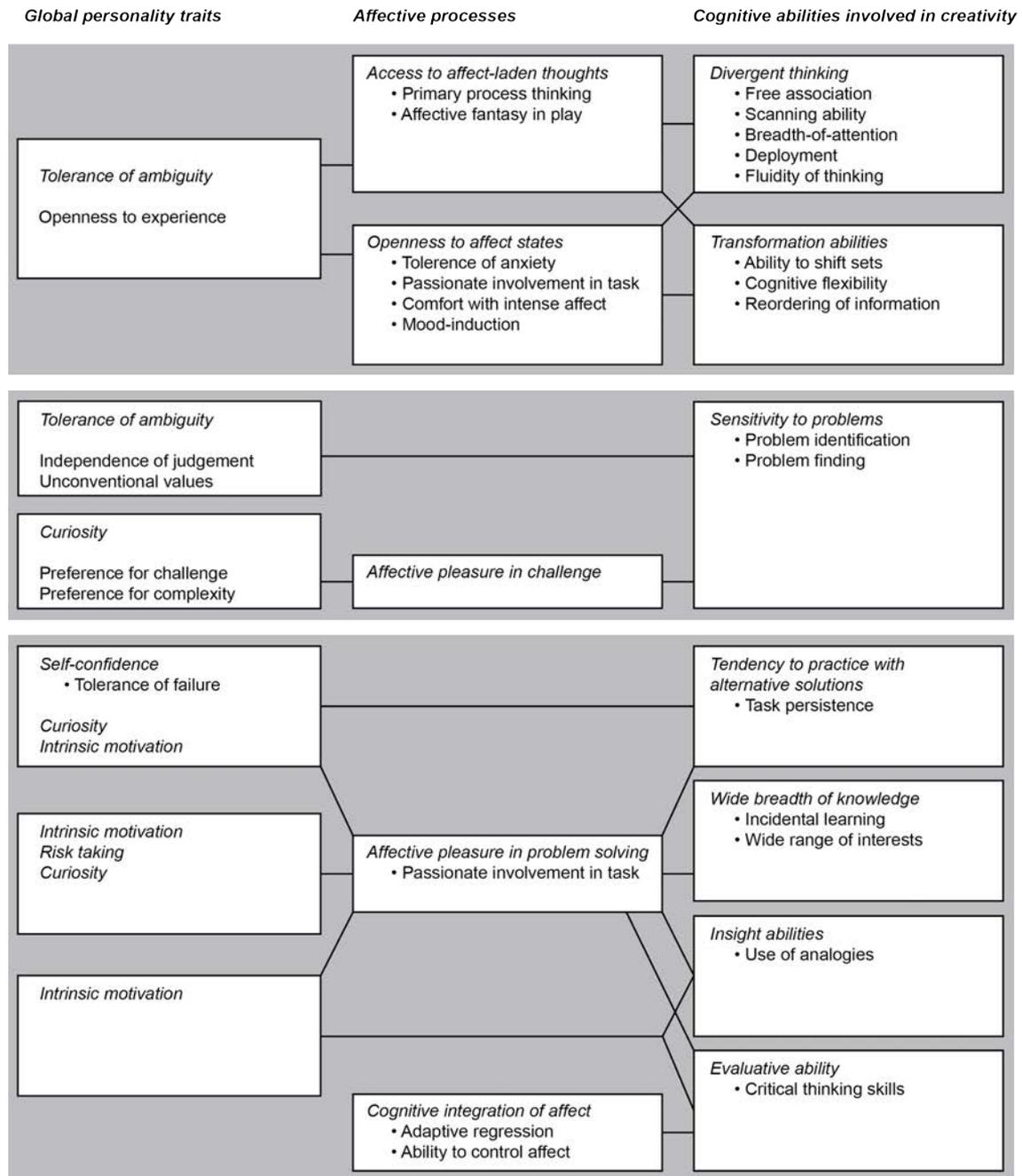


Figure 11. A model linking global personality traits with affective processes and cognitive abilities involved in creativity (adapted from Russ, 1993, p.10) © L. Marshalsey, 2016.

The personality traits and affective processes that facilitate creative cognitive abilities might be interrupted or supported by sensory affect (Russ, 1993). Sensory affect can originate from internal and external stimuli and experiences, within the community of practice, and the physical studio environment. To reiterate, the connotations of sensory affect within studio learning (such as optimal temperature, loud noise, silence or hunger) intermittently disrupt or support creativity and students' natural flow. A student may take a longer period of time to re-establish the conditions necessary for flow if they are interrupted, as they attempt to 'get back into the zone' in the studio. This notion communicates the importance of affect in the creative process and of cognitive – affective interaction in the body as a whole, rather than from a distinctly cerebral cognitive perspective (Russ, 1993, 1998; Gumtau, 2011; Csikszentmihalyi, 2013).

3.4.4.5 *Sensory affect and wellbeing*

Forming methods and strategies to manage sensory affect might increase coping abilities and support student wellbeing to come at moments when flow is interrupted. Harnessing the complex feedback that the body receives from the sensory organs might add strength to the self (Csikszentmihalyi, 2013, p.95). Being mindful of sensory affect means the student becomes consciously receptive to the sensory experiences happening around them and they learn to manage these experiences. This could allow each student to shape and maximise his or her personal experience of the studio to support mental and physical wellbeing while they learn. Yet, students' physical and mental wellbeing, engagement, and creativity are affected relative to the conditions provided by the studios and academic buildings they inhabit. Muhammad et al. (2014) outlines facilities to include optimal thermal conditions, good Internet access, suitable furniture, and the availability of refreshment facilities, a discussion room, and a personal workstation. Six key themes emerged from Muhammad, et al's (2014) research study: comfort; health and safety; access and quality of facilities; space provision and adequacy; participation and inclusiveness; and interaction. These conditions directly affect students' wellbeing on a daily basis within the changing nature and availability of learning spaces in contemporary studio education. Therefore, it is necessary that students foster an awareness of sensory affect and

develop self-motivated interventions to promote optimal conditions for their wellbeing and subsequent engagement in studio learning environments (Ryan and Deci, 2000; Depraz, et al., 2003, p.31; Pink, 2009; Deci and Ryan, 2013).

In addition, there may, in fact, be students who comprehend less than other students and who may find it challenging to be mindful of sensory affect in the conditions provided by studio education today. For instance, some students may be over-stimulated or irrevocably deterred by sensory affect, exhibiting fight or flight responses to offensive sensory input (Clark, et al., 1996). Sensory Modulation Dysfunction (SMD) causes two different behavioural learning reactions: 'sensation seeking' in which a student pursues a high intensity experience of sensory stimulation and 'sensation avoidance', in which the student is discouraged by sensory affect (Clark, et al., 1996). To date, SMD is mainly examined in the research literature treating developmental disabilities in children and occupational therapy (Lane, 2002).

It could be argued that excessive digital and online practice – in education, the home, and other activities – is a known cause of eye fatigue and other associated conditions (Rosenfield, 2011; Smith, 2013). Because the use of digital practice dominates higher education today, this also applies to design students and their technological tools within studio learning. As laptops and mobile phones fixate eye movements, the sensory experience becomes governed by vision as the eye calibrates upon fixation points from which to navigate the perceptive experience (Malnar and Vodvarka, 2004, p.168). This section has reviewed the key aspects of sensory affect and the segment that follows moves on to consider the position of sensory affect and learning within design education.

3.4.4.6 Sensory affect and learning

The purpose of this section is to review and examine the connection between sensory affect and learning within design education, and to discuss how Maria Montessori's (1870-1952) theories of sensory play and learning contribute towards sensory affect in education. Montessori

was one of the most important teaching practitioners of the 20th century. Her methods and ideas included a range of resources specifically for sensory play and experiential learning, and these were originally developed within a nursery and primary school context. She consistently integrated the senses and the real world into learning and disregarded imaginary tasks, which she considered of no real purpose (Mooney, 2000; Lillard, 2008; The Montessori Foundation, 2017).

Montessori created sensorial materials, a series of objects designed to educate a student's senses as they observe and begin to understand their environment. These objects were designed to stimulate vision, touch, baric pressure or weight, thermic or temperature, auditory sound, olfactory smell, gustatory taste, and stereo gnostic forms (Montessori Primary Guide, 2013). The student would be asked to classify these objects, which, in turn would help them to shape their own experiences within their environment. Sensorial materials introduced increasingly complex concepts through the hands, eyes, and ears to stimulate perceptual judgments by utilising the action or movement of the body while engaging in conscious thought (Lillard, 2008, p.57). Montessori argued that these materials assist students' concentration and ability to make judgements and allow them to move with purpose; in contrast to a conventional curriculum, which does not aim to educate the senses (Lillard, 2008, p.57). Within Montessori education, students also work within a managed sensory experience accompanied by freedom and self-directed learning (Mooney, 2000; Lillard, 2008; The Montessori Foundation, 2017). However, William Kilpatrick (1871-1965), an associate of Dewey, critically opposed Montessori's idea of self-directed learning as he argued that the Montessori student learns self-reliance by free choice in relative isolation and not through social situations (Kilpatrick, 1914, pp.16 - 20).

3.4.4.7 Issues in research of sensory affect and studio learning

Sensory affect is referred to and investigated in a wealth of research studies and clinical trials relating to neuroscience and occupational therapy. These classifications range from cognition

and sensory modes of learning for children or adults with developmental issues, such as autism to physiological and biological responses involving the nervous system or the brain. Studio teaching and learning (and Communication Design or Graphic Design learning and curriculum design in studio) are commonly found in recent literature that especially investigates learning spaces (Morrison, 2015; Turcotte, 2015; Ghassan and Bohemia, 2015; Brandt and Bachmann, 2016; Ryan, 2016; Carvalho, et al., 2016). To my knowledge, no studies exist that investigate the central relationship between sensory affect and studio learning in higher education today.

3.4.4.8 Understanding the complexity of sensory affect in studio learning

The complexity of sensory affect can be expanded further as an intricate web of differing sensitivities, insights, opinions, and perceptions derived from students' own experiences of sensory affect and studio learning today. French philosopher Gilles Deleuze (1925-1995) challenged the definition and actions of affect, albeit in relation to language and power, and how affect might be placed into systems of understanding for the purposes of education. He condemned conventional metaphysics for its "tree-like character" and the conception of reality as hierarchical, orderly, and linear. Instead, he considered affect and the nature of being as akin to the structure of a rhizome (Deleuze and Guattari, 1994; Cole, 2011, p.549). A rhizome is a continuously growing underground plant stem, which can develop in disorderly and unexpected directions (Oxford Dictionaries, 2016). Each rhizomic strand represents an aspect of sensory affect, meaning, practice, learning, and community, among others, that constantly form, divide and transform to epitomise studio education. In line with this notion, Ingold (2002) positions rhizomes as "giving us a way of beginning to think about persons, relationships and land that gets away from the static, decontextualising linearity... and allows us to conceive of a world in movement" (Ingold, 2002, p.140).

The role of sensory affect in learning spaces is multi-layered and often present in the hidden processes included in becoming aware (Deleuze and Guattari, 1994; Fuglsang and Meier Sørensen, 2006; Cole, 2011). The complexity of the sensory phenomena developed in this

investigation emerges from a process of drawing ideas, thoughts, and sensations in a gradually expanding mass, as a means of seeing and becoming. For example, this notion is similar in nature to Joomi Chung's *Swarm* (2015) (Figure 12). This can be likened to learning theory, as *Swarm* continuously evolves through the act of formation, transformation, and dissolution. in the studio community of practice (Chung, 2016).



Figure 12. Joomi Chung, 2015, *Swarm* (Lines and Points: an Image-Space of Thoughts and Sensations), Installation, wire and acrylic medium, 20ft x 30ft x 10ft (h), 2015. (Chung, 2016).

3.5 Illuminating the gaps in the literature addressed by this investigation

3.5.1 Experiential learning and Social Constructivism manifesting in studio pedagogy

Social Constructivism recognises that knowledge begins with experience, and that experiential learning directly relates to socially constructed meaning. Students, educators, and peer participants can directly explore their experiences through social interactions and in their participatory situated learning within the studio. Students might not grasp a new concept if they cannot benefit from interaction with their peer group or if the group is dispersed through differing forms of learning space.

Experimental studio-based and student-led pedagogy are noted in the basic courses that were held at both the Bauhaus and at Black Mountain College. The Bauhaus (1919-1933) was a German design school that produced furniture, architecture, product design, and graphic design. It effectively shaped a new modern design aesthetic and is arguably the most influential design movement to have emerged from the 20th century (Goldstein, 1998; Kentgens-Craig, 2000; Droste, 2006; Saletnik and Schuldenfrei, 2009; Meggs and Purvis, 2011). The Bauhaus principles dictated that students should prepare themselves for industry, with Design educators practising progressive design rather than regular practice. Collaborative practices, the learning by doing approach, and the manual experience of materials were encouraged across all creative disciplines, with students benefitting from and supported by both creative practice-led educators and technical specialists (Bayer, et al., 1938). In 1932, the Nazi authorities in Germany effectively shut down the Bauhaus and padlocked the school's doors (Borchardt-Hume, 2006).

Later, from 1933 to 1957, Black Mountain College (BMC) in North Carolina, USA, was highly experimental in its teaching practice and based itself on Dewey's principles of progressive education. Following its closure, many of the Bauhaus faculty relocated to BMC, as a number of leading avant-garde practitioners fled Germany for the safety of the United States. BMC's underlying belief was to learn through experience via the acquisition of skills and techniques to make acquaintance with a changing world using a "democratic, experimental spirit" (Dewey, 1936, p.19; Harris, 2002, p.7; Weber, et al., 2006; Katz, et al., 2013). Its key strength was its capacity to let things happen naturally without pressure from a rigid curriculum and, in doing so, it increased the chances for spontaneous creative events to transpire. The experiential learning communities at these two institutions allowed the students to form their own practices and identities through innovative eyes and new ways of learning by doing (Rosenthal, 2006; Katz, et al., 2013, p.15). This provided an educational "escalation of experience" and both the Bauhaus and BMC are historical examples of how experiential learning and Social Constructivism can manifest in studio pedagogy (Itten, 1975; Barker, 2006; Füssli, 2006, p.81).

Joseph Albers (1888-1976) was the link between the Bauhaus and Black Mountain College, and he drew upon Dewey's learning theories to inform his own teaching practice at both institutions. Albers' minimalist aesthetics diverged from Bauhaus instructor László Moholy-Nagy's (1895-1946) constructivism (Füssli, 2006, p.83). Albers encouraged the entire class to stand and move around to experience lessons, leading students to a greater awareness of what they were seeing (Figure 14) (Borchardt-Hume, 2006, p.71; Goldstein, 1998; Weber, et al., 2006). Notable Bauhaus educator Johannes Itten (1888 –1967) also initiated teaching practices at the Bauhaus with his fundamental notion of the body as a sensory stimulus, as shown in Figure 13. He encouraged the students to approach the basic curriculum course from three directions: 1) with their senses; 2) with their intellectual responses; and 3) with their synthetic realisations (Itten, 1975; Droste, 2006; Saletnik and Schuldenfrei, 2009; Zifcak, 2013).



Figure 13. Itten beginning class at the Bauhaus in Weimar. (Zifcak, 2013).

Albers encouraged independence and open-ended experimentation (Weber, et al., 2006; Barker, 2006). He advocated the utilisation, application, and study of materials not only to improve eye to hand dexterity but also for learning from each other by teamwork (Füssli, 2006, p.83). Albers positioned the materials course at both the Bauhaus and Black Mountain College as a form of play and he encouraged that experimentation should take precedence over study – as a playful beginning develops confidence (Dearstyne, 1986, p.92).

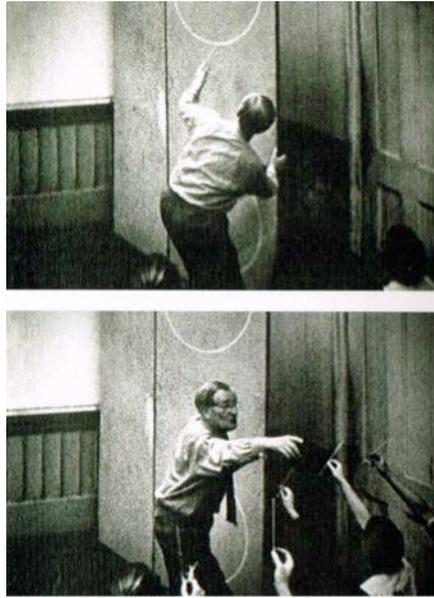


Figure 14. Josef Albers © The Josef and Anni Albers Foundation (2016).

Almost every paper that has been written on the Bauhaus and Black Mountain College (BMC) examines collaborative practices and the learning by doing approach as an educational “escalation of experience” (Füssli, 2006, p.81). Both curricula allowed students to form their own practices and identities through subjective and experimental workshop-based pedagogy, to use the body as a sensory stimulus and to let things happen naturally without pressure from a rigid curriculum. In contrast, contemporary studio education is, generally, driven by an inflexible modular curriculum. Modular curricula encourage performance-based, credit-driven education, which encourages fragmentation and incoherence of the educational experience (French, 2015). Studio teaching today rarely encourages the students to use the body as a sensory guide. There is little open-ended experimentation and freedom to relay the sensory nature of materials through play, as digital practice dominates. In contrast, the approaches to studio education commonly seen in the Bauhaus and BMC curricula allowed students to formulate their own journeys, as the courses were non-prescriptive and could be taken at any point of the degree programme.

3.5.2 Studio education today

In studio learning today, new forms of experiential and blended learning use technology and social media in project-based design education (Nussbaum, 2014). In one such digital project, students from the Graphic Design course at Central Saint Martins Art School in London launched “Worth Pop-Up” in 2014. This project became the “world’s first social media fuelled price-drop pop-up” online shop. All products designed by students in the shop started at a million pounds and sharing the site over social media reduced the price of each product. After trending on Twitter, receiving two million Facebook shared posts and crashing the university servers, the price tag of each item reduced to just £50.12 (Figure 15) (Central St Martins College of Art and Design, 2014; Arjun Harrison-Mann, 2016). Furthermore, technologies in contemporary studio education can now converge all learning and design-oriented work into small digital portable learning spaces (as opposed to physical educational environments) in the form of laptops and mobile phones. These digital environments have encouraged these new forms of practice through social media, virtual, and blended learning.

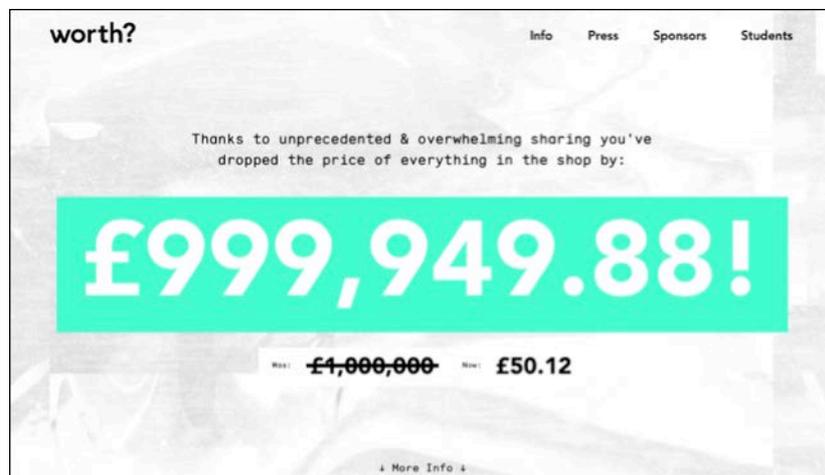


Figure 15. Worth Pop-Up shop social media project © Central St Martins College of Art and Design (2014).

Alternatively, it could be argued that these same devices might not be the barriers to engagement as once thought, as educators embrace their use (Beetham, 2013; Reardon and Tangney, 2014). Certainly, technological growth has created multidisciplinary possibilities for educating future communication designers. Reynolds (2016, p.741) conceptualises a framework

of digital practice to support education called “social constructivist digital literacy” and six practice domains developed from this study: create, manage, publish, socialise/collaborate, research, and surf/play. This structure builds upon Social Constructivist theory as learners “engage in the conscious construction of a technologically mediated computational artifact in a workshop-style group educational environment” to better prepare them for future real-world “engagement and participation in digital cultures, citizenship, and workplaces” (Reynolds, 2016, p.741).

In addition to digital project-based learning, it is also worth noting that in recent years, studio learning processes have shifted towards pioneering industry-based project agendas and a craft revival in design education. Presently, it is common for Communication Design students to undertake projects that simulate professional practice and work-integrated learning (Sharman and Patterson, 2013; van Dellen and Cohen-Scali, 2015; Gellerstedt, 2015). Furthermore, traditional craft techniques, mainly hand lettering, calligraphy and letterpress, have made a resurgence in modern design, as designers seek to engage with hands-on methods not offered by digital techniques (Cooper, et al., 2013; AIGA (American Institute of Graphic Arts), 2013; Bosler, 2015; Jury, 2011). In turn, these techniques have also seen a revival in Communication Design education today, as shown in the hand lettering and calligraphic techniques in student work in Figure 16 (Johnson, 2014). Design education is concerned with process and these slower traditional techniques appear to offer a greater legitimacy than digital outputs, nurturing creativity and developing a “heightened understanding of the interaction of tool and paper” (Rigley, 2005; Hidy, 2007, p.6).



Figure 16. Hand lettering and calligraphic techniques in student work. © L. Marshalsey, 2016.

3.6 Summary

Social co-participation and interactive, active engagement provide the appropriate context for learning (and learning by doing) to take place. The participants in my study are learning through play to support formal learning processes and this formal/informal divide is explored in this investigation. The studio setting frames contextualised learning as the students are immersed and participate in the studio. They come closer together as a group and as individuals through the research activities. Wenger's (2000) Communities of Practice (CoP) theory invokes connected and shared experiences in the practical activities, critiques and discussions the students undertake in the studio domain. However, studio-based classroom instruction might not provide the optimal conditions for a community of practice to share experiences in this way, especially as this model veers towards a practice that engages with mobile technology, virtual, online and digital forums. The advantages of engaging with face-to-face physical studio learning as opposed to online forms of studio include informal 'chit-chat' and coming together as inhabitants of the studio to support formal learning processes.

In this way, the participants' awareness of conscious and qualitative learning experiences arises via the perspective of being reflective practitioners. They become aware of sensory affect in their everyday learning spaces. The participants need to feel a deep immersion through a bodily, physical awareness to inform their meta-cognitive strategies to enable a new kind of

thinking and to support their membership in situated studio education. In relation to sensory affect and creativity, the literature review examined how the impact of sensory affect can have implications on students' creative processes and engagement within studio learning. Managing sensory affect might also support the students' coping abilities and wellbeing in learning spaces, and accommodate the needs of diverse individuals in a multitude of ways. Being mindful of sensory affect means students might learn to manage their experiences to support creative practice, mental and physical wellbeing, and the conditions necessary for learning within the changing landscape of contemporary studio learning. Students can work within a managed, self-directed, open-ended and sensory experience when using methods to promote experiential learning to understand and shape their studio learning and environment.

This chapter, and in particular the educational theories of John Dewey, has tried to argue that some studio experiences may not be educational or beneficial and that Communication Design studio learning requires an innovative and complex theoretical approach to distinguish the interconnectedness between learning as experience and studio education. This chapter provides a framework for the exploration of studio learning as part of the research process and the four theories (experiential learning theory, Social Constructivism, CoP theory, and sensory affect theory) illuminate this in a variety of ways. By comparing this with previous studies in this field, the research reported here illuminates several gaps worthy of investigation. These gaps aid the exploration of the different ways in which students, as active, social and reflective participants, qualitatively interpret a range of sensory experiences within the shifting boundaries of virtual, technology-rich, and physical (studio and studio-based) learning spaces. However, as participants, the students and I take this notion further through the concept of reification and the Participatory Design (PD) action research approach, as a means to negotiate and project our experiences into the community we are equal members of, to create points of focus within the shared domain. The PD methods articulate the experiential 'learning by doing' approach as concepts are continually formed, transformed, and disbanded. The participants and I make meaning in relation to a developing awareness of studio learning in the iterative and interactive process of becoming aware.

The aim of this research study is to develop a more explicit exploration of the role of the senses in Communication Design studio learning and it goes much further than a consideration of “feelings” in learning spaces (Hawkins, 2010). This chapter has provided a framework with which to understand the context of the investigation from a comprehensive analysis of literature surrounding the role of studio as a site for experiential and situated learning. In summary, this chapter has provided a broad explanation of sensory affect and its potential impact upon studio learning. Illuminating the gaps in the literature makes it possible for this thesis to attempt to address the research aims. These previous chapters also endeavour to set the scene for the exploration and development of PD research methods to capture and understand sensory experiences within learning spaces. This study intends to enable students to mediate their experiences of studio education on a daily basis, as they reflect on their studio and studio-based classroom learning. The following chapter critically examines the research design and the qualitative methodologies used in this investigation.

4 RESEARCH METHODOLOGIES AND METHODS

4.1 Introduction

This chapter explains the qualitative research methodologies and research methods used in this investigation. It is divided into four parts: ontological assumptions; the research design; the methodologies and methods section; and a critique of the potential issues surrounding the case studies.

4.2 Ontological assumptions

In this section, I will briefly outline the two main ontological views influencing this research. Ontology is the development of strategies to study the nature of existence, reality, and the theory of being. It is the study of how things exist (Koshy, et al., 2010). I adopt interpretivism as an ontological position allied with constructivism as an epistemological orientation. From this paradigm is derived the philosophical stance and general worldview that this research assumes (Koshy, et al., 2010; Creswell, 2014). This study adopts a subjective ontological stance in relation to sensory affect and studio learning as experienced by the research participants and me. Within it there are multiple interpretations of the experiential impact of sensory affect, as each active researcher (participant) constructed their own personal reality drawn from their own perspectives of learning spaces (Gray and Malins, 2004; Koshy, et al., 2010). The relationship between the ontology, epistemology, methodologies, and qualitative methods chosen for this study are shown in Figure 17.

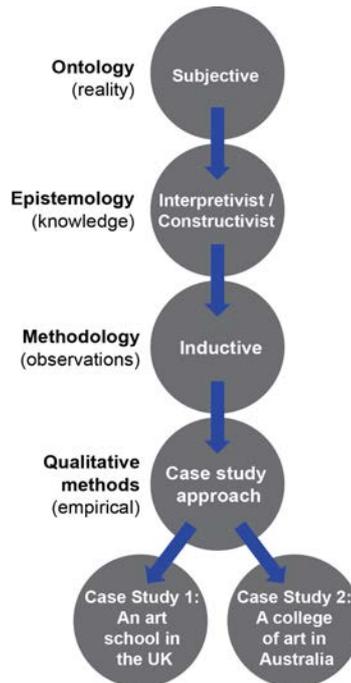


Figure 17. Diagram illustrating the relationship between the ontology, epistemology, methodology and methods in this study (adapted from Collins, 2010, p.90). © L. Marshalsey, 2016.

4.2.1 Interpretivist and constructivist epistemology

Interpretivism surfaced as a worldview developed in the social sciences (Koshy, et al., 2010). As this investigation draws upon the social sciences paradigm, it uses interpretivism as a basis for a theory of knowledge using inductive strategies and methodologies. Inductive strategies make broader inferences about the world from the evidence of specific cases (Thomas, 2006). Qualitative research methodologies such as ethnography and narrative research are used within this paradigm and are “based on the belief that knowledge is socially constructed, subjective, and influenced by culture and social interactions” (Koshy, et al., 2010, p.12). Therefore, my epistemological relationship with the knowledge I was discovering, as a member of a socially active learning community, influenced the choice of methods in this study. As a community, we were constantly meaning making of our contexts and this meaning making formed the ‘data’ for the study of our studio activities.

The constructivist paradigm resonates with the interpretivist emphasis on the world of social lived experience. In this investigation, the participants and I constructed our systems of belief and meaning through a process of dialogue, joint activity and reflection. We used a variety of methods, which we adapted according to the studio or studio-based classroom context as we gathered the data. Through these processes, the participants and I created a shared understanding of our context as a common and generalised concept of studio-based learning and its meaning (Pring, 2004). This meant that in each research setting, we actively created our own subjective representations of the everyday reality of Communication Design studio learning through our engagement with the activities, research methods and with one another (Schwandt, 1994). The case study approach that was adopted for this research, and discussed in more detail later within this chapter, endeavours to use methods that converge in order to reveal clusters of experiences as the participants formed systems of understanding. An empirical approach was thus implemented using qualitative methods of data collection and analysis to understand the participants' and my conceptions of sensory affect within the learning spaces.

4.3 The research design

4.3.1 The research aims and questions

The aim of this study is to explore the relationship between sensory affect and learning in Communication Design education. That is, to understand the different ways in which students interpret a range of sensory experiences within the shifting boundaries of learning spaces in order to understand the role of the senses in learning within these spaces, and to develop ways to reflect upon how sensory affect influences studio and studio-based classroom learning. The study also considers how Communication Design studio pedagogy can be adapted in order to develop a deeper understanding of sensory affect in studio education. Since the participants and I possessed an intimate, embodied knowledge of practice as inhabitants of particular learning environments, this investigation takes as its starting point educator and student perspectives. This study also attempts to develop Participatory Design (PD) research methods that can be used to capture what participants say about their lived experiences of their learning

environments (both virtual and physical) including contemporary pedagogical spaces across media and geographies (Davidts and Paice, 2009, p.10).

Chapters 9 and 10 of this thesis will present my findings from the case studies. The central research question was:

1. What is the relationship between sensory affect and learning?

The subsequent detailed sub research questions arising from this central question are:

- 1.1 What role does the studio play in the teaching of Communication Design?
- 1.2 What research methods can be developed to understand and capture sensory affect as a means to help students reflect on and manage their learning?
- 1.3 What meaning do students attribute to sensory affect?
- 1.4 How might Communication Design studio education pedagogy be adapted to support and develop an explicit exploration of the role of the senses in learning?

As a collaborative inquiry, this research design attempts to pursue a holistic analysis of the relationships, practices, and processes occurring within the natural social setting of the learning space. This is realised using an explorative yet flexible Participatory Action Research (PAR) case study approach. I decided that combining the PAR approach using narrative inquiry and ethnographic methods would be the most suitable approach for this investigation, as shown in Figure 18. Later, phenomenographic analysis was also used to aid the conceptualisation of the qualitative interview responses. The methods used in the case study included both reflective Participatory Design (PD) workshops and reflexive activities. These were used to empower the students beyond current forms of learning space engagement and participant observation. This approach provides rounded, detailed illustrations of the experiential phenomena across two case study sites with a balance of theoretical and empirical qualitative data. The case study

approach is advantageous particularly when the data is derived from multiple sources of evidence, as it was in this study (Tovey, 2015, p.184). Furthermore, according to Yin (2013, p.45), the inclusion of multiple case studies generates more compelling and robust evidence. The case study research design, elaborated in the diagram below, seeks to contextualise and investigate how participants might benefit from being aware of the affective experiences that they encounter within their learning environment.



Figure 18. The research design and its related methods and framework. © L. Marshalsey, 2017.

4.3.2 The appropriateness of the chosen methodologies and methods

The challenges posed to studio learning and design education in recent years have led to new directions in recent research literature and the subsequent methodologies employed in these studies. As outlined in Chapters 2 and 3, the changing conditions imposed by economics, politics, and technology are impacting upon student experiences of higher education today (Boys, 2010; Finlayson and Hayward, 2010; Boddington and Boys, 2011; Harrison and Hutton, 2014; Scott-Webber, et al., 2014; Boling, et al., 2016; Carvalho, et al., 2016). As a result of these challenges, Communication Design studio education is now facing a reshaping of its modes of delivery and practice via divergent spaces for larger numbers of students (Cai and Khan, 2010; Pektas, 2012; Amirsadeghi and Eisler, 2012). These developments have directly influenced the chosen research methodologies and methods used in this research study, as students' and educators' experiences of Communication Design studio learning have also changed.

Much of the current literature about practice-based studio learning has focused on learning and teaching strategies, and different authors have researched studio education in a variety of methodological ways (Boys, 2010; Boddington and Boys, 2011; Scott-Webber, 2012; Harrison and Hutton, 2014). Recent higher educational studies use the well-established qualitative case study approach to examine arts-based communities, investigating the nature of faculty–student interactions (Cennamo and Brandt, 2012), developing collaborative support in design studio environments (Vyas, et al., 2013), and utilising new technologies to deliver studio learning (Fleischmann, 2014). Collaborative action research projects have facilitated research into developing work-based curriculums to accommodate new members of academic staff in participatory research, which includes students as decision makers who help to share and develop appropriate learning spaces (Bryant, et al., 2013). In recent studies, Participatory Action Research (PAR) has been used to investigate the issues of diversity and widening participation across creative education and its subsequent impact on students (Hayton, et al., 2014).

Action research, as a practitioner-based research approach, has helped me to see the “living contradictions’ in-between my theoretical framework, my teaching and my researching practice” (Jove, 2011, abstract). This study investigates my own self-reflective process, as I understand how to better deal with and enhance my role as an educator in a studio context. As an educator, practitioner, and action researcher, I can learn from, and make changes to, the ways I operate in my teaching within studio learning. The new insights I encounter are based on evidence derived from my practice. The appropriateness of action research for educator self-inquiry can be seen in the studies of Lunenberg et al. (2007), Jove (2011), Vozzo (2011), and Vaughn et al. (2014).

The Participatory Action Research (PAR) approach, which is the research framework used for this investigation, was formed in the very early stages during the pilot study and concretised via the case studies. The case study research design was intentionally reactive to the participants’ stories and experiences as the students and I sought to understand our behaviours. Together, we processed the data and were open to accepting alternative ways of knowing. We sought to identify, adapt, and evolve suitable creative and inventive research methods formed by experiences and personal values. This guided the flexible nature of the research design where participant voices drawn from the data were intentionally woven into the narrative. The participants from the two case study sites expressed differing interpretations of ‘studio’, learning, sensory affect, and their community of practice. Their lived stories arose from their active engagement within their learning environment where they intervened, diagnosed, and attempted to solve problems in a specific real-world context (Gray and Malins, 2004, p.74; Clandinin, 2007; Clandinin, 2013, p.145). For these reasons, PAR was used in parallel with a multiple case study approach, which included narrative inquiry and ethnographic methods. This was considered to be the most appropriate approach for exploring and understanding participants’ conceptions of sensory affect and learning via active storytelling, investigating embodied experiences, and understanding the phenomena of sensory affect. The PAR

methodologies for this research study were the subject of continual review and revision in light of the progress made throughout the case studies (Collins, 2010, p.71).

Action research is not characterised by one specific epistemological position, though the research design of this inquiry, as previously explained, is consistent with an interpretivist epistemology (Noffke and Somekh, 2009, p.89; Collins, 2010, p.92). An interpretivist perspective supports the notion that there exist multiple perspectives of lived experience; people construct their own interpretations of the world through their engagement with it and through the meanings that they apply to phenomena in a socially constructed environment (Schwandt, 1994; Collins, 2010, p.92). Guba and Lincoln (1981) have anticipated the limitations of qualitative research methodologies and the extent to which these methods can be trusted. They argue that because the methods are subjective their trustworthiness in terms of credibility and verification may be considered questionable at times. The subjective data in this study remains accurate and appropriate throughout, as it has been constructed, produced, and verified in accordance with good practice. This study produced validated, credible data, and the construction of understanding was interpreted from the developing perspectives of the participants (Denscombe, 1998, p.299). The research was collaborative, socially interactive, and location specific to two small sites with continual, ongoing reflection of the data throughout the case studies.

To understand the experiential fabric of the participants' studio or studio-based classroom life, I developed a variety of ethnographic methods alongside the participants. In doing so, I generated research data from a process grounded in subjective experience using a variety of emergent and established research methods (Kolb, 1983). Ethnographic methodologies, in these two cases, were used to analyse and understand the complex, shared studio culture, using the participants and me as the community members, and our observations of self and others (Prosser and Trigwell, 1999). For example, the participants were asked to participate in a student-led visual activity that was also, of itself, an ethnographic method known as Photovoice. Photovoice is a form of arts-based visual ethnography in action. It elicits responses from

individuals as an image-based discovery and action method of story-telling (Kramer, et al., 2012; Delgado, 2015).



Figure 19. Displaying the creative outputs from the reflective workshops. © L. Marshalsey, 2016.

In addition, the research methods evolved and altered according to actions and effects, with an emphasis on uncertainty and individual perspectives. For instance, in the closing reflective sessions of each case study, I visually displayed the student-led creative outputs (as artefacts and as screen-based artwork) from the preceding reflective workshops undertaken over the eight-week case study duration (Figure 19). This shift in method occurred as a consequence of the guilt I felt as an educator receiving digital student assessments that would never be reflected back to them (other than sending a small paragraph of feedback to each student post-assessment). Charlie described the loss he felt when submitting creative work that is not displayed as part of an assignment: “you go to uni and you do so much work. Then you hand in [an] assignment and then you go into cyber space and you never see it again” (Appendix B, p.323, l.218). He also said: “To have the work printed and stuff on the walls, you feel like you’re

a champion and this is how you... you just feel valued and it works" (Appendix B, p.323, l.220).

Furthermore, multi-modal sound and sensory ethnographic methods were employed in this study to obtain rich data of sensory affect in action, going beyond solely visual interpretations of studio learning (Pink, 2001; 2009). I outline these ethnographic tools more fully in this chapter and the advantages and drawbacks of each method throughout the following case study chapters.

4.3.3 Addressing the subjective stance of the study

Objectivity refers to the ideal of the absence of bias in the research, and the Danish philosopher Søren Kierkegaard (1813-1855) referred to objectivity as an illusion of restrictive rules and behaviours (Denscombe, 1998, p.298; Cohen, et al., 2011, p.23). A theoretical perspective closely linked to objectivism is positivism, which contends that reality happens externally to the researcher (Gray, 2014, p.20). In comparison, a subjective approach in qualitative research favours an anti-positivist approach to research, viewing the world as being formed by the participants' personal, expressive accounts and the construction of underlying experiential themes from these accounts (Cohen, et al., 2011, p.7,8). This research study does not use an objective approach. Instead, this study is formed by the internal interpretations of the personal stories, narratives, opinions, and experiences from the participant researchers, which were then externalised for others to comprehend. In future, students might apply these hands-on methods as part of their practical role within their learning. For these reasons, a more practical methodological approach has been adopted, yet it does not dismiss the insights provided by the pre-existing background of scientific and social research (Denscombe, 1998, p.298).

4.3.3.1 *My ontological position as a subjective researcher*

In continuation of this approach, it is important to outline my ontological position as a subjective researcher as well as the subjective stance of the participants. The students and I – as the lead

action researcher – brought our subjective storytelling and values to the interactive research relationships as collective participants in the study. As a reflexive Design educator, my values and core personal beliefs meant that the research perspective was formed from my insider perspective and not from an entirely neutral and impartial viewpoint. Freire (1996) suggests that if participants actively explore their own themes as insiders, they gain a deepening critical awareness of the issues of the natural and social phenomena at hand. I brought pre-existing experiences of studio learning as both a student and as an educator to this study. The reflexive deliberation of my earlier subjective experiences and embedded values in these roles has allowed me to develop and form my current researcher identity as “...the relationship between the knower and what is known” (McNiff and Whitehead, 2006, p.22). The multiple identities I currently assume – as a communication designer, Design educator, doctoral student and subjective action researcher – helped to shape and direct my research approach. Furthermore, I acknowledge the challenges I faced throughout this study. My everyday judgements and prejudices were subjective, yet I attempted to remain impartial for the duration of the research by endeavouring to suspend my judgement. I was conscious of my own positionality throughout the study as a researcher and as an insider, and I was careful not to create bias or exert undue influence over the opinions of the student researchers.

According to Mahn and John-Steiner (2002, p.51), Vygotsky advocated the investigation of thought, speech, emotion and affect in learning as an “analysis of meaning, in which he approached the hidden, complex, affective dimensions of thinking and speech by studying the emotional subtext of utterances”. In a similar vein, I reported back on the thematic experiences, expressive stories and the subjective codes identified from the data back to the participants. As the differing perceptions emerged from the investigation, the hidden opinions and meanings became visible. Internal meaning was co-created and externalised between the participants, providing genuine experiential data. Therefore, the participants experienced the things that happened to them as reflective individuals and as group participants, and the subjective underpinning of the methodology supported this.

A subjective approach seeks to avoid a hierarchical, reductivist approach to data analysis and it does not lose sight of authentic stories. The research methods chosen for this study sought to intentionally move away from objective measurement towards reflexive meaning making of the personal stories, opinions, and experiences using the participatory approach.

4.4 Methodologies and methods

What follows is a detailed outline of the selected methodologies and methods used in this study, as shown in Figure 20, to support the subjective approach.

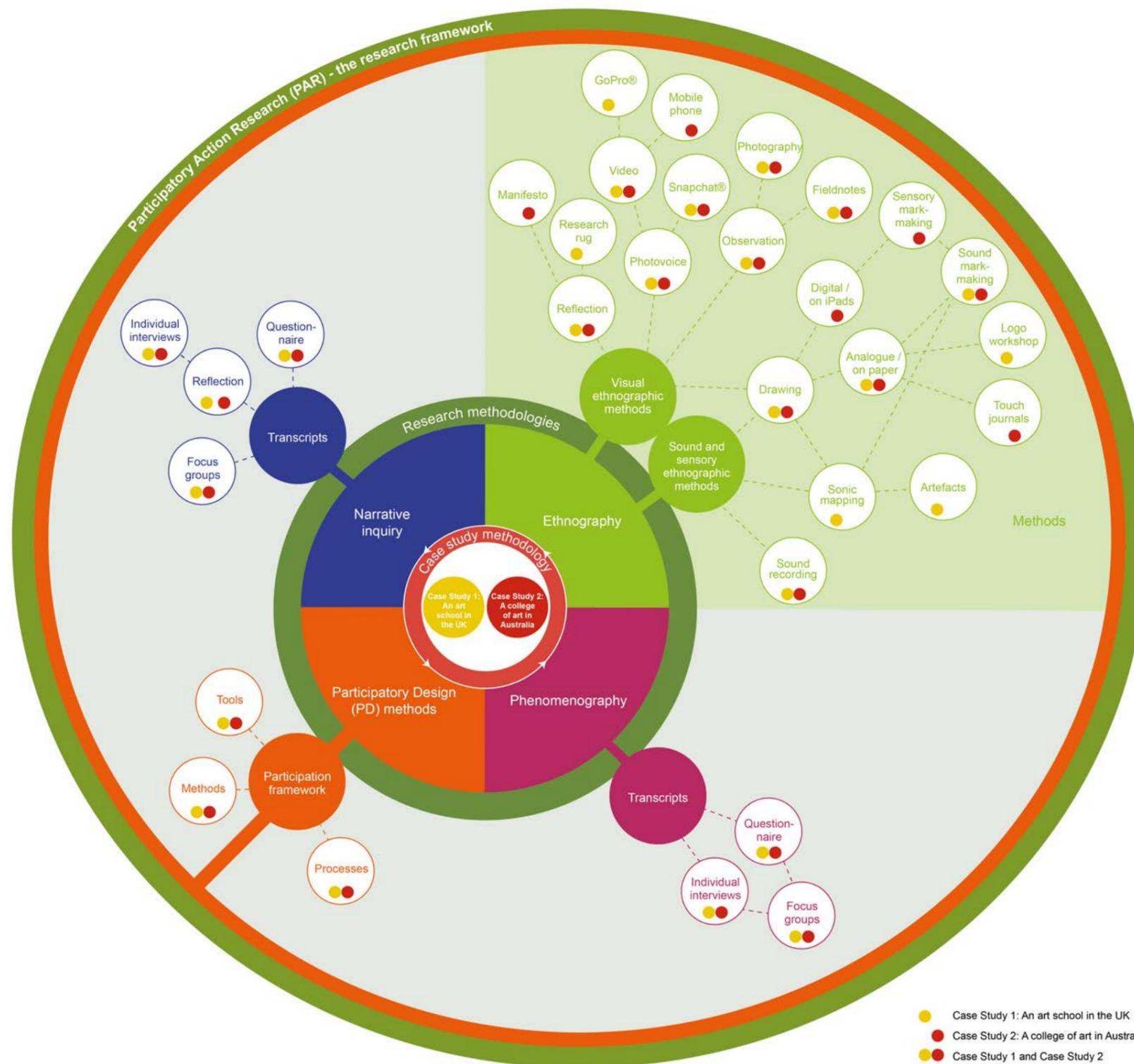


Figure 20. The selected methodologies and methods used in this study. © L. Marshalsey, 2017.

4.4.1 The Participatory Action Research (PAR) and the case study approach

Kurt Lewin (1890-1947) continued to develop John Collier's work from the 1940s that first coined the phrase 'action research'. As a form of knowledge-generating and open-ended developmental research inquiry, it enables researchers to investigate and evaluate their own practice. Lewin believed that if all members were involved collaboratively in implementing and testing strategies, then the collective group would benefit (Adelman, 1993; McNiff and Whitehead, 2006, p.19). During the 1950s, one of the pioneers of action research, Stephen Corey (1949), first spoke of research that directly involved educators as a means to improve classroom practice. Similarly, in the 1970s, Lawrence Stenhouse (1975) sought to restructure the nature of teaching by encouraging teachers to take an active role in educational action research within the UK (Tomal, 2003; McNiff and Whitehead, 2006; Noffke and Somekh, 2009). John Elliott (1991) and later Stephen Kemmis (Kemmis, et al., 2014) further developed the ideas of Participatory Action Research (PAR) in education, and this approach is now widely accepted in this field of study (McNiff and Whitehead, 2006; Noffke and Somekh, 2009; Dick, et al., 2009; McNiff and Whitehead, 2010; Coghlan and Brannick, 2010; Chevalier and Buckles, 2013).

Kemmis et al (2014) states that the fundamental objective of PAR is the production of knowledge for transformation through the participation of all those involved (Gómez, et al., 2009, p.489). This approach is collaborative; it exists only with a shared diagnosis of the context, of the processes and actions, and the problems to be resolved within learning communities (Noffke and Somekh, 2009). PAR is:

A form of collective self-enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out. (Kemmis, et al., 2014, p.5)

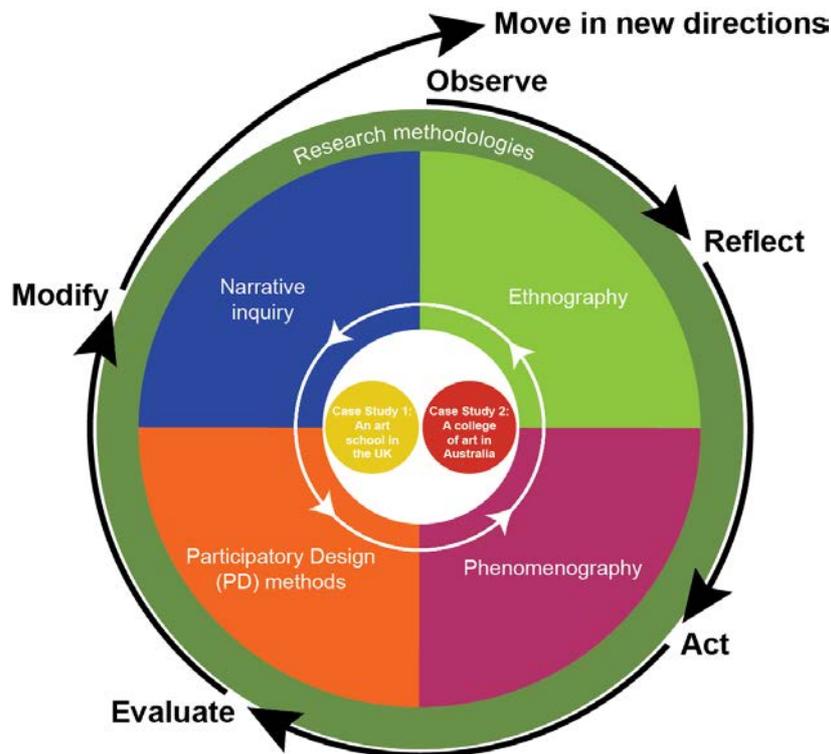


Figure 21. The action-reflection cycle (modified from McNiff and Whitehead, 2006, p.9). © L. Marshalsey, 2017.

Action research is an iterative, systematic process involving an action-reflection cycle as shown in Figure 21. The action research cyclical process consists of “observe – reflect – act – evaluate – modify” where practice is continually modified in order to find new directions that may or may not be effective (McNiff and Whitehead, 2006, p.9). This cycle facilitates a multi-modal enquiry that becomes progressively open-ended. In this study, the research activities were developed in a collaborative partnership with the student actors (McNiff and Whitehead, 2006). The participants interacted and identified their own patterns and variations in their social behaviours and creative practices by reflecting on portions of the photographic and video sampling, co-created activities, and written transcripts. The methodology of weekly reflective group workshops and reflexive individual methods are shown in Figure 22 (Brookfield, 1995).

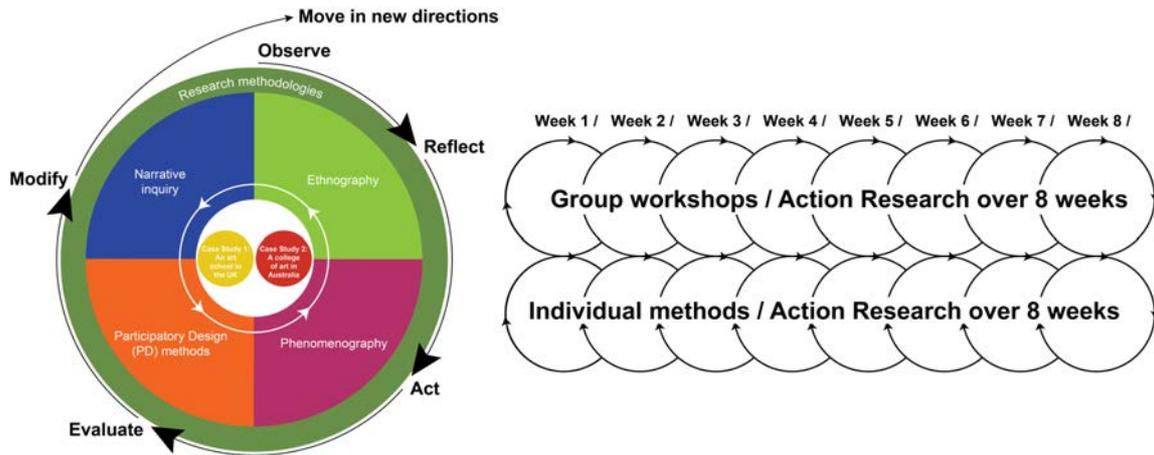


Figure 22. The reflective action research cycle conducted as weekly group workshops and individual methods (adapted from McNiff and Whitehead, 2006, p.9). © L. Marshalsey, 2017.

Communication Design studio learning is the object of action research in this study as the students participated in self-reflective enquiry to improve their own learning and practice. This approach captured the complexities of the experiential phenomena occurring within the learning environments of each case study and helped elicit the participants' responses to the phenomena of sensory affect. As reflective practitioners, the participants became collaborative, empowered co-researchers during the research activities and worked towards formats of their own choosing that best investigated their sensory experiences of studio learning. These reflective actions were stimulated by the questions, discussions, and activities that I, as the lead researcher, facilitated to gather the participants' views. As previously described, I reflected on my own practice as a Design educator, and this research was systematically relayed back to the participants for consideration as shown in Figure 23. For their part, the students identified their own patterns and variations in their social behaviours and creative practices by reflecting on portions of the data. Through participation in this process, we – the students and I – made sense of what we were thinking. We concretised the evidence arising from these actions to modify our behaviours towards sensory affect in the Communication Design studio.

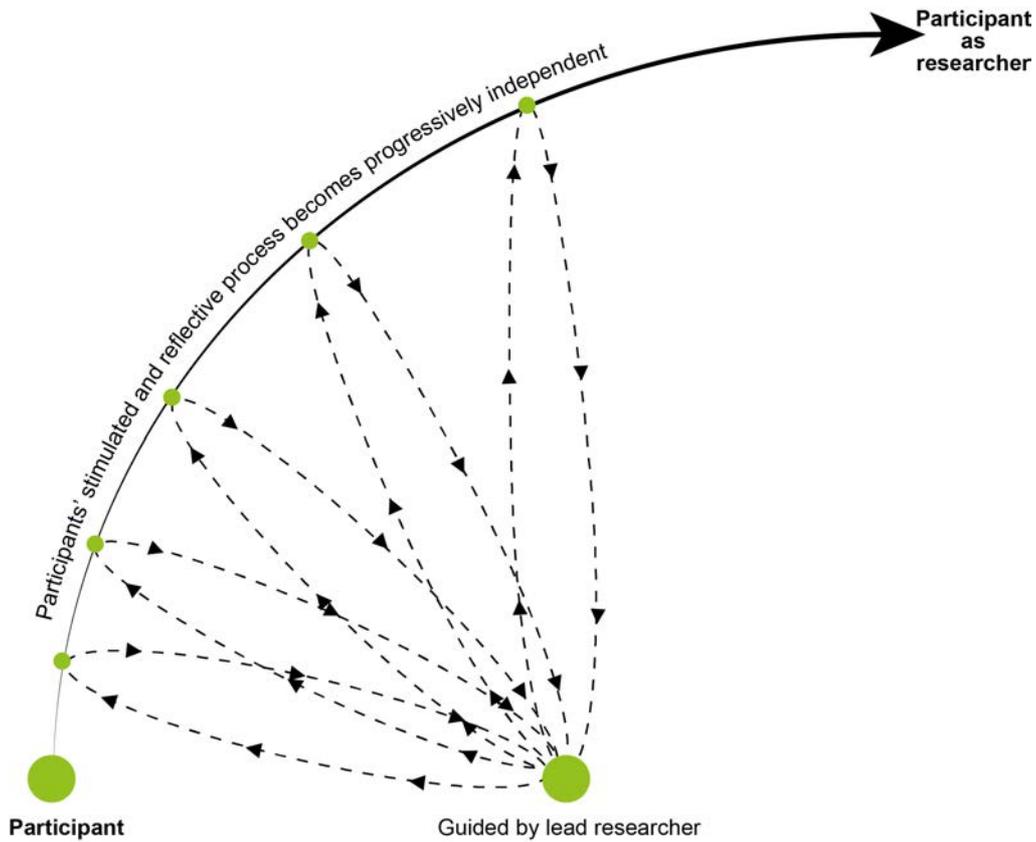


Figure 23. Diagram illustrating that the participants became progressively independent as researchers © L. Marshalsey, 2016.

Throughout the case studies, the storytelling themes or codes drawn from the data were identified by the repeated phrases such as, “because it was weird” (Appendix B, p.233, line 18) and “I’m comfortable in this” (Appendix B, p.243, line 192). These remarks were repeatedly reviewed and frequent language codes were grouped to identify a set of preliminary categories. These preliminary categories came about as a consequence of the initial analysis of the data and later, supported the exploration of these topics, such as sound and mess. Therefore, the participants constructed a general explanation of their comparative views shaped by their peers (Bryant and Charmaz, 2007). As a result, the participants started to develop the tools to become aware of their chosen methods of practice, and of how their sense of place is influenced by sensory affect.

Guba and Lincoln (1981) challenge the suitability and consistency of thematic findings in research studies when these are replicated in other contexts. For example, the themes and

codes arising from the particular methods selected in my study may not be directly transferable to other educational contexts. For these reasons, my research has involved two institutions as case studies, as outlined below, with sample students from a single year group in each institution:

- Case Study 1: One case study within the Communication Design department at a higher education art school in the UK (see Appendices A and B).
- Case Study 2: One case study within the Bachelor of Digital Media course at a higher education college of art in Australia (see Appendices A and B).

The first of the two case study test sites (Case Study 1) was consciously chosen based on this particular UK institution's reputation as a specialist, self-governing art school. Its design school was explicitly selected for this study as it offers a highly regarded Communication Design curriculum delivered in a studio environment. The building was designed with the modern studio community in mind and this study focused on the concentrations of sensory affect occurring in its unique open-plan studio.

The second of the case study sites (Case Study 2) was chosen based on this Australian institution's reputation as a distinguished college of art, which is housed within a mainstream university campus. I have a professional relationship with this institution as a Design educator, and my position as a reflective academic and Communication Design studio practitioner is central to this case study. This Australian university has five campus sites in total, with two campuses containing design courses. In contrast to the first case study site, this institution's contemporary campus buildings are drawn from a traditional classroom model. As a newly formed university in 1971, its architectural model was designed with a modern, multifarious university community in mind.

The two case studies specifically examine the interweaving relationships between participant engagement, creative practice, and learning in an effort to better understand the nature of sensory affect in contemporary studio education.

4.4.2 Case study methodology

The two case studies are exploratory and interpretative in nature yet, as previously explained, were grounded in collaborative practice with participants. Each context represents one critical, fully documented case study. In the two differing case study contexts, similar sets of student-participatory research methods and tools were used with each institution's group of student volunteers (Chevalier and Buckles, 2013) (Figure 20). The data collection stages in each case study were divided across an eight-week timeframe and included (1) reflective workshop activities undertaken in groups and (2) reflexive activities and research methods undertaken by individuals.

The rigorous nature of the data collection techniques and procedures produced qualitative data derived from the multi-modal methods. These visual, narrative, and sensory methods/techniques included video, photography, field notes, transcripts, drawing, sonic-mapping, and sound recordings, among others, as shown in Figure 24. The visual data, narrative transcripts, and sensory files permitted me to create a detailed case study data archive for each site and produced diverse views and perspectives from the participants and me. As a consequence, this multifaceted investigation produced different kinds of empirical data to test and extend the methodological framework. This evidence provided a combined data set greater than its individual parts, from which patterns, categories, and themes were identified.

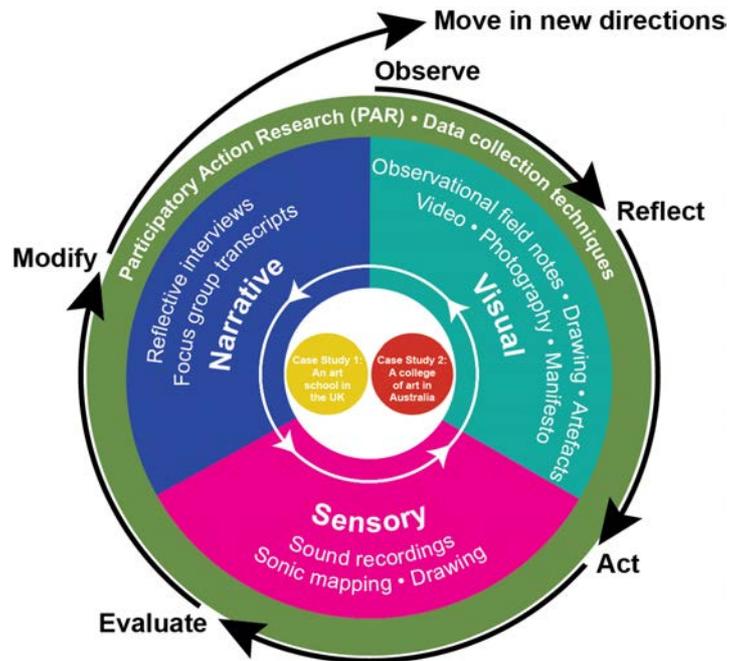


Figure 24. The methods (data collection techniques) used in the case study investigations. © L. Marshalsey, 2016.

In addition to the creation of the research data archives, the case study structure needed to be robust enough to support an extensive range of experiential data. Because multiple case studies can generate a substantial number of documents, visuals, and artefacts, there may be risks and challenges when trying to make sense of the collected case study data (Eisenhardt, 1989; Flyvbjerg, 2006; Yin, 2013). However, Chetty (1996) states that a wealth of data can indeed be brought together to gain as full an insight as possible. I direct the reader to the two accompanying appendix data volumes Appendices A and B. The appendices collectively aggregate the gathered data from the critical incidents, stages, and events occurring in each week of the two case studies in parallel with the content of this thesis.

The simultaneous data collection and analysis of the two case studies permitted flexible movement and progression in the investigation (Bryant and Charmaz, 2007). This flexibility was maintained throughout both case study investigations and allowed me to make adjustments to each research method in light of the emergent data. I reflected on the data produced from the research actions with the participants to narrow the field of questioning in the subsequent activities. Because I involved the participants in the cyclic reflective discussions, this in turn

encouraged them to target and follow specific lines of inquiry as a consequence of the research activities in the later stages of each case study. The later sections of this chapter consider the research methodologies such as narrative inquiry, the ethnographic methods, including the reflection-in-action methods, and phenomenographic analysis (see section 4.4.6).

4.4.3 What is Participatory Design (PD)?

In recent years, the advancement of design research has seen the individual end user (or in this case, student) become central in the co-creation of value throughout the research process (Sanders and Stappers, 2008). As stakeholders are now essential for the collaborative co-design of data, institutions may no longer be considered central to the design process (Ramaswamy and Ozcan, 2014). Several approaches (and terminologies) have emerged with overlapping definitions and relationships between them that embrace this shift (Sanders and Stappers, 2008). These growth areas include co-creation, co-design, co-operative design, collaborative design, and participatory design.

In a design context, Participatory Design (PD) represents collaborative forms of engagement, which may or may not involve a co-created experience. PD encourages the active involvement of the stakeholders in the design and decision-making processes. It is an approach, which originated in the many political, social and civil rights movements of the 1970s (Sanders and Stappers, 2008). At this time, people demanded a greater say in decision-making, as they believed that they “were not being planned ‘for’ but planned ‘at’” (Nichols, 2009; Simonsen and Robertson, 2013). The ‘Collective Resource Approach’ was established in Norway, Sweden, and Denmark to empower workers, and the ‘Scandinavian Participatory Design Movement’ emerged, which believed that involving users in the decision-making of systems would positively guide results (Kraft and Bansler, 1994; Sanders and Stappers, 2008). PD is grounded in the involvement of people in development processes, as it builds on the participants’ experiences and it challenges conventional approaches to designing (Szebeko and Tan, 2010).

PD has three main premises: the theoretical underpinnings and historical development of PD; the methods and tools for facilitating the PD process in a variety of contexts; and the descriptive and analytical dialogue emerging from the processes and outcomes of applying PD to real-world projects (Sanya, 2016, p.62). This study is concerned with PD as a set of tools, methods and processes that particularly relate directly to the actors in this setting. They were used to elicit what meaning participants attributed to sensory affect in their learning environments and to understand the nature of their participation as they engaged in the research activities. The values that underline this study involved the students as participatory co-researchers in the research process, where they had the opportunity to direct the research as well as to influence the management of the data (Richards, 2011, p.1). Within the studio, the participants' contributions to the intersubjective framework of PD allowed them to show and tell their various views and experiences through visual methods, workshop activities, interviews, and focus group transcripts.

4.4.4 Educational Participatory Action Research (PAR) and its relationship to Participatory Design (PD)

The unique feature of PAR [Participatory Action Research] is the participation of those affected by the issue and the potential for them to be involved in both asking and answering an AR [Action Research] question. (Crane and O'Regan, 2010, p.2)

Kemmis et al (2014) and Reason and Bradbury-Huang (2005) describe action research as an active approach to researching social experiences. Participatory Action Research (PAR) refers to research in communities that is directly participatory and active, and in the context of this study is applied to studio learning groups. PAR and Participatory Design (PD) are participation frameworks directed towards understanding and assisting communities. When used in synergy, both have distinct benefits for the participants; PAR and PD enable ways for the participants to actively become involved in the research and design activities that directly impact upon them (Given, 2008). Therefore, PD and its relationship to educational PAR is appropriate to gain a

better understanding of the participants' experiences of studio education. The participants in this study applied a range of facilitated PD methods in their real-life community-based context to iteratively research and reflect upon their day-to-day experiences of studio learning. This has changed the role of the researcher, as they support the participants in his/her experiences "by providing tools for ideation and expression" (Sanders and Stappers, 2008, p.8). The consequences of this change for the education of designers are vast, particularly because research into education has a long history and much of the current literature that relates to design education pays particular attention to a co-operation – "learning by or through doing" (Lyon, 2011, p.7).

In this study, I have appropriated methods from PD into the field of educational PAR to research studio learning. This approach reveals a new domain in the debate of contemporary learning spaces and opens up a discussion of open, critical, physical, communal, and discursive space creation. This interdisciplinary thesis links the spaces for dialogue between higher education, studio learning, Communication Design and sensory affect. Therefore, as the lead researcher in this process, I have guided and facilitated the participants' expressions of studio learning and environments through the use of participatory creative methods (Sanders and Stappers, 2008). This investigation employed research-based participation which allowed for a greater degree of control by the participants. In Case Study 1 and 2, a degree of control was given to the students as participants, with the participants in Case Study 1 taking more control over their journey and the PD methods than the Case Study 2 participants, who generally exhibited less control and enthusiasm. These case studies are critically examined and analysed in the next four chapters.

4.4.5 Engaging in narrative inquiry: Stories and experiences

People shape their daily lives by stories of who they and others are, and they interpret their past in terms of these stories. Story, in the current idiom, is a portal through which a person enters the world and by which their experience of the world is interpreted and made personally

meaningful. Therefore, narrative inquiry, which is the study of experience as story, is first and foremost a way of thinking about experience (Connelly and Clandinin, 1990, p.375).

4.4.5.1 Narrative inquiry as a form of qualitative research

Dewey's lifelong investigation of the nature of experience and humans' interaction in their environment is most often cited as the philosophical underpinning of narrative inquiry (Dewey, 1936; Goldblatt, 2006; Given, 2008; Clandinin, 2013). Dewey's two criteria of interaction and continuity enacted in everyday situations continue to shape our lived experiences (Dewey, 1936). Our selective experiences as storied phenomena exceed one single instance or example. The participants and my stories are continuous and fundamental to our view of experience through narrative inquiry. Narrative inquiry is relational, continuous, and social (Figure 25) (Clandinin, 2013, p.212).

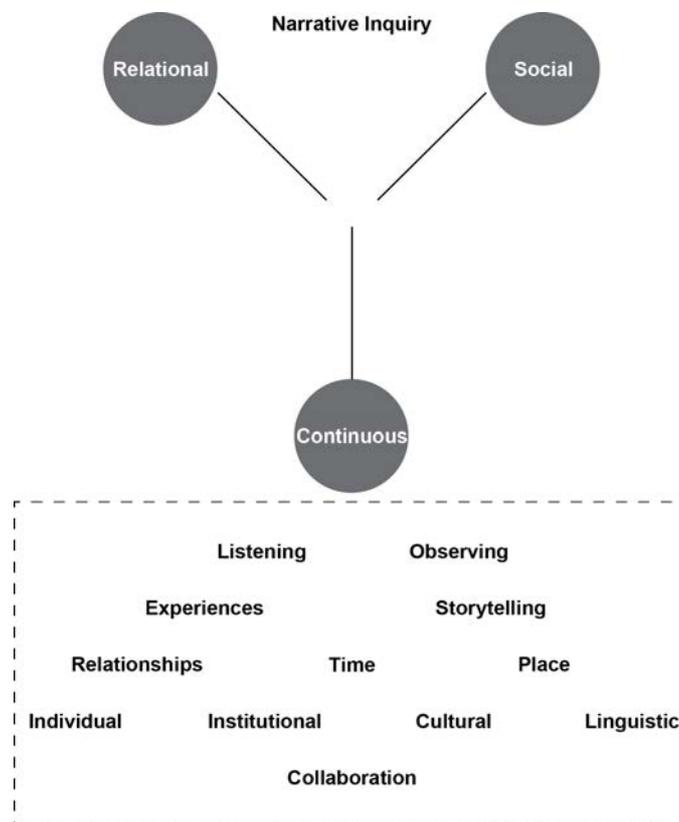


Figure 25. Unpacking the characteristics of narrative inquiry. © L. Marshalsey, 2016.

In recent years, narrative inquiry, as a form of qualitative research, has been used to draw out and illuminate the daily lived experiences of academics and students in higher education (Latta and Kim, 2009; Pushor and Clandinin, 2009; Trahar, 2011; Huber, et al., 2013). These stories and the systematic classification of the storytelling process preserve the complexity of lived experience in education. The ideas of story “living and telling, re-telling and re-living” are the central features of narrative inquiry and these stories produce openings that allow change to take place (Pushor and Clandinin, 2009, p.292). By conducting narrative inquiry, researchers establish lived and told stories through their key relational, social, and continuous characteristics, which are sensitive towards listening to and observing human stories of relationships, time, and place (Figure 25) (Huber, et al., 2013, p.218). Its core relational responsibilities lie in the attention to the social aspect of storytelling. In relaying authentic, real-life, and complex social experiences from the perspective of the storyteller, relationships are fundamentally emphasised as a core element of narrative inquiry and this creates meaningful dialogue (Clandinin, 2007; 2013; Wells, 2011).

4.4.5.2 Identifying and orientating the narratives in this study

The orientation of this investigation was derived from meaning making of the critical narratives that occurred within the case studies, framed by a view of experience that is studied by “listening, observing, living alongside each other, and writing and interpreting texts” (Clandinin, 2007, p.42-43; Clandinin, 2013). The language arising from the lived experiences allowed the participants and me to make judgements from the stories. Representing narratives of experience in ways that show temporality, sociality, and place breaks down the usual barriers between researcher and their subjects. In this way, emotional experiences are highlighted and emphasised as the process becomes critical to the investigation (Ellis and Bochner, 2000, cited in Noffke and Somekh, 2009, p.69). The stories from the transcripts go on to form the thematic analysis discussed in detail in the following chapters.

The investigative narratives identified in this study mainly arose from the focus group and reflective interview transcripts. These sessions were digitally recorded, mostly in dual video and audio format, which were then transcribed. These transcripts were discussed with the participants in subsequent sessions as a form of visual and verbal chronicles or annals (Connelly and Clandinin, 1990). It was beneficial to the investigation to take a wholly narrative approach rather than a linear reductivist approach to the data.

4.4.5.3 Cross-case reflection and evaluation with the participants

Narrative inquiry is also central to cross-case analysis, as the stories continued to facilitate and preserve the comparisons made by the participants as they encapsulated issues and themes from each case study to form a storyline. Searching for, constructing, and shaping cross-case patterns forced me to look beyond initial impressions to see evidence through multiple lenses (Huberman and Miles, 1994). This mode of inquiry facilitated the understanding of the commonalities and differences across both case studies while maintaining the unique features and stories of each, with an approach similar to Watson and Marciano (2015). Engaging in cross-case analysis extended the research investigation as it shared and fostered mutual insights from both sides, promoting better categories and descriptions (Denscombe, 1998). Forming and identifying insights directly with the participants in each case study added richness to the data and enhanced confidence in the findings (Eisenhardt, 1989, p.533, 538). This also enabled the participants to express their observations of the counterpart case study, with a view to comparing and meaning making of each other's data to form knowledge, building across and between the two communities, and to further shape the developing insight of their own studio learning to form patterns (Khan and VanWynsberghe, 2008). This method linked the case study data with the student voices as I began to manually confirm the insights conveyed from the data analysis. For example, the Case Study 1 participants viewed the Case Study 2 data several months after their own research activities had ended. The Case Study 1 participants had earlier reflected that their attitude towards their studio learning had altered. They had changed from being indignant about not having enough space or storage in the studio in the early stages of

the research to later acknowledging the value of the community bond they shared with others in their physical, dedicated studio environment. Indeed, they began to endorse their studio space as Robyn said: "I feel like I badmouth it but if someone else badmouthed it, I would defend it" (Appendix B, p.92, l.58). Then, this developing insight of the value of their own studio environment grew as the Case Study 1 participants viewed Case Study 2's Snapchat® image data within a post-case study cross-case reflective session on 2 December 2015. They noted that their Australian counterparts' studio education comprised of a less visible physical community and that many of the Case Study 2 students worked in isolation at home. Secondly, having previously expressed unhappiness that their current practice was predominantly digital, the Case Study 1 participants reflected that what they perceived to be too much of a digital focus in their work, was in fact, much less than that of Case Study 2's digital practice. The Case Study 1 participants realised they had access to a wider repertoire of non-digital resources, tools and processes than the Case Study 2 participants and Jill said: "their studio looked more like a secondary school" rather than a creative art school (Appendix B, p.158, l.80).

4.4.5.4 Descriptive and in vivo coding of the narrative accounts

Descriptive and In Vivo coding was used as the data analysis must tell the true story of the culture-sharing group (Wolcott, 1999; 2009; Creswell, 2013, p.197). The cyclical coding identified the keywords and phrases in the narrative accounts, linked narrative data to an idea and then to make connections with other data (Saldaña, 2016, p.8). Descriptive coding summarises a section of data as a word or short phrase. Open-ended In Vivo coding can be used to obtain the data directly from the participant and assigns a label to a word or short quote derived from a section of the data (Figure 26). The term In Vivo coding originates from grounded theory research, although this investigation does not follow this methodology (Given, 2008, p.472). Bryant and Charmaz (2007) propose that grounded theory might fail to recognize the embeddedness of the researcher and may obscure my agency as an insider researcher/educator in the data construction and interpretation.

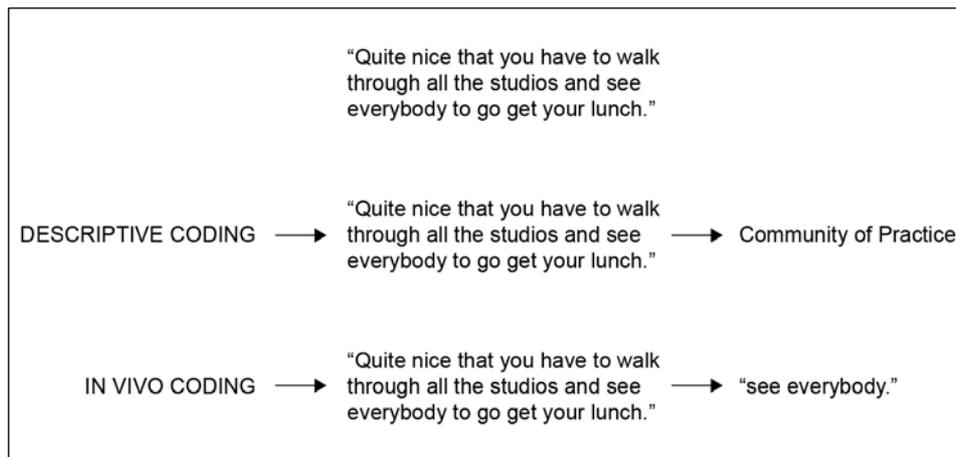


Figure 26. Descriptive and in vivo coding of the narrative accounts modified from Saldaña (2016, p.8).

Consequently, although In Vivo coding formed categories from the actual phrases drawn from the multiple readings of the raw data, qualitative data analysis software was not used for investigation. The software design might interfere with this qualitative research process as implicit assumptions are made, which could result in “the loss of shades of meaning” of the interpreted data (Rodik and Primorac, 2015, p.1). Using data analysis software may dilute or omit the essence of each unique narrative account or experiential story since it would focus on numerically calculating the frequency of phrases and keywords, rather than highlighting the context in which they were formed. As a consequence of these decisions, the free will of the student researchers has been foregrounded in the narrative analysis. The second advantage of this approach contextually draws upon the unique perspectives from the participants.

4.4.6 Ethnography

Ethnography is a technique that began in social anthropology when Claude Lévi-Strauss examined “patterns of kinship and behaviour” in the late 19th and early 20th centuries (Given, 2008, p.807). It represents published embodied knowledge using narrative and interpretative research, in which people and cultures are described (Denzin, 1997; Collins, 2010). Importantly, the ethnographer seeks to research people within their cultures. It is the telling of key moments

in their research stories from an authentic, embodied perspective (Pole and Morrison, 2003). Embodied knowledge is not simply stored knowledge; it is biological and sensory, highlighting smell, touch, and taste as well as sight and sound. Ethnography is widely accepted as a research methodology across a variety of research fields, and design-based ethnographic research can be seen in the recent studies of Vyas et al (2013) and Hale (2016), among others.

Educational ethnography systematically observes the patterns of behaviour, practice, and social rituals of its participants, researched from an immersive perspective (Pole and Morrison, 2003). The researcher spends considerable time in the field - for example a studio-based location, as was the case in my study. Everyday life and the full range of associated social behaviour becomes the research data where meanings are constructed from the participants' subjective understanding using a variety of different research methods (Pole and Morrison, 2003).

4.4.7 Phenomenography

Originally developed in the 1970s, phenomenography, as an interpretivist subjective research approach, has long been established as an effective methodology in educational research studies worldwide. Phenomenography was developed from an empirical educational framework created by Ference Marton (Marton and Booth, 1997; Marton and Pang, 2008; Marton, 2014). This methodology should not be confused with phenomenology, which is a philosophy based on investigating an individual's school of thought (Moran, 1999). Phenomenography as a method of research investigates the collective experiences of others, and the differing ways in which people recognise, experience, and perceive various phenomena. However, both phenomenography and phenomenology have human experience at their core.

According to Prosser and Trigwell (1999), phenomenography is the empirical study of the different ways in which we experience, conceptualise, understand, perceive, and understand various phenomena in the world around us. The phenomenographic interview belongs to qualitative research interviews but it has distinct characteristics. These characteristics focus on

drawing out and understanding the meaning assigned to phenomena by the interviewee. The phenomenographic interview focuses on certain qualitative, descriptive, specific themes and is conducted without assumption. This form of qualitative research interview can be a positive experience for the participant as the researcher seeks to understand how the world appears to them (Marton, 1986; Webb, 1997, p.49; Åkerlind, 2008).

In this study, the analysis of the interview data adopted a phenomenographic approach. Phenomenographic analysis in this study helped to illuminate the participants' own sensory experiences within studio learning using their own direct descriptions. The participants' descriptions of their worldview are vital to an understanding of how they are meaning making of their own experiences. In this investigation, the reflective individual interviews were analysed simultaneously to interpret and analyse the phenomena of sensory affect through participants eyes and this was seen as key to the participants own understanding and development (Marton and Booth, 1997; Larsson and Holmström, 2007; Marton and Pang, 2008; Sin, 2010; Marton, 2014). The participants were actively encouraged to reflect on the distinctly different ways of experiencing, which were then discussed as a collective group and not through individual interviews (Prosser and Trigwell, 1999, p.57). Categories of description were then formed, compared and iteratively analysed across the interview data set. The data analysis of the reflective interviews followed a two-step process. Firstly, the interview transcripts were read and highlighted according to the similarities and differences in terms of participants accounts of particular phenomena. Secondly, as each phenomenon, or unit of description, was identified from these accounts, then descriptive preliminary categories were noted (Marton, et al., 2005).

4.5 Methods

4.5.1 Ethical considerations

The negotiation of the relationships in this study meant that I, as a researcher and educator, worked with small groups of participants from two differing institutions. Inclusion in the case studies depended on being a student undertaking an undergraduate degree and majoring in

Communication Design. In the UK, the participants were in the third year of their four-year degree and were enrolled as students. It was deemed appropriate that the first and second year Communication Design students were excluded from the study, as they were relatively new to undergraduate studio education. In Australia, the participants were in the final year of their three-year bachelor degree. Therefore, all the participants were drawn from a third-year group of students in the context of two differing degree structures. Full ethical permission was obtained from the ethics committees within both case study institutions prior to the research activities (Appendix A, 12, 13.1, 14.1).

The participants from both the case studies were invited to take part by two methods: via a verbal introductory group presentation on the research study and by the physical distribution of ethically approved individual consent forms to each prospective volunteer (Appendix A, 13.2, 14.2). The consent form stated that participation was entirely voluntary and that participants could opt out of the study in whole, or parts, without giving a reason. The students fully consented to participating in this research study when signing their consent form. As the lead researcher, my contact details were distributed at the introductory briefing, hence, the participants could make contact at any point with questions or concerns. Consent forms were also distributed to the peripheral participants resident within the studio, who may not have been actively participating in the case study activities but who may have been in the immediate environment at the time of the research activities being conducted. I sought their permission as peripheral volunteers, who may appear unknowingly in photographs, sound recordings, or other data.

The introductory presentation to each institution outlined the objectives of the research investigation to the year group as a whole, from which the volunteers emerged. During this verbal presentation, it was clearly stated to the student participants that their involvement would comply with the Data Protection Act (1998) (UK), British Educational Research Association Guidelines (BERA), the Queensland Information Privacy Act (2009) (Australia), and Excellence in Research for Australia (ERA), and that I required their permission before I could conduct

research involving them. Furthermore, I confirmed that the data produced from the study would conform to ethical standards in the UK and Australia according to the guidelines set out by the two institutions taking part in this study. The introductory presentation ensured all participants in the research understood the process in which they were to be engaged, including why their participation was necessary, how it would be used and how and to whom it would be reported. The study presented minimal risk to the student participants with no possibility of exposure to physical or psychological harm. The participants were verbally informed that the research data would not be used for any other reason than for confidential PhD research purposes and they would remain anonymous throughout the study or otherwise be assigned pseudonyms. They were also reminded that, the content of this research study may be published in conference presentations, websites, blogs, and journal papers. These could be viewed throughout the world and not just in the United Kingdom, where UK law applies, or Australia, where Australian law applies. Time was allocated to the students over several days to consider their participation in the case study without pressure to participate, and with the option to withdraw if necessary.

As I am employed as a Design educator in one of the institutions, it was made clear to the volunteers that I would participate in this investigation in the capacity of a researcher and not as a member of academic staff. I would carry out the research in a peer-to-peer capacity and it was reiterated to the participants in both institutions that there was no educational advantage conferred via participation.

4.5.1.1 My role as a researcher in the study

The participating students' stories were drawn from their familiarity of their studio environment. The participants were not new to their institutional studio environment, as they had been members of their degree courses for two full years prior to this study. However, I was new to the studio spaces within Case Study 1 (in the UK) and also relatively new to the studio-based classrooms within Case Study 2 (in Australia). Each participant possessed embodied stories of these institutional spaces over time which I did not have when I commenced my study. My own

experiences and stories of studio education were shaped from my immersion in these environments in previous institutions where I worked as a Design educator. These “early landscapes”, as Clandinin (2013, p.26) calls them, have conditioned me with a familiarity of educational environments and expectations of teaching practices taking place within learning spaces. As an educator working within new studio settings in unfamiliar institutions in this study, I tended to remain on the periphery of the learning spaces until I could align myself with the rhythm of each environment – of the furniture, the inhabitants, the layout, the resources, the rituals and the social community of practice in each site.

In the first few weeks of Case Study 1 (in the UK), I tended to avoid the main studio thoroughfare as this route ventured between rows of desks grouped tightly together and I was not drawn towards being in the uncomfortably narrow walkways between them. Fearful of treading on students’ artwork on the studio floor, I tended to look down towards the ground as I moved around the open-plan studio space; should I accidentally kick the students’ belongings or chairs might mean I would inadvertently exclude myself from the studio community. I felt incredibly self-aware of my presence in this unfamiliar environment. This self-consciousness was amplified during the introductory participant recruitment presentation. The students had been instructed by their course tutor in their informal sofa area for the presentation. Upon arrival, they chose to sit in close proximity to me – squeezing together alongside me on the sofa, pulling up chairs, and sitting on the arms of the sofas in an attempt to fit everyone in. I was alarmed and immediately felt the urge to re-establish the spatial boundaries between myself and the students. Unaccustomed to this physical proximity I realised that until then, I had unconsciously always maintained a physical distance between teacher and student. The realisation that I had acted in this way surprised me and I began to think about my personal experiences of sensory affect as an embodied physical interaction between student and educator in the studio.

Following on from this realisation, each week I subconsciously ‘hid’ behind a tall divider in the safety of the informal sofa area for a short amount of time until the case study group workshops

began (Figure 27). I felt uncomfortable integrating in the space between the other students and me. Instead, I preferred the sofa area in which to prepare the workshops as it was quiet and there were no designated personal workspaces in this location. If students did venture there, I observed, that they ate lunch in small groups or checked upon artwork left in this area to dry. I tended not to communicate with the students here as they seemed focused and absorbed or because it might seem as if I was encroaching on their lunch hour.



Figure 27. The informal sofa area within Case Study 1 in the UK © L. Marshalsey, 2016.

My previous experiences as a Design educator in other further and higher education institutions meant I was not familiar with relaxed, informal teaching areas composed of sofas and coffee tables within studio learning environments. Prior to this case study, I was accustomed to traditional teaching models and settings composed of formal tables and chairs in groups, islands, or rows, with students equally spaced apart and separate from the educator.

However, my own need to remain on the outer boundaries of the learning spaces was broken down by “moments of invitation” extended towards me from the participants in Case Study 1 (Clandinin, 2013, p.27). The students invited me to join them at their desks, look at their work, or to have a cup of tea. These invitations increased as the research progressed. By the conclusion of the study, I felt embedded in their community of practice, even though my membership of the studio was neither daily nor permanent.

Conversely, in Case Study 2, I extended “moments of invitation” to the participants as the lead researcher in the space, and they did not readily extend them to me. I felt the students waited patiently every session for an invitation to begin the activity, to cease the activity (when there was enough data), or to leave when the allocated time was complete. They also waited for permission to leave to attend their next class and often asked to do so, rather than taking control of their own agenda. The power dynamic between the participants and me was more equal in Case Study 1 and less so in Case Study 2 due to conflict of interest in my role as a researcher and an educator in this Australian institution. There might also be a different dynamic between staff and students, within these UK and Australia institutions, which contributed to this imbalance. The participants in Case Study 1 assumed a greater role as independent researchers and although the data contributions from the participants in Case Study 2 are equally valuable and insightful, the students were invested less as researchers in the study, although they sought to have their voices heard equally in the data.

4.5.1.2 The participants roles as researchers in the study

In the opening week of Case Study 1, I asked the participants to fill in a generic questionnaire to gain a sense of orientation in this first research activity. The participants and I began the workshop by sitting in the informal sofa area - as previously described (Figure 27). As they began to populate the questionnaire, each student returned to their own desks to complete this rather than remaining in the relatively spacious, quiet space of the informal sofa area. When I asked why they felt the need to do so, the participants said they naturally migrated back to their space as they reasoned that if the questions were to be answered realistically about their own individual studio experiences, then they each needed to sit at their individual places in the studio to answer the questions. They said it felt “easier” to do so (Appendix B, p.8, line 5). Initially, the participants were profusely apologetic as if by moving location they were opting out of the activity. Yet, I completely understood their reasoning.

4.5.1.3 *Ethical issues, dilemmas, and issues of power*

Good ethical practice promotes the aims of research and avoids the fabrication of false or inaccurate data. It also supports the values that are critical to collaborative research, such as “trust, accountability, mutual respect, and fairness” (Resnik, 2015). I ensured the participants could trust me at all times, and confidentiality was strictly maintained across both the case study sites, with no privacy issues reported to either myself or my academic supervisors. It was important to carefully preserve the quality, honesty, and integrity of the research investigation as a means to communicate to the participants that their contributions were valuable and protected. I returned all transcripts to the student for reflection and omission if they disagreed with them, as good ethical practice. There were no notable ethical lapses. I respected the participants’ privacy if I observed they had other project deadlines that caused them to be anxious or too busy to take part in the research study at that time, and I did not interfere with their working space or enter it without permission.

However, ethical challenges and considerations did present themselves as this research investigation progressed. As mentioned, I assumed the role of a researcher more easily within Case Study 1, as I was essentially an outsider to this group of participants and they did not have any prior relationship with me. My role as a full-time academic within the college of art in Australia did present a conflict of interest at times. As Case Study 2 progressed, I felt less like a researcher, because I am an insider in my own institution. I tried to remain as a neutral researcher despite comments from the participants directed not only at me but also to the whole institution we are a part of. The participants generally did not modify their behaviour towards me to delineate the difference between my educator and researcher roles and, perhaps, I should have discussed this issue with them. Secondly, the balance of power in each case study differed, although I had clearly acknowledged at the beginning of each case study, that the power would be distributed between the participants and me. In Case Study 1, the students and I had a fairly equal balance of power and participation, as they guided and suggested research activities independently towards the end of the case study activities. However, I seemed to

retain more control throughout Case Study 2. I facilitated the context of each research session. The students participated yet they did not take ownership of the activities or guide how they wanted the research methods to evolve. In both case studies, I often felt the activities took large amounts of the participants' time and, on reflection, perhaps asked too much of them with multiple tasks in one session. If fewer methods had been used, and the power dynamics addressed, this could perhaps have encouraged healthier independent participation from the Case Study 2 participants. In relation to this, the Case Study 1 participants did keep pace with the tasks, yet I felt the Case Study 2 participants were less inclined to do so. Furthermore, I often felt like there was little time for my own reflection during the facilitated workshops and focus groups and in future studies, it may be beneficial for me to participate in the tasks alongside the students.

In Case Study 2, things were often left unsaid in the data and sentences half finished with implied meaning. The regional language in Australia often made the transcripts difficult to analyse and I regularly used memory recall to elicit the topics and feelings at that time. Qualitative software analysis would not have managed this. Secondly, I observed that if the students did not participate for one week they were unsure as to whether they could re-join the activities – that they were somehow prohibited in some way – more so in Case Study 2 than Case Study 1.

I also felt that not providing professional GoPro® filming kit to the participants in Case Study 2 discriminated against them as they improvised with their smartphones. There was a lack of engagement from the Case Study 2 participants when asked to record video data - as I had encouraged them to source their own filming methods. Whilst they had access to full video filming kit in their institution they did not have GoPro® kits. In addition to this, I reflected that I didn't always let a student expand their points verbally as I was conscious of time when conducting the research activities and the participants' commitments to their academic timetable. However, I reflected that the debriefing of the case study activities and methods worked better via the reflective interviews in Case Study 1, as the participants were willing to do

so. Yet, in Case Study 2, there was little or no debriefing of the research investigation beyond the final week of the activities, as the students showed no willingness to participate further or provide comment on the data. I had provided a full databank of all the transcripts and image files to reflect back to the participants the journey they had undertaken as part of the research investigation. However, it remained untouched.

4.5.2 Visual ethnographic methods

It was my intention to adopt methods for this investigation that would encourage participants in this study to feel with their senses. For this reason, photographic methods were initially omitted as tools in the original research design, even though I was familiar with visual ethnography from the studies of Pink (2001; 2006; 2008; 2009; 2014). Due in part to the critical reflection of the first case study, visual ethnographic methods were valuable for generating interpretative research stories. Therefore, visual ethnographic methods such as video and photography were subsequently embedded in the research design.

4.5.2.1 *Photovoice*

Devised in the mid 1990's, Photovoice is "an arts-based qualitative research method usually housed within community-based participatory research" (Delgado, 2015, p.7). Participants are asked to represent their community or express their point of view by photographing scenes to develop both personal and collective social change. This visual method enables a powerful expression of experiences, as cameras are placed directly in the hands of the participants, particularly as photographic media and visual technologies are now prolific worldwide (Wang and Burris, 1997; Given, 2008, p.623; Brandt, 2014; Delgado, 2015). In research studies, photography has become an active voice for participants' perspectives from behind the camera - a term Brandt (2014, p.621) called "shooting back". In my study, this method expressed the participants' own experiences as captured through immediate and spontaneous image-making.

In the context of my study, Photovoice enabled me as a reflective teaching practitioner to highlight recurring themes emerging from the collective student-generated images in this investigation. For example, the inclusion of digital practice was a recurring theme in Communication Design studio learning, as shown in the images in Figure 28.

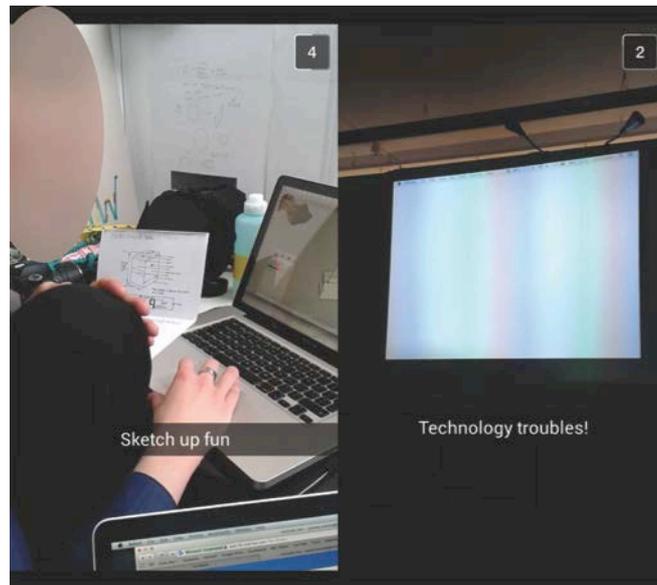


Figure 28. A recurring theme of digital practice is shown in the images. © L. Marshalsey, 2015.

4.5.2.2 *Snapchat®*

The Snapchat® app is a popular social networking tool with the student researchers as they were already familiar with it as a leisurely and fun mobile phone application. Snapchat® is a photo or a video messaging mobile application, in which users can add captions and drawings onto images and send them to other users. These can be screen-grabbed by other users. Using Snapchat® allowed the participants to voice their immediate and fleeting studio experiences from their own, empowered perspective (Delgado, 2015). Instant and short-lived studio experiences can be effectively recorded using Snapchat®, as this app records short-term visual images (with or without captions) of less than ten seconds to send to other Snapchatters (accepted term for a person regularly using this mobile phone app). In the first instance, I, as the main researcher, was the sole recipient of the Snapchat® images. I subsequently screen-

grabbed and saved them anonymously for future analysis and creative output. The Snapchat® images were then returned en masse to the participants to reflect upon and to use for their own purposes.

This method generated a flowing narrative of images and studio happenings as shown in Figure 29. It produced unbiased data from the participants' own perspective, as studio life happened around them and with them. However, the main disadvantage of this method was its sporadic use at times and its reliance on regular student engagement. Yet, this method was feasible in terms of the resources and time available during the case study. It bypassed the need for expensive equipment as all the participants (except one student in each of the case studies) had access to the Snapchat® app on their mobile phones. This eliminated the need for extended periods of time to set up and instruct on the use of video equipment.

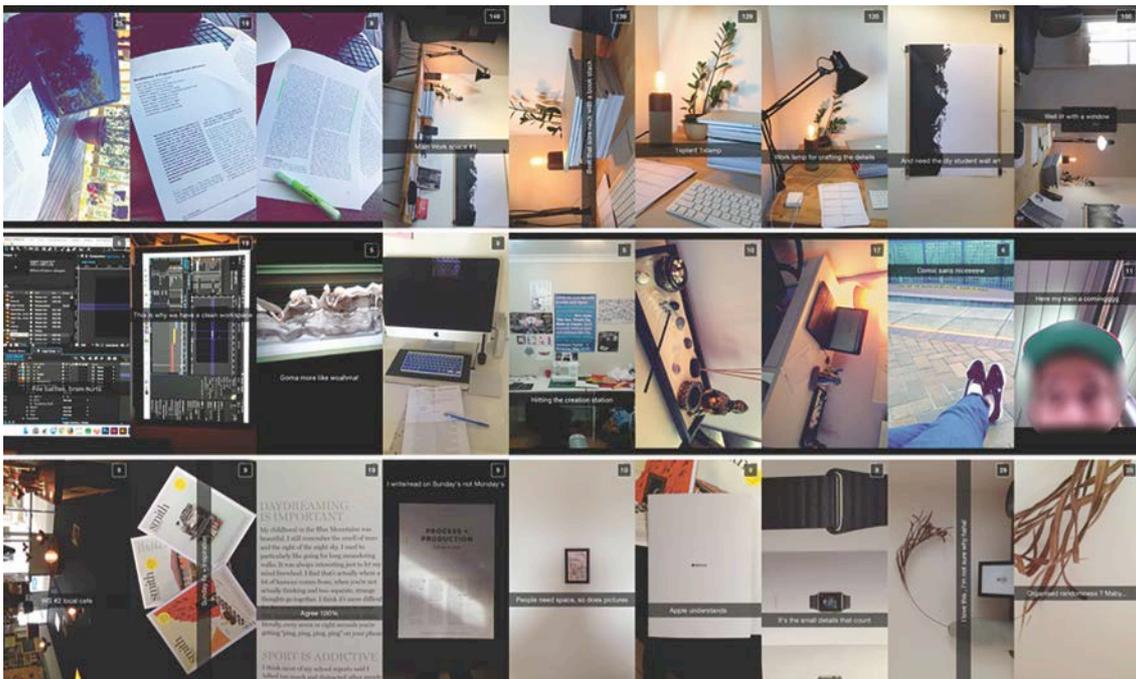


Figure 29. The Snapchat® method generated images. © L. Marshalsey, 2015.

4.5.2.3 GoPro®

In contrast to the very short-term nature of Snapchat®, GoPro® film cameras and mobile phone video applications were utilised by the student researchers. GoPro® is an American brand that develops, manufactures, and markets high-definition (HD) videographic equipment and cameras, known as GoPro's. These cameras are often used in action, such as in water and for sports video photography. They are compact and lightweight and are wearable via chest, head, or wrist harnesses. The cameras capture HD images through wide-angle lenses (GoPro Inc, 2015). In Case Study 1, the film cameras were used to capture footage lasting from seconds to hours as the participants filmed their everyday studio experiences from their own storytelling perspective (Figure 30). This method was appropriate under the circumstances for collecting visual data in a studio environment.



Figure 30. The participants used GoPro® film cameras and mobile phone video applications. © L. Marshalsey, 2015.

In the critical reflection between the first and second case study, it was noted that qualitative yet experimental tools and methods, such as Snapchat® and GoPro® filming, offered effective ways for participants to generate their own interpretative research data in new ways. These methods were suitable for addressing the questions underpinning the research study and they served as a means to document the participants own learning experiences. The participants were not merely involved in intellectual discussion but also wholly engaged in the activities (Keiny and Orland-Barak, 2009, p.173). When the participants and I watched the films together, it often led to insights on both our parts about the dynamics of a specific event and also illuminated ways in which we might try to improve an aspect of our practice (Wells, 2009, p.51). The new understanding emerging from this mutual learning activity encourages self-awareness of multiple critical incidents (Wenger, 2000). Visual ethnographic methods allow for valuable insights from the on-the-ground student perspective, which may be fleeting and short-lived or prolonged and sustained. As a consequence, Snapchat® and GoPro® filming research methods, as a form of Photovoice, were integral to the research design.

4.5.3 Sound and sensory ethnographic methods

Recent sensory and sound ethnographic studies include Adams, et al's (2008) methodology for understanding soundscapes; Warren's (2012) photography as a response to aesthetics and the senses; and Gianoncelli's (2013) ethnographic and educational study of sounds of places. According to Pink (2009, p.7), sensory ethnography explores new potential when attending to the senses in ethnographic research.

Pink (2009) and Classen (1993) state that sensoriality is vital to learning, understanding, and depicting our cultural life-world. This notion originated with David Howes (1991; 2004; 2005; 2012; 2014), as he acknowledged the "sensorial turn" in the anthropology of the senses during the 1980s and 1990s. The influential research of Pink (2009; 2013) examines in great depth the anthropology of the senses and other fields of study, such as sensuous geographies, the sociology of the senses, and the sensorium and the arts. In this study, I consider the ideas of

Pink (2009; 2014) and draw upon them to elicit student experiences of sensory affect in contemporary Communication Design studio learning.

4.5.3.1 Drawing and sonic mapping

Consequently, sensory-based ethnographic drawing methods (both digital and hand-driven) and sonic mapping via artefacts, have been used in this research study to critically examine the participants' own interpretations of sensory affect. Ingold (2011) states that drawing is an enormously powerful ethnographic tool, alongside that of writing, and studio learning relies on drawing as a fundamental technique (Sassoon, 2009). Ingold (2011) defines drawing as combining observation and description in a single gestural movement and refers to this method as "graphic anthropology": an anthropology that takes drawing as its medium (Ingold, 2011, p.222). In Case Study 2, to measure sensory affect, the participants used Apple® iPad Mini tablets with a pressure-sensitive stylus to draw their own interpretations of their daily studio-based classrooms onto photographs of these same spaces (Figure 31). Their drawings used colour, dynamic shape and line, and words to represent the experiential impact of sensory affect in the three different learning spaces they occupied.



Figure 31. Digital sensory-based drawing methods in Case Study 2. © L. Marshalsey, 2015.



Figure 32. Hand-driven sensory-based drawing methods in Case Study 2. © L. Marshalsey, 2015.

In both case studies, the student researchers visualised the sounds present in their daily studio life using drawing and mark-making onto paper, as the earlier pilot study had revealed the presence of varying sound in educational environments (Figure 32). During this pilot investigation, we found that the constitution of the studio (the community of practice, the learning processes and creative practices, the architecture, and the social relationships) generated creative and non-creative sound. Furthermore, in Case Study 1, the initial data responses revealed an intrusion of sound from the open-plan nature of the architecture. Consequently, sound ethnography became established as a core element of the research

design, and sound as a phenomenon of experience was creatively interpreted via hand-driven drawing methods, sound recordings, and sonic-mapping artefacts.

4.5.4 Limitations of the methodologies and methods

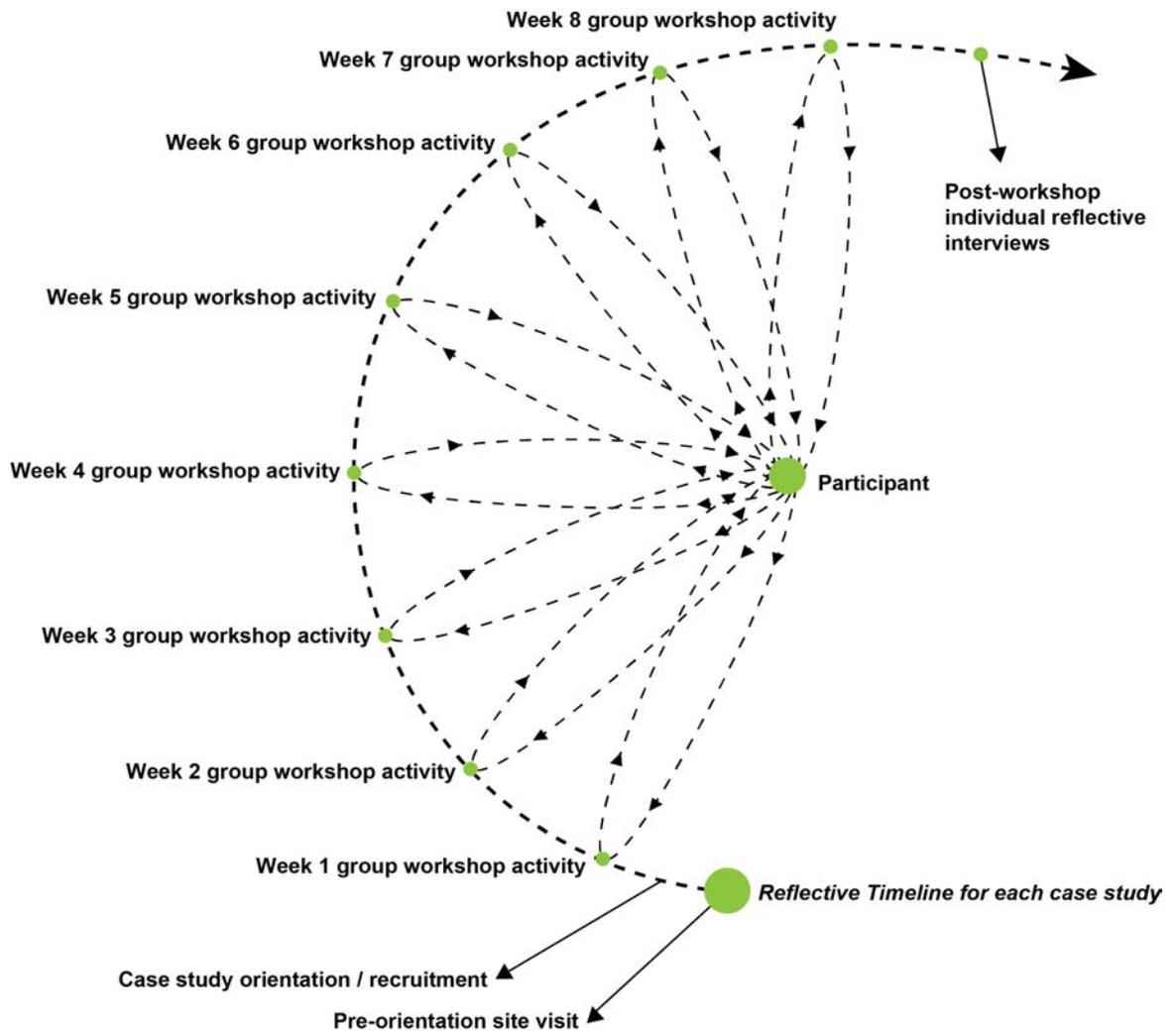
The phenomenon of sensory affect within the two higher education institutions explored via a range of exploratory research methods enabled participants to unpack their collective experiences. However, it is important to critique the issues arising from use of the selected methodologies and reflection-in-action methods. Firstly, the participants were actively encouraged to reflect on the differing experiences and phenomena in question as insiders. The analysis was iterative and the distinctly different ways of experiencing the phenomena were discussed collectively and not individually (Prosser and Trigwell, 1999, p.57).

Secondly, it was my original intention to address the research questions as a Communication Design educator and reflective practitioner in my own institution in order to understand how the experiential impact of sensory affect directly affects my own teaching practice (Schön, 1990; Brookfield, 1995; Moon, 2006; Light, et al., 2009). Cowan (2006) and Hall (2010) describe reflexive practitioner research as requiring a form of deep immersion in the context. Hickman (2009) suggests that looking introspectively at practice enables educators to closely examine the nature of their teaching. In this regard, I considered that my views might therefore be biased because I was an insider. However, since the thematic qualities of studio are likely to be experienced in qualitatively different ways by different practitioners, multiple participants were required in this study to maintain rigour (Shreeve, 2010, p.693).

As the study progressed, my individual exploration of the investigation, to a degree, naturally evolved into a collaborative and reflective partnership with the participants. Because I considered my reflective practice in the research activities, the participants were also encouraged to think about theirs. This was a reflexive process for the students and I, as I made explicit the opportunities to engage in mutual dialogue to examine what we were thinking,

feeling, and experiencing in the case studies. The participants developed insights, as they became critical reflective co-researchers in their own right both as group participants (Figure 33) and as reflexive individuals (Figure 34). As reflective practitioners, the participants gained valuable knowledge and understanding via the selected research methodologies framework which helped them to engage and adapt their senses in studio learning. I assumed that reflection was evolving naturally and that the students were becoming aware of their studio learning by participating in the research activities (Depraz, et al., 2003). However, there may have been potential weaknesses in the reliability of the subjective accounts from the participants as they gave personal accounts of studio events (Depraz, et al., 2003, p.61). This may have been in part due to them not wishing to appear different from the other participants in the research, or indeed to remain silent and not communicate their true perspectives and viewpoints.

Figure 33. The participants developed insight as group participants. © L. Marshalsey, 2016.



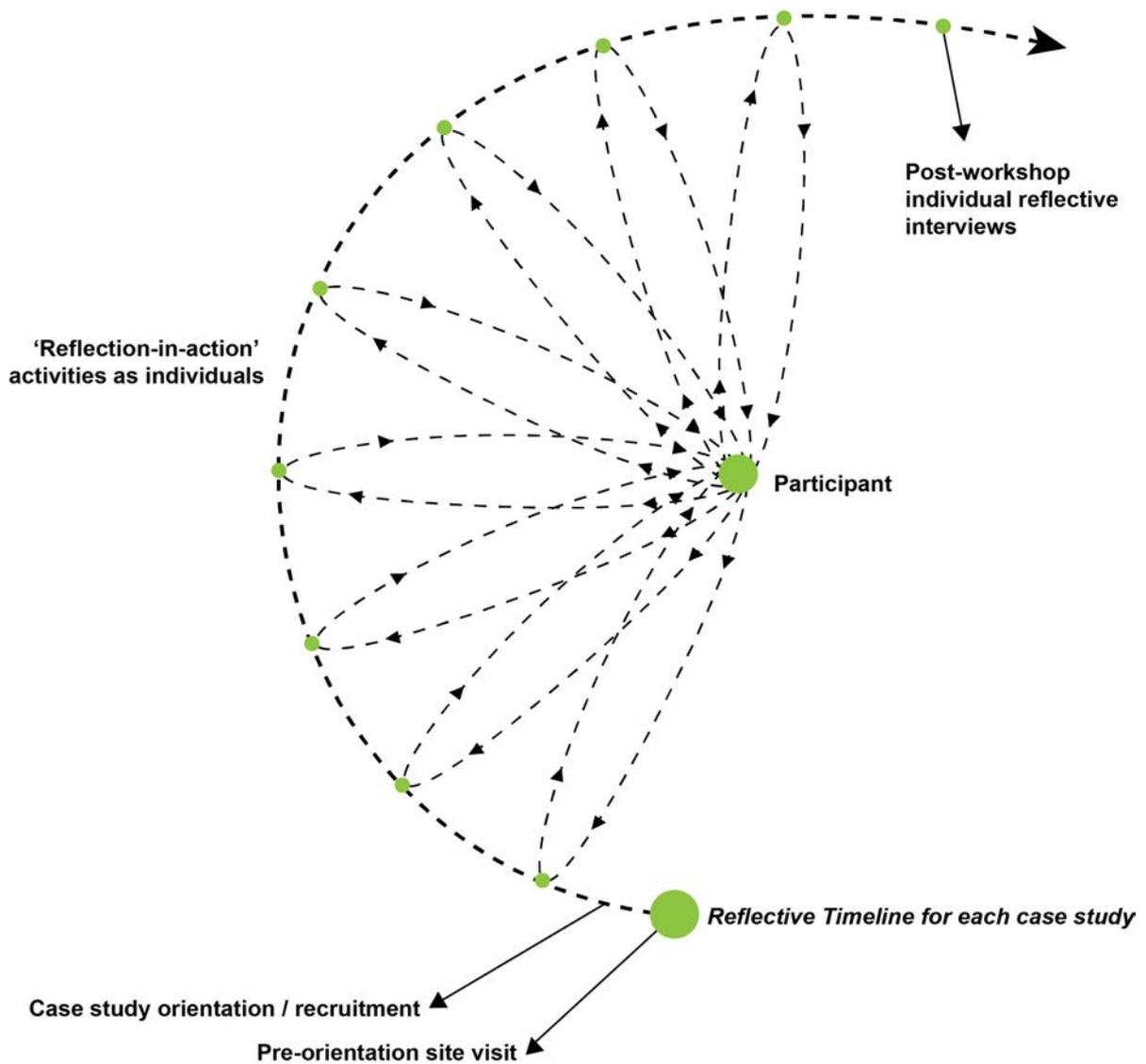


Figure 34. The participants developed insight as reflexive individuals. © L. Marshalsey, 2016.

4.6 Summary

The shifting power dynamics and the co-creation of the thematic outcomes throughout the study evolved as the participants and I shared authentic storytelling and a degree of openness between us. During the reflective process, attempts were made to share the case study data with the participants' global case study counterparts. Hence, the holistic, core perspectives formed in relation to sensory affect were those of the students and me, and how we sought to use the experiential knowledge we had gained in two differing institutions. Still, further questions

could arise with regards to the co-development of the strategies with the participants beyond the conclusion of this study McNiff and Whitehead, 2006, p.11).

This research investigation employs a methodological design developed within a Participatory Action Research (PAR) framework to explicitly explore sensory affect. The research design supported participants to consciously investigate their environment by engaging with a number of innovative methods including Photovoice®, Snapchat®, GoPro® and the analogue and digital drawing methods and sonic mapping. These activities and methods permitted participants to critically recall their experiences and to share these subjective reflections and responses within their community at regular points throughout each case study. Therefore, the research design supports the personal and collective strategies that learners and educators alike will need to implement in order to successfully manage learning in their everyday environments.

The participation framework aids the identification of a set of methodological best practice tools and techniques, which are developed from the ethnographic methods in this investigation. This research design determines the chronology of methods (acknowledged in my thesis as a Methods Process Model (MPM)) that may be used when investigating the impact of sensory affect in contemporary Communication Design education, and across studio and studio-based classroom environments. This MPM facilitates the participants being able to qualitatively interpret their learning spaces and to explore, take account of, and work with sensory affect more explicitly in design education.

Having defined the research methodologies and methods in this chapter, I will now move on to discuss how these research methods were implemented on the ground at an art school in the UK and then, in a later chapter, at the college of art in Australia. What follows is a critical examination of the reflexive and PAR case study approach at the two sites. The following case study chapters describe, discuss, and then analyse each investigation using the participants' voices as a core narrative.

5 CASE STUDY 1: AN ART SCHOOL IN THE UK

5.1 Purpose and rationale

In this chapter, I systematically investigate the first of the two educational institutions delivering a Communication Design curriculum (Case Study 1) to explore studio learning. Each section also identifies the associated preliminary categories arising from each week or activity in the Case Study 1 data, as shown in the tables following each section. I then identify the preliminary categories arising from the case study activities as a means to support the narrative of the whole chapter. I also then provide a chronological account of Case Study 1 (an art school in the UK) as the Participatory Action Research (PAR) case study approach with narrative inquiry and ethnographic research methods charted more fully. I provide a sequential overview of the participatory methods used in each case study to elicit data and I critically observe how the participants engaged with the process as reflective group members and as reflexive individuals. Following this, the analysis of this case study is explained in Chapter 6. Chapters 7 and 8 discuss Case Study 2 (a college of art in Australia) in the same vein. In this thesis, both case study chapters precede their individual analysis chapters as a means to ascertain the order of events for each specific case study in the UK and Australia.

To begin the process of investigating Case Study 1, the pre-research recruitment presentation took place on 30 September 2014. Following this, I collaborated with three participants weekly and the research workshops were conducted over 8 weeks within the art school in the UK. These core research activities occurred from October until December 2014, and these are described more fully in Table 4. The research then extended into three further post-case study sessions in June, November and December of 2015, as the participants agreed to contribute further (Table 5).

5.1.1 Orientation

Six months before the initiation of Case Study 1, I recorded sound and photographed the interiors of two of the art school campus buildings in the UK between April and May 2014. I had unrestricted access to do so and I briefly observed the art school student culture while writing reflective sensory-based field note reports on each of the two buildings. I also conducted informal, unstructured meetings with two of the Communication Design educators who deliver studio pedagogy. They allowed me to conduct questionnaires with second-year students as part of the pilot study that formed the basis of the introductory orientation phase of this case study. The selection and inclusion of this art school as a full case study in the investigation was confirmed following these activities. For reasons of institutional confidentiality of both case studies and the pilot study sites, none of the orientation data – the photography, sound recordings, transcripts, or the field notes – have been included in the printed appendices. The narrative transcripts from the two fuller case studies have been provided on USB only.

5.1.2 Recruitment

Prospective participants for Case Study 1 were identified and selected through their enrolment in the BA (Hons) Communication Design (majoring in Graphic Design) course. Their degree is studio-based and assessed with open-ended critical inquiry being a key feature of their non-modular timetabled course content. To gain access to these participants, I needed negotiated entry to the field to recruit the student volunteers. Student volunteers were enlisted with the cooperation of the Communication Design department staff for my initial access to the studio year group. Earlier, I had informally discussed my interests in studio environments with staff, and they had highlighted their personal teaching experiences within the noisy, open-plan studio environment in this case study. I conducted an introductory presentation of the research study within the department on Tuesday, 30 September 2014, for the duration of 20 minutes. Six third-year students, who were initially interested in participating, were invited to take part by two methods: via the verbal introductory group presentation and by the physical distribution of

individual consent forms with my business card (Appendix A, 13.2). I explained the nature of the study and that I intended to help students to research, understand and engage with the learning environment more effectively using the senses. From this presentation, I acquired four student volunteers for this investigation: for the purposes of this investigation, they will be known as Robyn, Jill, Toby, and Nicola. The one male and three female volunteers ranged in age from 19 to 22 years old. They were enrolled in the third-year of their Communication Design degree at this UK art school by the time the case study activities began. I had no previous relationship to, or knowledge of, the four student participants prior to their recruitment as volunteers in this investigation. Three students, Robyn, Jill, and Toby, participated for the full duration of the eight-week case study, and one student, Nicola, opted out of the research in the second week of the case study. Supplementary to this recruitment session I also approached 12 other non-participating students with consent forms, since they would be present in the Communication Design studio during the research activities and might feature in photography, video, and sound recordings as peripheral participants. Eleven of these students provided full consent, with one remaining student allowing partial consent.

The research took place from 7 October until 9 December 2014 in the Communication Design students designated open-plan studio environment located on the first floor of the design school at this UK institution. The research was conducted in three main areas: at the communal sofa studio critique area, at the participants' own workstations; and in a wide, transient area of the campus. The case study took place between the hours of 9am and 5pm during the working academic week, Monday to Friday. The research activities spanned eight weeks (this is not inclusive of the additional week arranged for the recruitment of participants) and further data was collected in the weeks and months following the study as the student participants volunteered extra research contributions.

5.1.3 Characterising the participants

As this investigation comprises personal experiences, stories, opinions, and individual perceptions, it is important to briefly characterise the participants in this case study. The three participants exhibited similar creative, enthusiastic, and sociable personalities. By briefly describing their characters means that I, as the lead researcher, might better understand their orientations to studio learning (Flyvbjerg, 2006, p.236).

Based on my observations and perspective as the lead researcher, I found Robyn to be sociable, chatty, physically active, and a natural organiser of the other students. She was elected as the designated student studio manager to encourage the other students to keep their individual workstations and the general studio environment tidy. However, she said, "If I was stuck on a project or not getting anywhere I would just get up and start tidying the cutting mat area... I suppose I use the tidiness to... not relax, but to come away from my desk again and have a little break" (Appendix B, p.113, l.34). Robyn regularly voiced her apprehension of her own studio mess in relation to other students throughout the case study, as she said, "I think cos it's mine it's mess" (Appendix B, p.89, l.18) and this is referred to in several incidents described later in this chapter.

The second female, Jill, is focused, concentrated, neat and tidy, and she prefers minimal clutter at her workstation (Appendix A, 13.4). She is practical and perhaps not as sociable in the studio as the others while she is working. This is characterised by the film she produced for the GoPro® filming task, as much of the footage presented Jill working alone at her desk, in contrast to the moving studio recordings submitted by the other two students.

The male student Toby is innovative, inventive, and enjoys exploring new boundaries in his practice, which is predominantly digital by his own verbal admission: "I think it's [the process of this research] made me aware of how much my work is digital this year" (Appendix B, p.96, l.40). His novel approach to design briefs is evident in the photographic evidence of his desk, as

the artefacts he displays include men's health magazines, children's water aid armbands, laminate flooring, and rope (Appendix A, 13.6, 13.12, 13.16, 13.22, 13.27, 13.31). These tools were unexpected and were a surprise to me, as they did not represent traditional techniques of design production, such as the drawing materials I had experienced at art school and had expected to see in this studio. Of the three participants, Toby readily embraced the case study research methods the most and sought to implement them as a means to improve his own practice. He admitted to feeling surprised by the practice-led outcomes he generated for this investigation, particularly for the logo workshop (Figure 38) and sonic-mapping activity (Figure 40). Practice-led design can be understood as outcomes of research when they prompt surprise in their viewers (Scrivener, 2010, 2013, p.137). Toby said:

I think what I've learnt from it [the research methods] is to... try and challenge my environment a bit more by thinking about what kind of work I usually make in it. I think this study has helped me to [use] these other techniques and approaches I had to abandon because I felt that I had been limited by my environment. (Toby, Appendix B, p.128, l.72)

5.1.4 Identifying the preliminary categories

This action research investigation was undertaken to explore sensory affect as a lens to understand specific educational experiences in actual studio situations from the participants engaged in the inquiry (Corey, 1949). Therefore, the participants and I interacted with the data (for example by sharing it and commenting upon it together), throughout the investigation to form potentially meaningful patterns (codes) and themes (categories). Making sense of data collected from the multiple sources was an iterative process that required our on-going interpretation. Eliminating less meaningful data as the study progressed meant the developing themes grew more robust and substantiated as the case study investigation evolved (Hancock and Algozzine, 2011, p.62).

In Case Study 1, the participants and I developed several initial themes formed from the six cyclical action research activity-based group workshops in weeks 2, 4, 5, 6, 7 and 8, and the reflexive individual ethnographic methods. The potential preliminary categories arising from the data will each be sequentially numbered as (1), (2), (3), and so forth. This signals a consecutively numbered trail of themes throughout the following sections, in order to clearly identify and revisit these topics for the initial analysis and deliberation in a later section. In the preliminary analysis of Case Study 1, 13 categories were identified, as shown in Table 3.

Table 3. 13 preliminary categories have been identified. © L. Marshalsey, 2016.

(1): Social (social and visual interruptions caused by space, furniture, people and layout)
(2): Smell (in the studio)
(3): Sound (from technology, machinery, music, people and architecture)
(4): Using tools and methods (to explore sensory affect)
(5): Using digital, web-based and interactive modes (in studio practice)
(6): Digital and physical social network platforms
(7): Space (for creativity, space for ergonomic comfort and space for storage)
(8): Using artefacts (and place-making)
(9): Studio environment (mess)
(10): Nourishment (in the studio)
(11): Community (of practice and discovery)
(12): Space (for a personal zone and space within a studio-wide free zone)
(13): Space (to think inside and outside of the studio)

5.2 Gathering data

Case Study 1's investigative methodologies, as outlined in the previous research methodologies and methods chapter, are shown in Tables 4 and 5 in detailed, chronological order. These tables focus on both the participatory group workshops and the individual reflexive activities throughout the case study at the art school in the UK. Each activity was devised based on the previous week's data and the preliminary ongoing analysis of each activity as the pertinent patterns emerged. The workshops and activities were not pre-planned as a logical sequence of

events. Instead, the activities were planned and developed week-by-week as each of the case studies progressed to support the participants developing insights of studio learning.

Week	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Date	30 September 2014	7 October 2014	21 October 2014	28 October 2014	4 November 2014	18 November 2014	25 November 2014	2 December 2014	9 December 2014
Duration	20 minutes	2 hours	2 hours	2 hours	2 hours	2 hours	2 hours	2 hours	2 hours
Activity	Pre-research study recruitment	Questionnaire and individual research methods.	Focus group, Drawing Exercise 1 and individual research methods.	Focus group, Critical event / critical event recall and individual research methods.	Critical event / critical event recall	Focus group, video activity and individual research methods.	Focus group, Critical event / critical event recall and individual research methods.	Focus group, Critical event / critical event recall and individual research methods.	Focus group, Critical event / critical event recall and individual research methods.
Reflective workshop activities in groups	Recruitment presentation to student year group. Consent forms distributed.	Qualitative questionnaire to students.	Focus group discussing the questionnaire responses from Week 1. Drawing exercise 1.	Focus group discussing a sense of place and place-making. Critical event rotating desks.	Logo drawing workshop and recall of rotating desks task.	Focus group on sonic mapping exercise. Began GoPro® filming activity.	Focus group and critical event recall of the GoPro® filming activity.	Focus group, critical event recall using a 'reflective rug' activity.	Student-led critical event and recall activity. Repeated student questionnaire with reflective interviews.
Reflexive activities as individuals	-	Students: A5 self-reflective diary/sketchbook, Snapchat® Researcher: Photography, sound recording.	Students: A5 self-reflective diary/sketchbook, Snapchat® Researcher: Photography, sound recording.	Students: A5 self-reflective diary/sketchbook, Snapchat® Researcher: Photography, sound recording.	Students: A5 self-reflective diary/sketchbook, Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording, observational note-taking.	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.
Appendices	13.32	13.3 – 13.8	13.9 – 13.13	13.14 – 13.17	13.18 – 13.23	13.24 – 13.28	13.29 – 13.32	13.33 – 13.35	13.36 – 13.38
Description	Verbal presentation of research study to third-year students, who were initially interested in participating and who were invited to take part, with the distribution of consent forms and my business card to those interested in volunteering.	An evidence-based questionnaire in the first weekly workshop allowed me to ascertain and identify emergent issues and topics from the collective qualitative responses. Reflective diary and Snapchat® methods were distributed to students.	A focus group discussion to debate the topics arising from the questionnaire responses. I used semi-structured, open-ended questions to trigger a group discussion in a relaxed, conversational context. The Drawing Exercise expressed sensory affect present in studio onto paper.	Semi-structured open-ended discussion gathered the students' perspectives of place-making in studio. They brought artefacts they use to inhabit their personal zones inside the wider studio context. They also rotated and worked at each other's studio work stations.	The students developed and designed a logo representative of sensory affect in their studio environment as a group. Keyword analysis of last week's rotating desks task. Launched sonic mapping activity (2 weeks duration).	Semi-structured open-ended discussion of the ways each student had interpreted and mapped the sound phenomenon present in their studio. The students conducted GoPro® filming over several days to represent the DNA of the studio through their footage.	The students watched the edited GoPro® footage. Semi-structured open-ended discussion of this filming activity. Reflectively discussed and analysed this task.	I created a 25-metre long 'research rug', which, when rolled out fully, acted as a visual timeline of the reflective activities to date. It facilitated the visualisation and analysis of the data allowing the students to reflect upon and to compare the evidential data as a whole using Post-it® sticky notes.	Firstly, the participatory sensory drawing event led by the students in two different areas with critical recall and secondly, individual closing reflective interviews. The students also completed a questionnaire as a repeat activity of the first week of the case study.
Associated preliminary categories	-	(1): Social and visual interruptions (2): Smell (3): Sound (4): Use of tools and methods (7): Space (8): Place-making (9): Studio mess (12): Personal zone	(1): Social and visual interruptions (3): Sound (7): Space (12): Space for a personal zone (13): Spaces to think	(8): Place-making (12): Space for a personal zone	(3): Sound	(3): Sound (4): Use of tools and methods (5): Using digital, web-based and interactive modes (6): Digital and physical social networks (7): Space	(1): Social and visual interruptions (8): Place-making (9): Studio mess (10): Nourishment in the studio (11): Community of practice	(8): Place-making (11): Community of practice	(3): Sound

Table 4. Case Study 1: The chronological data collection via reflective group workshops and reflexive activities as individuals. © L. Marshalsey, 2016.

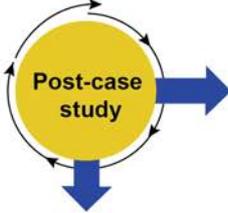
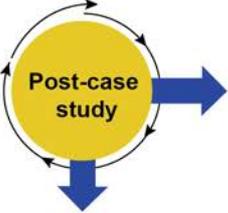
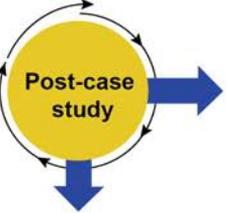
Week			
Date	17 June 2015	27 November 2015	2 December 2015
Duration	30 minutes	30 minutes	1 hour
Activity	Reflective interviews	Photography	<i>CROSS-CASE REFLECTION:</i> Focus group and reflective interviews
Reflective workshop activities in groups	-	-	Focus group reflecting back on Snapchat® and filming outputs.
Reflexive activities as individuals	<u>Researcher:</u> Reflective interviews with students	<u>Researcher:</u> Photography	<u>Researcher:</u> Reflective interviews with students
Appendices	13.39	13.40 – 13.42	-
Description	The first set of questions aimed to identify and describe if change had occurred in the studio, their learning or practice since the research activities finished. Secondly, the students reflected on three transcript portions from previous activity workshops for further insight.	Description	Focus group reflecting back on Snapchat® and film outputs from both Case Study 1 and Case Study 2. Reflective interviews aimed to identify and describe if further change had occurred in the studio, their learning or practice since the research activities finished.
Associated preliminary categories	(1): Social and visual interruptions (3): Sound (4): Use of tools and methods (5): Using digital, web-based and interactive modes (7): Space (8): Place-making (9): Studio mess (11): Community of practice (12): Space for a personal zone	(7): Space (8): Place-making (9): Studio mess (11): Community of practice (12): Space for a personal zone	(1): Social and visual interruptions (3): Sound (4): Use of tools and methods (5): Using digital, web-based and interactive modes (7): Space (8): Place-making (9): Studio mess (11): Community of practice (12): Space for a personal zone

Table 5. Case Study 1: Post-case study data collection. © L. Marshalsey, 2016.

5.2.1 The within-case details of Case Study 1

Within-case analysis allows for familiarity with the data and supports the process of developing preliminary categories from each case study (Eisenhardt, 1989, p.539). In the appendices I have included several tables of details from Case Study 1 (Appendix A, 13.43 – 13.47) and an identical tabular approach examines the details of Case Study 2 (Appendix A, 14.23 – 14.25). This is with a view to using analytical within-case framework tables to support and complement the critiquing and synthesis of the data. These tables aid the understanding of the construction of each case study through the detailed activities and tools. The tables from 13.43 to 13.45 outline the reflective workshop activities conducted as group members in the art school in the UK. The reflexive activities as individuals are detailed in the tables from 13.46 to 13.47.

5.2.2 Reflective workshop activities in groups

Creative group activities offer a framework for reflection, encourage participants to begin thinking critically about their experiences, and help to engage the participants interest. The small group collective fostered a sense of collegiality between us, allowing each person to speak openly in a non-threatening environment. Through exposure to a variety of viewpoints, the participants developed their understanding of the issues. They improved their ability to reflect on their experiences of sensory affect and studio learning using a range of visual and sensory ethnographic methods (Leitch and Day, 2000; Moon, 2006). Throughout the two case studies, video and sound equipment recorded the opinions, events, and discussions in the reflective group workshops. This approach authentically documented the collected experiential data to augment the research transcript texts, from which the thematic analysis was formed. The data collection stages of the reflective workshop group activities in Case Study 1 are shown in Table 4. The following sections briefly discuss several pertinent group activities.

5.2.2.1 *Week 1: Questionnaire*

Using an evidence-based questionnaire in the first weekly workshop allowed me to identify emergent issues and topics from the collective qualitative responses (Appendix A, 13.3). The structured questioning investigated responses to sensory experiences in the studio and other campus buildings. The design of the qualitative questionnaire was based on understanding the participants' own "opinions, attitudes, views, beliefs, preferences" in relation to preferred practice, choosing a desk space to work, and sitting near friends among others and to "explore attitudes and perceptions, feelings and ideas" of the occupants within the studio environment (Denscombe, 1998, p.89). This meant I could justifiably isolate potentially recurrent issues surfacing from the questionnaire (such as the tight formation of desk space, participants' own mess, and large numbers of people in the studio) to be explored in later activities. An improvised electoral box allowed for the anonymous collection of the questionnaires.

5.2.2.2 *Week 2: Focus group on the questionnaire responses*

In Week 2, I conducted a focus group discussion to debate the topics arising from the questionnaire responses. As the lead researcher, I used semi-structured, open-ended questions to trigger a group discussion, capitalising on the sharing and creation of new ideas that might not have transpired if I had conducted individual interviews at this stage (Hancock and Algozzine, 2011, p.44). The participants expressed themselves freely and openly as the focus group was conducted informally in a relaxed, conversational context. Several potential themes arose from the focus group. The first set of questions aimed to draw out the impact of space in the studio and this prompted a discussion of the balance between the need for a workstation personal zone and a studio-wide free zone (12), as one student suggested:

I think it's really important to have the balance of both 'cos this [the open studio] is like a free zone where you can just walk around, mill around, and speak to people, socialise,

but I think it's really important to have that little enclosed [desk] area that really feels a bit smaller. A little box, to go back to... (Toby, Appendix B, p.9, l.13)

The personal zone was also identified as a space to think (13) by the participants. The inclusion of partition dividers around their workstations reduced the visual distractions and supported a need for thinking space (1). These physical boundaries differentiate each student's creative work and belongings from others' in the studio, as Toby said, "...there would be so many visual distractions constantly while you are trying to do your work. Previously I couldn't work without the dividers because they are really important" (Appendix B, p.9, l.17). Arguably, an adjustable personal desk space (horizontally and vertically) might be beneficial in supporting personal spaces to think, for ergonomic comfort and creative engagement as the participants suggest the studio configuration should be (7): "an adjustable one so we could change the height of the desk or chair... if I could raise my desk then raise the chair and desk, then that would... maybe you would be a bit more comfortable" (Appendix B, p.15, l.102). The participants also further divided the free zone studio space as presentation space and working space in their exchanges. They identified the crowded free zone studio as feeling large, white, and voluminous above their heads; yet, as one of the student's state: "I feel a bit small. The building is imposing on me" (Appendix B, p.13, l.66).

What is interesting in this data is that the participants identified the migration of people flowing through and around the studio as having a measurable sensory impact on them when working at their individual desks (1): "if you have people constantly circulating around you, it's really distracting" (Appendix B, p.10, l.36). Outside regular working hours, the studio is more peaceful, as a less populated environment became more bearable when working on projects (3): "it's difficult to concentrate... I hate that we have to have half the class gone before we can concentrate. I find that really counterproductive" (Appendix B, p.17, l.120). The potential preliminary categories arising from the focus group in Week 2 are shown in Table 6.

(1): Social (social and visual interruptions caused by space, furniture, people and layout)
 (3): Sound (from technology, machinery, music, people and architecture)
 (7): Space (for creativity, space for ergonomic comfort and space for storage)
 (12): Space (for a personal zone and space within a studio-wide free zone)
 (13): Space (to think inside and outside of the studio)

Table 6. The preliminary categories emerging from the focus group in Week 2. © L. Marshalsey, 2016.

5.2.2.3 Week 3: Focus group on place-making

In Week 3, I conducted a focus group on place-making to further develop these themes (8). An open-ended discussion collected the participants' perspectives of how studio affects them in terms of their learning and the steps they take to inhabit their personal zones located within the wider studio context. For the focus group, I had asked the participants to each bring items from their studio desks to explore how they had tried place-making within the studio. The participants brought a small team flag, a pug ornament, and a pen pot respectively (Figure 35). The team flag suggested that the participants are socially bonded; they bring preferred organisational tools and symbols of popular culture and everyday life into their studio relationships. The artefacts were personal, memory laden, functional, and project-led: bought items, found items, or items gifted to them. In addition to placing artefacts on their desks, the participants physically modified their workstations in order to create a sense of place, with Jill installing mirrored card to visibly double her desk space and provide an illusion of space to work (Figure 36): "it makes my desk seem a lot bigger" (Appendix B, p.14, l.91). In later weeks, Jill reflects her own identity and work in progress back to herself, as shown in several frames from the GoPro footage (Figure 37). The preliminary category emerging from the focus group in Week 3 are shown in Table 7.

(8): Using artefacts (and place-making)

Table 7. The preliminary category emerging from the focus group in Week 3. © L. Marshalsey, 2016.



Figure 35. The participants' artefacts: a small team flag, a pug ornament and a pen pot. © L. Marshalsey, 2015.



Figure 36. Installing mirrored card to visibly double desk space. © L. Marshalsey, 2015.



Figure 37. Installing mirrored card to visibly double desk space. © L. Marshalsey, 2015.

5.2.2.4 *Week 4: Logo drawing workshop*

The students next participated in a logo workshop, which set out to capture their ideas of sensory affect within the studio environment via a group-led design task. Using a drawing process normally used for designing business-orientated logo and branding concepts, they were instead asked to design a logo that captured sensory affect within the studio. Several large sheets of paper pinned onto the walls acted as a canvas for the participants to methodically and chronologically document a series of drawn visual marks and codes. These drawings represented their sensory experiences in their own studio through the act of signs, symbols, and mark-making. Interestingly, the participants indicated that they had not engaged with the walls of the studio before as part of a creative process; they normally used the vertical surfaces for display purposes rather than enactive surfaces to work on. This surprised me as I regularly engage with wall and floor space in my own practice (as learnt through my taught art school experience in the 1990's) and I encourage my students to do so in my current studio teaching. I suggested that walls in the modern studio setting seem to offer the same function as easels did in the studios of the past as a visual work in progress vertical surface, rather than on a flat table top. This explanation seemed to aid comprehension, as Toby said, "I've never worked that way

before... getting all the initial ideas out of your head” (Appendix B, p.39, l.75). The participants used repetition and refinement throughout the process until they were satisfied that they had a true representation of sensory affect in the studio environment in a logo format. I recorded the open dialogue between the participants as they continued drawing. Collectively, they decided to draw layers of sound as waves, they drew the architecture as an open cube form, and sketched a representation of learning as repeated layers (Figure 38). The final logo is shown in Figure 39. Sound originating from within the architecture was dominant as a theme (3). This ethnographic drawing method helped the participants to understand, capture, and attribute meaning to the role the studio plays in their experiences of sensory affect. They identified and connected the layers of sound originating within the building with the tiers of social interaction in the studio. The participants clearly recognised that their studio learning is fluid and constantly moving, as it regularly forms, transforms, and disbands. The preliminary category emerging from the focus group in Week 4 are shown in Table 8.

(3): Sound (from technology, machinery, music, people and architecture)

Table 8. The preliminary category emerging from the logo drawing workshop in Week 4. © L. Marshalsey, 2016.



Figure 38. Participants contributing to the logo drawing process. © L. Marshalsey, 2015.

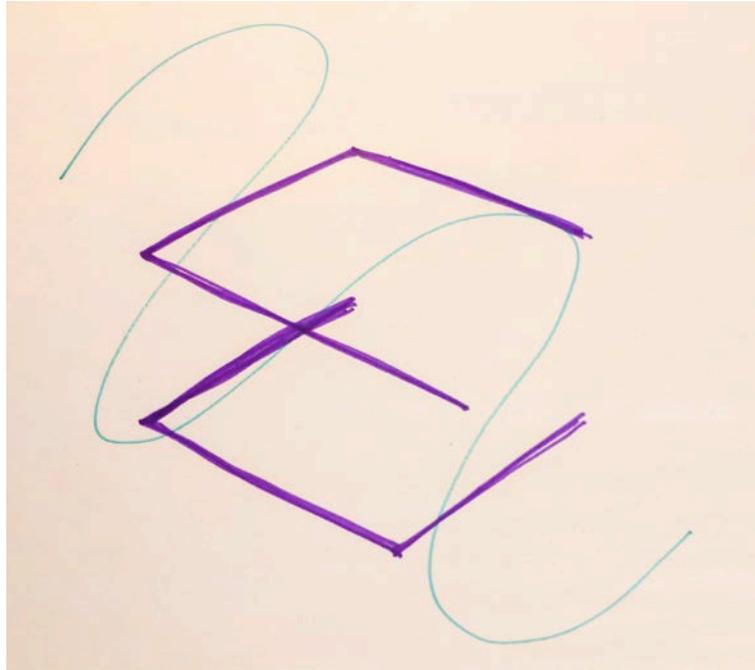


Figure 39. The participants' final logo represented sensory affect within the studio environment. © L. Marshalsey, 2015.

5.2.2.5 Week 5: Sonic-mapping

Focussing on the visualisation of sound as a sensory affect, I launched a sonic-mapping design activity with the participants. They were allocated two weeks in which to produce and deliver a sonic map, i.e., to map the sound phenomenon present within the studio. The final construction and format would be entirely the participants' own choosing in order to elicit their own interpreted sound investigation. The results obtained from this sensory ethnographic method were surprising as all three participants used differing approaches. The different formats expressing their responses to sound within the studio are shown in Figure 40. One created a hand drawn, haphazard coloured visual map of sound waves [1]. This map included an aerosol can, which represented the location of her personal workstation in relation to the studio on the map. The second participant generated an animated gif of repeated shapes. Each shape had different sizes and colours, and with slow and fast animation to represent the intensity and

frequency of sound generated by other students within the studio [2]. The third participant produced a clay cube, hollowed in the centre as an expression of sound [3]. This artefact conveyed and communicated the sound directly present within the broader architecture housing the studio environment.



Figure 40. The participants used differing creative approaches [1], [2] and [3] to express their notions of studio sound © L. Marshalsey, 2015.

The sonic-mapping artefacts achieved two main objectives: a developing individual awareness of sound, and the realisation that sound might be constructed from layers originating from differing sources, such as the architecture itself or the studio participants. Interestingly, the participants initially attempted to reduce the impact of their visual sense by closing their eyes to tune into the sound better as a means to comprehend it, prior to creating their own sound-mapping artefact. The preliminary category emerging from the sonic-mapping exercise in Week 5 are shown in Table 9.

(3): Sound (from technology, machinery, music, people and architecture)

Table 9. The preliminary category emerging from the sonic-mapping exercise in Week 5. © L. Marshalsey, 2016.

5.2.2.6 *Week 6: GoPro® filming and reflection*

The participants next participated in a GoPro® filming activity, an ethnographic Photovoice method, as a means to build upon their growing subjective awareness of the studio (Figure 41). This explorative method used body, head, and wrist harnesses and invited the participants to represent the DNA of the studio through the footage. The participants conducted the filming in the seven days leading up to the reflective session when the filmed footage was collated, then returned to the participants as part of the activity. Filming their behaviours in the studio was problematic, as the student researchers felt self-conscious and to a degree, they acknowledged that they conducted themselves differently to their normal routine. The participants exhibited a heightened awareness of the cameras (as both camera operators and actors), with the peripheral studio members also acting cautiously or inquisitively in the vicinity of the filming, as shown in Figure 42 and Figure 43. This affected how the participants filmed their footage; they felt the video recordings were not an entirely authentic representation of studio life. The participants expressed a willingness to redo the task now they had developed an awareness of their own, and others', behaviours.



Figure 41. Participating in a GoPro® filming activity. © L. Marshalsey, 2015.



Figure 42. Peripheral studio members in the vicinity of the filming. © L. Marshalsey, 2015.



Figure 43. Peripheral studio members in the vicinity of the filming. © L. Marshalsey, 2015.

As the footage was shown to the participants during the initial screening, their reactions were recorded in audio and video. They laughed, giggled and were embarrassed by their conduct at points: "I think it's just seeing yourself on camera and hearing your voice and seeing what you do. Mundane things. Me singing" (Appendix B, p.55, l.93). Viewing the participants doing actual project work was uncommon in the recorded footage: "it feels like I do nothing. It takes a while to get settled. You know? Like the way I'm always moving around" (Appendix B, p.56, l.95). The participants assumed viewing ordinary tasks on the footage, such as making tea and tidying the studio environment, would evidence their lack of productivity as design students. From an educators' perspective, these processes (as individual and group exchanges of knowledge and ideas, familiarity, social interaction over tea and lunch, and acts of place-making) are foundational to understanding, developing, and strengthening creative projects and community bonding in the studio. The strong community of practice (11) and the relaxed, social interactions in and around the studio were clearly evident as the participants conducted their daily habits and rituals. As the participants encountered other people in the studio, café, or en route to the library, they acknowledged and interacted with them in a friendly manner. As a researcher within this environment, I also felt that the students were approachable and pleasantly interactive towards me. However, social interruptions were numerous (1), which may not foster

the necessary conditions for an engaged studio practice and eating and working in the studio was indicated (10) (Table 10).

(1): Social (social and visual interruptions caused by space, furniture, people and layout) (10): Nourishment (in the studio) (11): Community (of practice and discovery)

Table 10. The preliminary categories emerging from the GoPro® filming activity in Week 6. © L. Marshalsey, 2016.

5.2.2.7 Week 7: Reflective rug

Accumulating the reflective participatory activities to date, I created a 25-metre long 'research rug', which documented the data from the research activities in the previous weeks. Chronologically, the rug displayed the data according to the Case Study 1 schedule (Figure 44- Figure 46). This reflective research rug tool, when rolled out fully, acted as a visual timeline. The participants had no knowledge of the rug prior to this activity. It facilitated the visualisation and analysis of the data for the participants, with the intention of showing the data in the environment in which it was gathered. This method allowed the participants to reflect upon the holistic nature of the research study rather than the individual component parts and permitted them to compare the data as a whole. For 30 minutes, the participants spent time reading and considering the research rug data, then used Post-It® notes to write reflections on parts of the data that they felt strongly about, as shown in Figure 45. This method illuminated and verified the several thematic outcomes consistent throughout the reflective research activity workshops, including the studio interactions and community of practice (11), as shown in the Post-It® note reflections in Figure 46. The participants began to reflect on the value of the community bond they shared with others through team working and group interactions. In addition, one student referred to time, as a reflective component of studio place-making (8): "Looking back, I feel like we were all quite negative about our space. Have I grown more used to or more fond/comfortable?". The participants felt guilty at the negativity they displayed early in the research activities as they realised their institution does support them and their studio

community. The art school provides them with both personal and group workspaces in order to facilitate a stronger, bonded community of practice. As an educator who has experienced other Higher Education (HE) institutions delivering art and design education, I knew the value of this case study's studio model, space and curriculum prior to this research study. However, only with reflection over time could the participants themselves begin to value their studio environment and culture, even with its challenges to space and noise. They had adjusted their practice using their own interventions and strategies to engage with studio learning within the space, and therefore had generated an attachment to the studio as their primary workspace. The preliminary categories emerging from the reflective rug activity in Week 7 are shown in Table 11.

(8): Using artefacts (and place-making) (11): Community (of practice and discovery)
--

Table 11. The preliminary categories emerging from the reflective rug activity in Week 7. © L. Marshalsey, 2016.

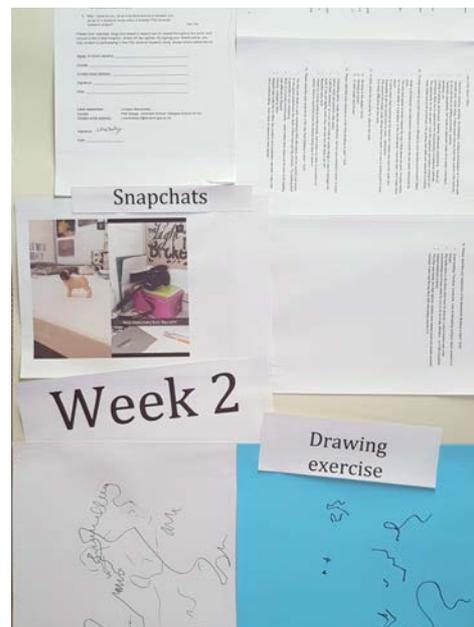


Figure 44. The 'research rug' displayed the data chronologically. © L. Marshalsey, 2015.

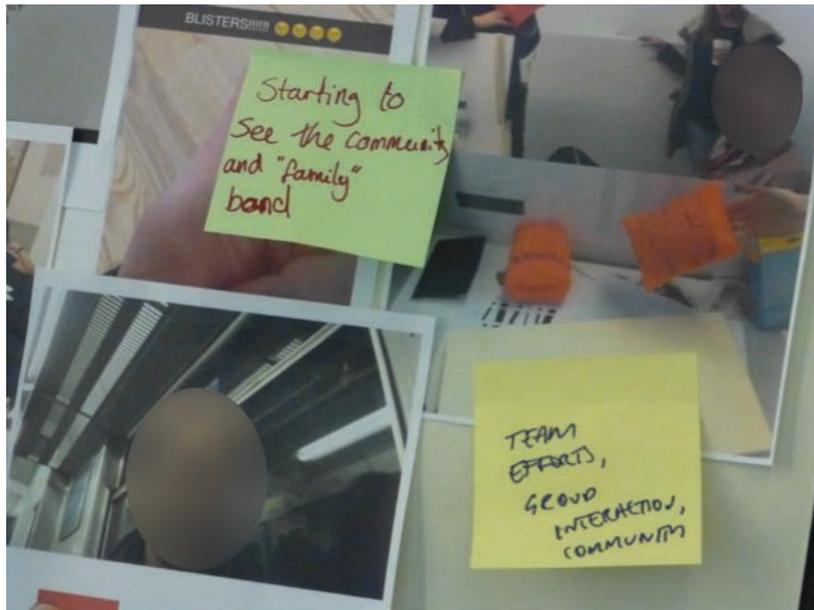


Figure 45. Participants populated the 'research rug' with Post-It® note reflections on parts of the data. © L. Marshalsey, 2015.

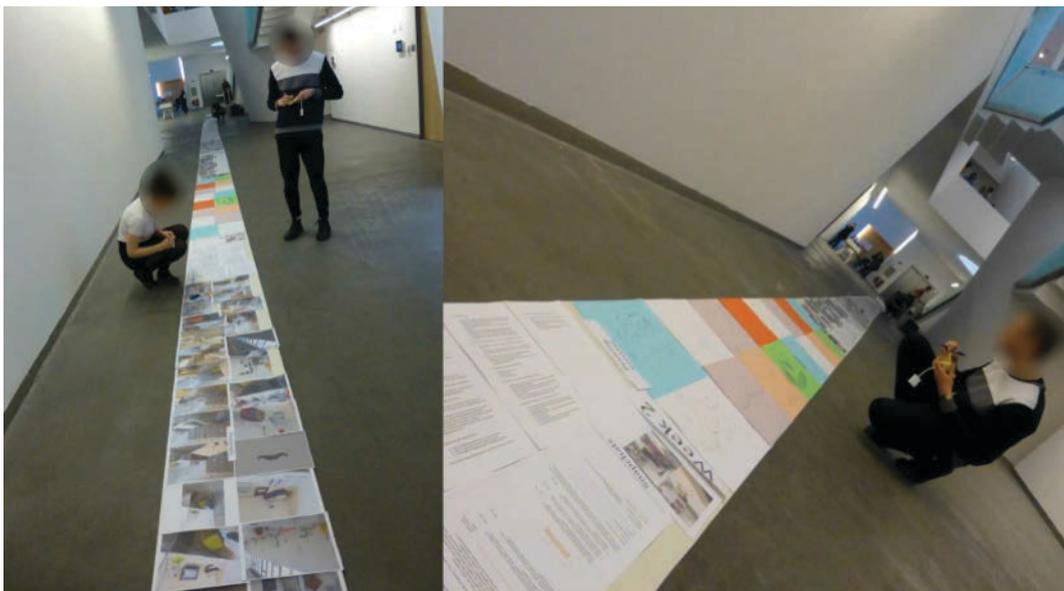


Figure 46. A 25-metre long 'research rug' chronologically charted all data. © L. Marshalsey, 2015.

5.2.2.8 Week 8: Participant-led drawing activity

The concluding reflective workshop activity, held during Week 8, was organised into two sections: firstly, the participatory and sensory ethnographic drawing workshop led by the

participants (Figure 47-53) and secondly, closing reflective interviews, with each of the three participants, conducted by myself. The participants also completed a questionnaire as a repeat activity of the original questionnaire in the first week of the case study to reflect on how they felt about their studio learning then and now.

The student-led workshop considered the participants' reflections on their research journey, their responses to understanding of sensory affect in studio learning, and how they might communicate and transfer this awareness to their peers. They wanted to encourage other students in their year group to explore the impact of sensory affect on their learning within the studio. The participants designed the format and duration of the workshop and I had no involvement in the planning of it, as the participants took full ownership of the activity as independent researchers. Their peer group, as they participated and responded to the activity, then identified selected thematic outcomes of the activity workshop. However, on the day the workshop was held, the Communication Design studio was relatively unpopulated as the students' dissertation deadline was imminent. Students had chosen to work in the library or at home. This clearly affected participation, as only two students responded. Consequently, it was not possible to elicit a fuller data gathering. Nonetheless, the students guided the voluntary participants to take part in a drawing task. This activity was similar in nature to the sensory drawing task conducted in Week 2 of the reflective workshop activity schedule, where the participants had isolated and identified sound as a major thematic influence. For this reason, they purposely chose two spaces which generated sound – one noisy and one less so – in which to conduct the sensory drawing exercises. The first drawing exercise was conducted in a communal area (a space external to their studio), as this space circulated sounds generated by the canteen and the movement of students around the interconnecting corridors of the building. The participatory drawing activity is shown in Figure 47.



Figure 47. The first drawing exercise was conducted in a communal area. © L. Marshalsey, 2015.



Figure 48. The second part of the participatory drawing exercise continued in the participants own studio environment. © L. Marshalsey, 2015.

The second part of the drawing activity was held inside the participants' regular studio environment. For this section of the workshop, the participants chose to set up a speaker system outside the studio and transmitted a portion of Mort Garson's 1976 *Mother Earth's Plantasia*, an album of electronic compositions designed to help growing plants. The music filtered into the participants' own studio, with the second part of the participatory drawing exercise continuing in this location (Figure 48).

The results of this student-led reflective workshop can be partially seen in the drawing data shown in Figure 49 and in the dialogue from the transcript (Appendix B, 16.9). The participants hosted a post-exercise critique with their peer group participants, and a visual difference was clear in the drawings from the two sites. This is similar in nature to the logo drawing workshop in Week 4. In Figure 50, the two drawings on the left were produced in the noisier space and are

more abrasive in their mark-making. The two drawings indicated on the right were produced in the quiet studio infiltrated by gentle, electronic music, which are reflected in softer forms of mark-making. Although the focus group discussion initially examined the differences in mark-making between the two sites, the conversation considered the differing perspectives and relationships in and around the studio. The participants reflected that although people can generate noise, which can be exacerbated by the architectural design, they were too intimidated to ask others to be mindful of the noise or music they produce. The community of practice alters and clashes when noisy and quiet spaces are brought together. Surprisingly, the art school estates staff complimented the participants on the choice of music during this research activity and requested it be played more often. It would seem that positive sound transference through music began to affect the habitants of the art school building overall, growing beyond the boundaries of the studio. The preliminary category emerging from the focus group in Week 8 is shown in Table 12.



Figure 49. Drawing data produced from the student-led reflective workshop activity. © L. Marshalsey, 2015.



Figure 50. Comparing the drawing data produced from two different spaces. © L. Marshalsey, 2015.

In this concluding week of the Case Study 1 activities, semi-structured individual interviews were held with each of the three participants. We discussed their questionnaire responses from the first week and how their responses had changed as a consequence of populating the identical questionnaire in this concluding week. The participants and I also examined their reflections on the research activities as group members and as individuals. When asked to describe if their awareness of sensory experience in the studio had changed throughout the sequential activity workshops, one student responded:

I think... this shows that I'm better at de-picking the senses in the studio. Maybe I'm aware that they were going on but I didn't know how to vocalise it so I think the exercises have helped ... the drawing, for example, helped me to realise the sound was fragmented... I think that's helped me put into words the sensory experience but also, I think it's made me aware of how much my work is digital this year... I come to my desk and I'll be on the computer? Like the GoPro® [footage] shows that. I don't know whether it's a bad thing to get so locked into a digital world. And I wonder if the building has had an impact on that. (Toby, Appendix B, p.96, l.40)

Through the research activities, the participants and I have facilitated this growing awareness of sensory affect and how it impacts upon studio learning and the community. Reflecting upon Toby's comments at this point, I realised that the same notion applies to my practice as an educator in these educational environments. As a teacher, I am generally restricted to digitally facilitated studio delivery, and the spaces I occupy as an educator with groups of students influence this.

(3): Sound (from technology, machinery, music, people and architecture)

Table 12. The preliminary category emerging from the focus group in Week 8. © L. Marshalsey, 2016.

5.2.2.9 *Post-case study: Case Study 1 view their own and Case Study 2 Snapchat® data*

In December 2015, I returned to the UK to arrange a post-case study reflective session with the participants from Case Study 1. First, I had asked the UK participants to reflect on their own Snapchat® data gathered from the eight-week case study schedule between September to December 2014 as a collated whole set. Secondly, I had asked them to view the assembled Case Study 2 Snapchat® images for the first time in the same way, which were gathered from July to September 2015. The aim was to provide a clear visual data set of images to the Case Study 1 participants from which they could draw immediate commonalities and differences between theirs and their counterparts' experience in Australia. No narrative data or transcripts from Case Study 2 were displayed to avoid influencing the Case Study 1 responses. I intended to draw out their first impressions of the data. I displayed these complete sets of the Snapchat® images from both case studies on A1 (594 x 841 mm) posters rather than on screen. One poster assembled together the Snapchat® images created by the student group in Case Study 1 in the UK (Figure 51) and two further posters collected together the Australian participants Snapchat® images from Case Study 2 (Figure 52). I had earlier considered that the participants and I might better engage and identify reflections within a large static visual grouping of holistic images rather than chronologically replaying individual images on a laptop. This method also

enabled me to clarify how I engaged as an insider researcher in the studio (Case Study 1) and insider researcher/educator in studio-based classrooms (Case Study 2).



Figure 51. The Snapchat® data from Case Study 1 as a poster. © L. Marshalsey, 2015.

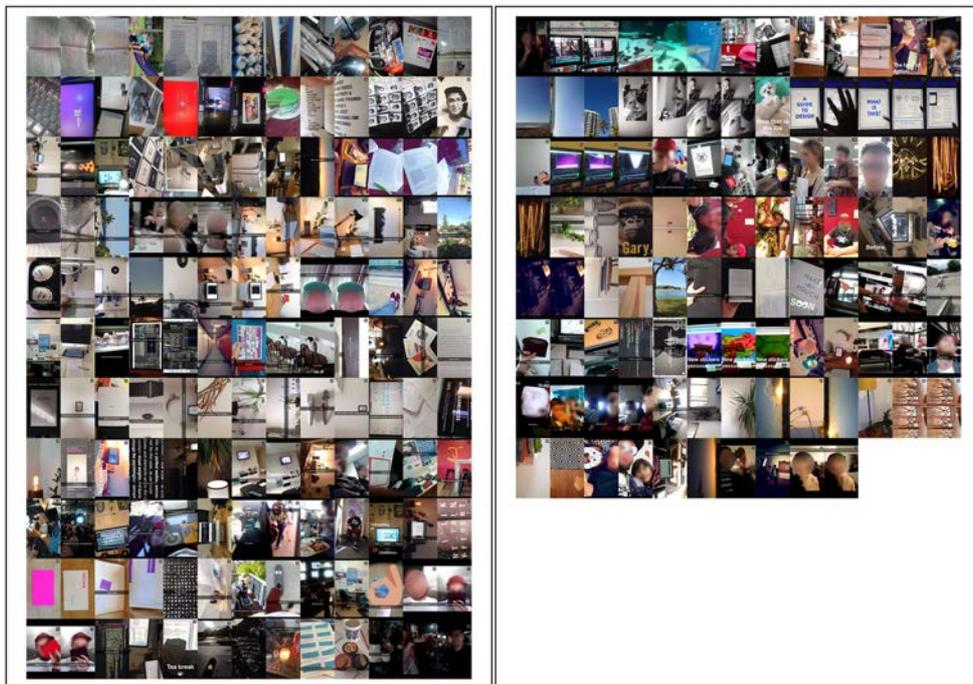


Figure 52. The Snapchat® data from Case Study 2 as posters. © L. Marshalsey, 2015.

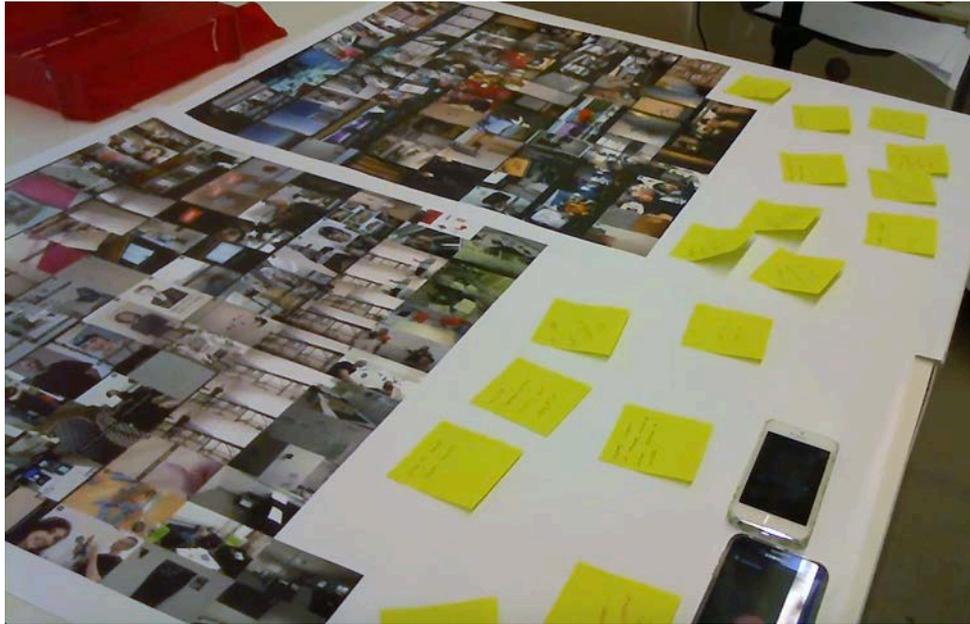


Figure 53. Reflections on Post-It® notes of the Snapchat® images from both case studies.
© L. Marshalsey, 2015.

The Case Study 1 participants studied each set of posters, beginning with their own set. I left the participants alone for a few minutes as they began writing reflections on Post-It® notes onto each set of posters (Figure 53). I then began an open focus group discussion on their interpretations of each set of images. Very early on in this session, the Case Study 1 participants reflected upon the differing studio culture and environments between the UK art school (each student having their own assigned desks with personal artefacts and a dedicated physical face-to-face studio culture) and the Australian participants (who are familiar with no-desking and a transient ad hoc studio culture composed of physical, virtual, and blended environments). Toby stated: “Looking at them in comparison, I think maybe the Australian participants, there was less community going on and maybe a lot of them working on their own a bit more” (Appendix B, p.153, l.4). Robyn also observed: “There's not many studio photographs compared to us. All ours are predominantly in the studio. Compared to the Australians, it's mostly either at home or selfies” (Appendix B, p.153, l.6). As a UK student, Toby expressed his surprise at the Australian Case Study 2 participants’ preference to work from home in the images, as the participants within Case Study 1 normally choose to work from

home only occasionally. He said, "Yes, the dog [in an image] surprised me because I was just like, "Why is there a dog in that?" Then it dawned on me, [it's] because they're working from home" (Appendix B, p.157, l.75). These comments reflect my surprise and sadness at the realisation that my Australian participants did not want to work in the spaces I teach in, or to spend time learning together as a peer group or via their timetabled interactions with the staff and myself. This realisation expresses my previous experience of studio learning, and at this point I realised that the participants from both case studies may not have had the same experiences as I, in their design education.

The Case Study 1 participants also connected the preference to work at home with a changing studio practice within Case Study 2, as Jill said, "Quite a lot look like they're computer based, whereas compared to us, we've got paper" (Appendix B, p.156, l.49). Toby agreed: "it just seemed like they were a lot more mobile" (Appendix B, p.154, l.15). The participants from Case Study 1 also observed that the Case Study 2 participants were more digitally inclined than them as they were using Snapchat® more fluently and more often: "Maybe what we think is too much digital isn't actually, like looking at this now, when you see how digital the work seems, even down to the fact they seem to know how to use Snapchat better than us... they've got emoji's and stuff, which I wouldn't even [do]" (Appendix B, p.157, l.62). Jill reflected: "Then I wonder if that's our different take on what we were supposed to be Snapchatting too. I felt like when we were doing it, we were remembering to Snapchat you when we were in the studio, where... these guys might have... been more willing to Snapchat you with everything that was going on" (Appendix B, p.153, l.7). Jill had also identified that the Australian participants may be less satisfied within their experiences of studio education and be more willing to evidence this via the Snapchat® data than the UK cohort. Robyn had written on one Post-It® note: "I've written 'we look more student like', ... I feel like their students look more commercial" (Appendix B, p.155, l.29). Toby supported Robyn's view of an embedded studio community in Case Study 1, as he said, "Maybe it looks [like we are] more like a community" (Appendix B, p.155, l.30).

5.2.2.10 *Post-case study: Case Study 1 view the Case Study 2 filming data*

In the same session, the Case Study 1 participants viewed the Case Study 2 filming data as a cross-case reflective activity. They did this directly after viewing the Snapchat® exercise from Case Study 2. Sharing the data between the two case study sites was important to reflect upon their own, and others studio community. The participants could download and view their own Snapchat and film data from a secure online Dropbox® for each of the case studies. Furthermore, the consent form distributed at the beginning of each case study clearly stated that I would not use the research data collected for any other reason than for PhD purposes. The students on the footage remained anonymous during the viewing of the video data as I had partially edited the footage so that no names, voices, personal references or locations were shown that could potentially identify individuals or the case study institution.

When viewing the film footage from Case Study 2, the Case Study 1 participants reflected on their own studio community and observed that: “Even though we were not actually doing any work, we were up and about, talking, making tea, socialising. They seemed quite isolated compared to everybody else” (Appendix B, p.158, l.79). Jill observed: “Honestly, to me, their studio looked more like a secondary school than a university, just in the way that the tables were laid out. Then when they walk into the room, there was two people sat at a table and all these empty tables” (Appendix B, p.158, l.80). Toby agreed that their studio environment was a direct contrast to their own: “...No variety, no clutter, nothing... totally bare... more officey than ours I think. I think ... we're a bit more expressive within that environment. The tasks as well they were filming, they were all solo tasks, whether it was photocopying, printing stuff, folding things, looking at their work. It was computer, solo, and there was no chatting to people as much” (Appendix B, p.158, l.83,85).

5.2.3 Reflexive activities as individuals

This set of ethnographic research methods used to acquire insight differs from the group workshops, as they are more suited to being individual reflexive tools of documentation rather than enactive and collaborative group data-gathering methods. These reflexive research activities investigated the differences between group and individual participants in terms of awareness, involvement, and concerns about students' Communication Design studio learning from the singular perspectives of the participants and me. In participatory focus groups, 'group think' can interfere with individual expression and the opinions or dominant views of others may sway participants (De Groot et al, 2013). The reflexive methods summarised in Table 4 are examined in more depth below to contextualise their usefulness in the case study.

In my capacity as a researcher, I sought to gain trust from the participants by observing them in a natural studio setting, so I may provide an authentic and insightful account of the role that studio plays in the teaching of Communication Design. My initial impressions and interpretations, as an immersed observer, arise from observing activities, people, and events in order to identify the factors that influence student orientations and engagement in studio learning. The following sections depict my ethnographic observations of the community of practice and culture-sharing studio.

5.2.3.1 *My observational field notes*

In Week 5, I chose to spend a short amount of time sitting adjacent to each student's desk as I directly observed him or her while making these notes (Appendix A, 15.1). In an attempt to make each student feel as comfortable as possible during observation, I advised them that I would be silently watching them and writing journal notes. I clearly expressed to the participants that I would offer no contribution or feedback to their tasks, projects, rituals, or behaviours and I required no direct participation from them. No prompts were used as an aid to gather observational data of their behaviours. However, in gathering observational studies, there is a

potential for a degree of bias from my position as a Design educator and for the participants to react uncharacteristically while being observed.

Observing student Jill's desk, I identified visible office-like semiotic codes in the data: exit signs, wheelchair signs, lists, arrows, and headphones (Figure 54). There was little mess and no wet materials visibly in use, such as paint or ink. This may be reflective of Jill's preferential way of working, the project she is working on, or the limitations imposed by having a small desk. This may also be a result of a changing practice over the past several years, as design studio practice has embraced digital, web-based, and interactive modes of thinking (5). I became more aware of this notion prior to observing the remaining two participants' workstations.

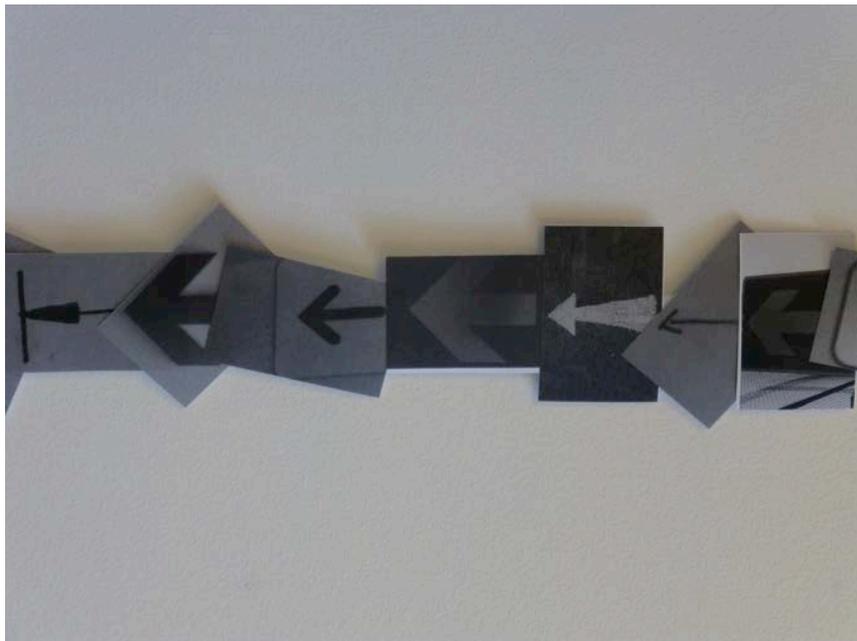


Figure 54. Artwork from Jill's desk. © L. Marshalsey, 2015.

Each student had a Macbook® laptop positioned on their desk, emphasising digital preferences to the way that the students research and make work. I observed each student creating their singular micro-environment when they were occupied with their Macbooks® within the context of the larger studio setting. This is typified in their responses to other studio members: if they

are interrupted, the students have to drag their eyes away from their screen or ask the person interrupting them to repeat their question or statement. The students gravitate towards their Macbook® during group conversations as these digital tools and technology can assist the students to avoid physical face-to-face interaction or enhance their online social networking in the studio. In contemporary studio education, the social networks perform differently between digital platforms and physical face-to-face interactions (6). The preliminary categories emerging from my observational field notes are shown in Table 13.

- | |
|--|
| (5): Using digital, web-based and interactive modes (in studio practice)
(6): Digital and physical social network platforms
(7): Space (for creativity, space for ergonomic comfort and space for storage) |
|--|

Table 13. The preliminary categories emerging from my observational field notes. © L. Marshalsey, 2016.

In addition to their digital tools, the participants have materials and belongings situated above and below each of their desks, draped over their chairs, pinned to their boards, and attached to their individual wall space. They often sit cross-legged to avoid the debris underneath their desks, and they are limited in their choice of ergonomic positions: “My knees don’t fit under the desk very well and I’ve got quite long legs” (Appendix B, p.15, l.99). The lack of space for creativity, ergonomic comfort, and inadequate storage in a populated studio environment are issues as the participants expressed notions of feeling restricted and confined (7): “I’m making a buzz wire game. I want to make it 2ft tall but I’ve got no space” (Appendix B, p.145, l.70). Similarly, Toby aligns his body with the edge of another student’s desk in the studio as shown in Figure 55, and his back faces into the communal open recess leading to the Illustration studio. Passing students are able to watch over his shoulder as he works. This might make him feel uncomfortable as others move around him, in the tightly packed studio layout. Indeed, as I observed Toby, I felt a degree of discomfort as I mirrored his seated position close to him. I reflected on the occasions I have felt awkward in and around my own learning spaces as I interact with students, and that perhaps I often rush my exchanges with students as a result of a sense of impermanence and unease in certain locations.



Figure 55. Toby's desk position in the studio. © L. Marshalsey, 2015.

My documented observational notes generated intense interest from the participants in the research rug reflective session. The participants were surprised that their experiences were noticeably visible to me and that I might share in them. They began to develop an awareness of these shared studio experiences of sensory affect, as Jill said,

I think that this is really interesting, just like the observations that you are making are different to what we've made – but similar in some ways, so [we] can take... a wider look at things whereas each of us have got a personal connection to our desks but you're able to look at each of us at our desks and see... a step back. I think that's really good. (Jill, Appendix B, p.69, l.52)

Supplementary to this, I photographed and profiled each student's desk over a six-week duration to ascertain his or her changing forms of place-making, learning, and practice in the studio environment (Figure 56). Their artefacts, both personal and practice-led, shifted and

altered according to their preferred modes of practice for project briefs but also due to their influences, social behaviours, and individual rituals at that time (8). When reflecting on this activity in the closing stages of the case study, the participants were intrigued by the timeline of images documenting their own evolving workstations. They also shared opinions of their contribution to the overall studio mess on the Post-It® note reflections, as they perceived (9): “Mess in every space. So chaotic. How do I work like this???” and “Same course, different ways of working, different desks”. Robyn was particularly self-conscious regarding her contribution to mess in the studio. It was evident in the data that she had made a conscious effort to structure her process (she introduced a Post-It® note notice board system at her desk), to tidy her workstation, and to reduce the clutter (as she described it). I sensed that she had developed a heightened awareness of this issue, particularly as I had photographed her workstation for several weeks. I observed Robyn’s attempts to keep it tidy when I documented their desks, as she thought I might not be able to interpret her creative process if mess concealed it.

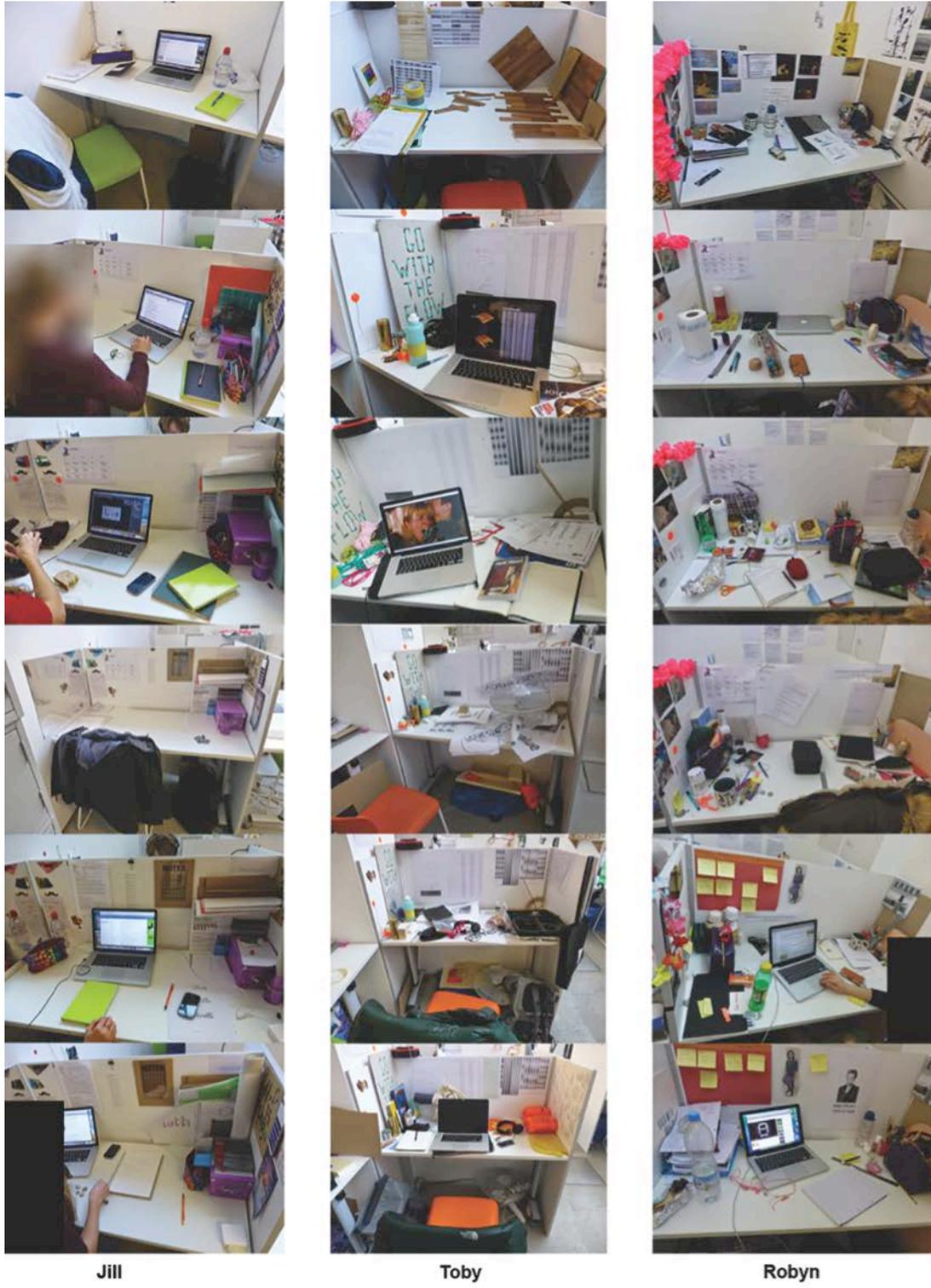


Figure 56. The evolution of each student's desk, photographed week by week. © L. Marshalsey, 2015.



Figure 57. Artwork in the informal sofa area. © L. Marshalsey, 2016.

Alongside various items of artwork I noted food containers, tea bags, cutlery and a kettle (10) (Figure 57). This surprised me as most institutional health and safety regulations ban food and drink from learning spaces mainly due to food and drink-related spills and damage, and decaying food waste. The Case Study 1 participants verbally conveyed to me that the smell of chips infiltrates their workstations from the neighbouring café. Yet, eating lunch or drinking tea was acceptable inside this studio at the students' own workstations and in the informal sofa area. The participants also seemed to combine social interaction, eating, and working as part of necessary studio life. Bringing food and making tea for other studio members serve as ritual community of practice acts. The preliminary categories emerging from my observational photography are shown in Table 14.

- | |
|--|
| (8): Using artefacts (and place-making)
(9): Studio environment (mess)
(10): Nourishment (in the studio) |
|--|

Table 14. The preliminary categories emerging from my observational photography. © L. Marshalsey, 2016.

5.2.3.2 *My visual observations of the studio*



Figure 58. A section of the open-plan studio inside Case Study 1 in the UK. © L. Marshalsey, 2016.

In the initial weeks of the case study, I photographed the studio to document and visually contextualise the open-plan space in which the research study was conducted within Case Study 1 (Figure 58). This learning space is occupied with a year group of approximately 40 students with allocated desk space for each student. The students are all familiar with each other as they have progressed together in the same year group during their four-year degree and they occupy this one studio on a daily basis.



Figure 59. A series of images of one student's workstation moving from an intimate perspective (top left) to their position in the wider context of the studio (bottom right). © L. Marshalsey, 2016.

The series of images shown in Figure 59 move from an intimate perspective of one student's workstation (top left) to the position of this student's workstation in the wider context of the broader studio (bottom right). From my observations, this studio contained communal worktables, refuse bins, the noise of a photocopier, and lockers in close proximity to the students' allocated desk spaces. To the left of the image was the main studio door, so this area was the main thoroughfare in and out of the studio for dozens of students. A high turnover of people used these communal places and routes, which meant regular interaction and interruption for the students using the desks placed on these routes, and several interruptions were evident in the GoPro® filming data footage. To the right of this image, the studio opened up into open-plan, with many similar workstations Figure 58). I observed that sensory affect intruded on the student who worked at the desk shown in Figure 59: firstly, from the social and visual interruptions instigated by the space, the furniture and layout (1); secondly, from the smells of refuse, aerosols, paper and food (2), and lastly, from noise that originated from technology, machinery, music, people and the studio architecture (3) (Table 15). The identification of these impressions also arose from my own experiences of people, smells, and sounds in studio learning and the preliminary categories emerging from my observations of the studio are shown in Table 15.

- | |
|--|
| (1): Social (social and visual interruptions caused by space, furniture, people and layout)
(2): Smell (in the studio)
(3): Sound (from technology, machinery, music, people and architecture) |
|--|

Table 15. The preliminary categories emerging from my observations of the studio. © L. Marshalsey, 2016.

5.2.3.3 *Sound recording in the studio*

To gain a broader overview of the noise in the studio I made sound recordings. I made a number of these in order to outline a factual representation of studio sound. Furthermore, the recordings took place in differing locations inside the studio throughout the first six weeks of the schedule, as shown in Figure 60. Each numbered location refers to a specific recording. Most locations refer to one recorded session at one location. However, locations '3' and '4' were recorded in one session, as were locations '5' and '6'. A hand-held Zoom H2N sound recorder was used to record six sessions, lasting between 5 minutes 26 seconds and 33 minutes in length.

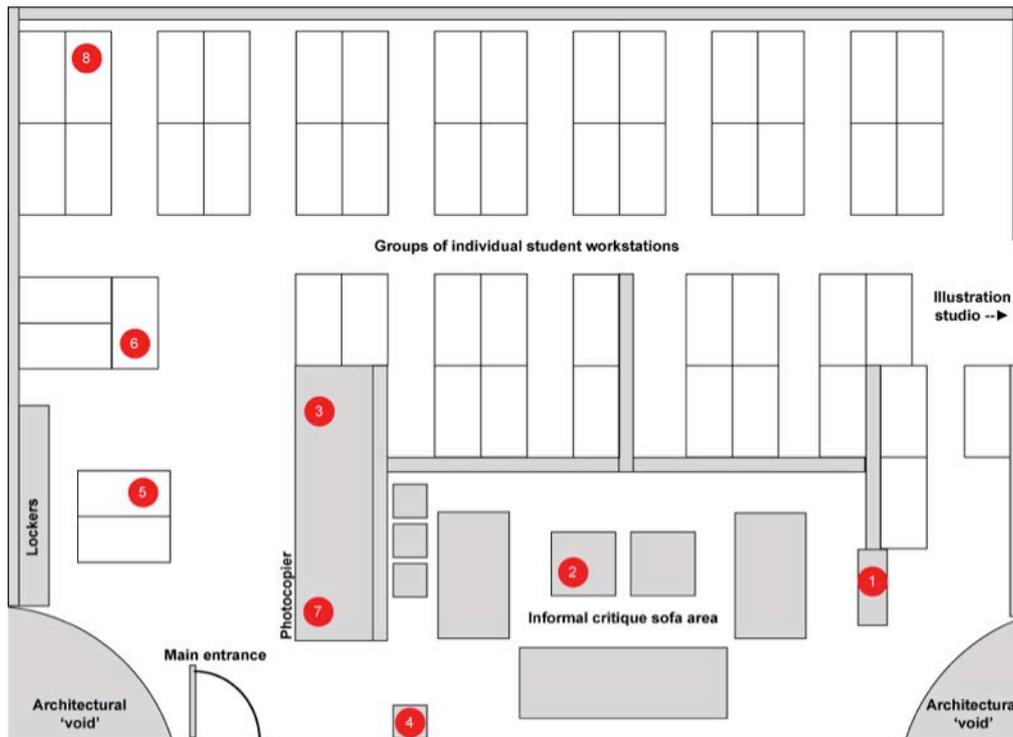


Figure 60. Sound was recorded in the studio in differing locations each week. © L. Marshalsey, 2015.

The sound recording of the studio during the first week (location 1) audibly conveys the social aspect of the studio and the open-plan environment. Student voices maintain a constant background hum as conversational sounds fluctuate in several areas; the informal sofa area is quieter and less populated although affected by sound travelling from other areas of the studio. The students themselves mainly generate the production noises: bangs, chairs scraping, doors opening, and the noise of the paper trimmer. The visual comparison between the two sound waves captured during a busy, industrious day when the studio was populated with students (Figure 61) contrast with the sound waves captured during a quiet, less industrious day when the studio was populated with few students (Figure 62).

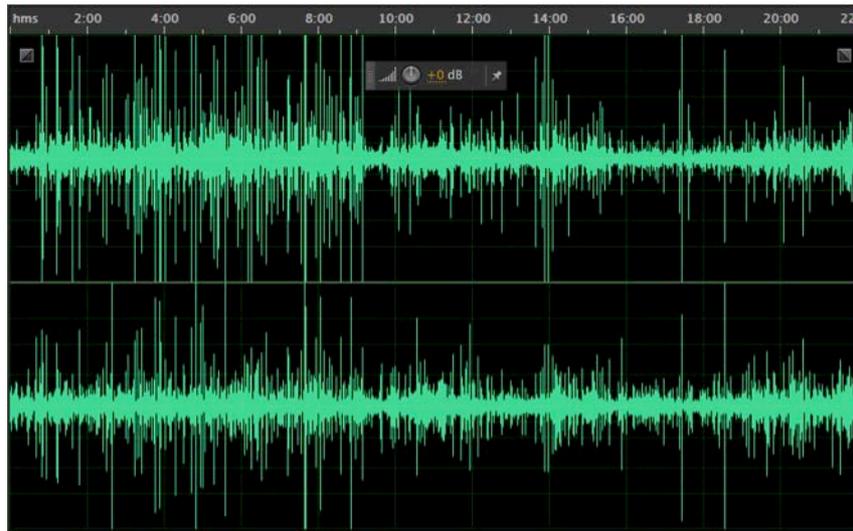


Figure 61. Sound waves captured during a busy, industrious day when the studio was populated with students. © L. Marshalsey, 2015.

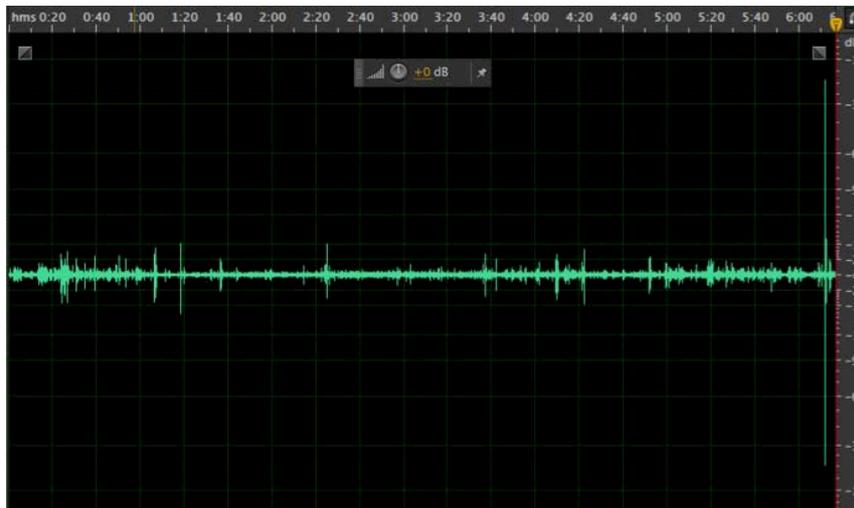


Figure 62. Sound waves captured during a quiet, less industrious day when the studio was populated with few students. © L. Marshalsey, 2015.

I observed many students present in the studio that day that were visibly working. I heard the conversations discussing projects, the different accents, murmurs, hums, echoes, sound of running water from pipework, footsteps, and laughter. However, my subjective observations relating to sound might be susceptible to bias, as other researchers or participants may not perceive what I recognise as a quiet or noisy studio in the data. I observed several students wearing headphones (Figure 55) and one student with both silent headphones and additional earplugs, in an attempt to maintain focus and engagement while working on a project in the studio environment (4). I supported the sound recordings with visual observations and

observational note taking as a means to understand and observe the impact of sound as a sensory affect, among others. The preliminary category emerging from the use of sound recording in the studio is shown in Table 16.

(4): Using tools and methods (to explore sensory affect)
--

Table 16. The preliminary category emerging from the use of sound recording in the studio.
© L. Marshalsey, 2016.

5.2.3.4 *The participants image-making*

The students' own participatory image-making as a process allows for reflexive learning. In the first week of the case study, I distributed A5 blank sketchbooks to the participants to visually populate with their critical experiences and multiple perspectives of studio learning. Using their everyday experiences as stimuli, I assumed they would document and share their involvement in the studio community through drawing, to critically reflect their individual interpretations of sensory affect. However, following an informal discussion, it appeared they were not enthusiastic at the prospect of using the sketchbooks. This was due to three reasons: time spent populating them added to their daily work load, as this task required thought and effort in addition to their normal studio projects; and from my own observations, I could see they were not yet able to reflect on their active role in the case study. Lastly, their experiential awareness of their position within studio was not yet apparent to them in the early stages of this investigation; the participants were unsure of how to proceed or document sensory experiences in sketchbooks. Consequently, I then evolved this method into a blog. I gave each student access to the blog as unrestricted authors to stimulate dialogue, to reduce the pressures of time through using this quick digital and portable method of written story telling. However, the participants did not populate the blog, despite my own developing blog posts, which were visible to them as encouragement. This method was subsequently removed from the methodology in Week 4 of the eight-week study.

In contrast to the reflective diaries, the Snapchat® mobile application flourished as an ethnographic image-making method with the participants. As outlined in the previous methodology chapter, Snapchat® allows a fun, quick, visual documentation of studio life. Between them, the participants produced 82 Snapchat® images from the beginning of the case study in September 2014 to its conclusion in December 2014. Post-research, 12 Snapchat® images were created once the case study had concluded. Indeed, it became a prolific method for data gathering and the participants actively and openly encouraged their peers to participate in this research method. When using other research methods, such as the GoPro® video filming, the students who were not researchers tended to avoid participation when recording was taking place. Yet, when using Snapchat®, a true reflective account of the studio fabric quickly emerges with the enthusiastic participating studio members and the social aspect of studio is expressed more readily (Figure 63). Overall, studio life became more transparent, as practical methods, classes, and play were documented quickly, illuminating the participants' studio learning, practice, use of space, and their community of practice (11) (Figure 63 and Figure 64). The preliminary category emerging from the student's image-making is shown in Table 17.

(11): Community (of practice and discovery)

Table 17. The preliminary category emerging from the student's image-making. © L. Marshalsey, 2016.



Figure 63. The participants' Snapchat® images of enthusiastic participating studio members.
© L. Marshalsey, 2015.

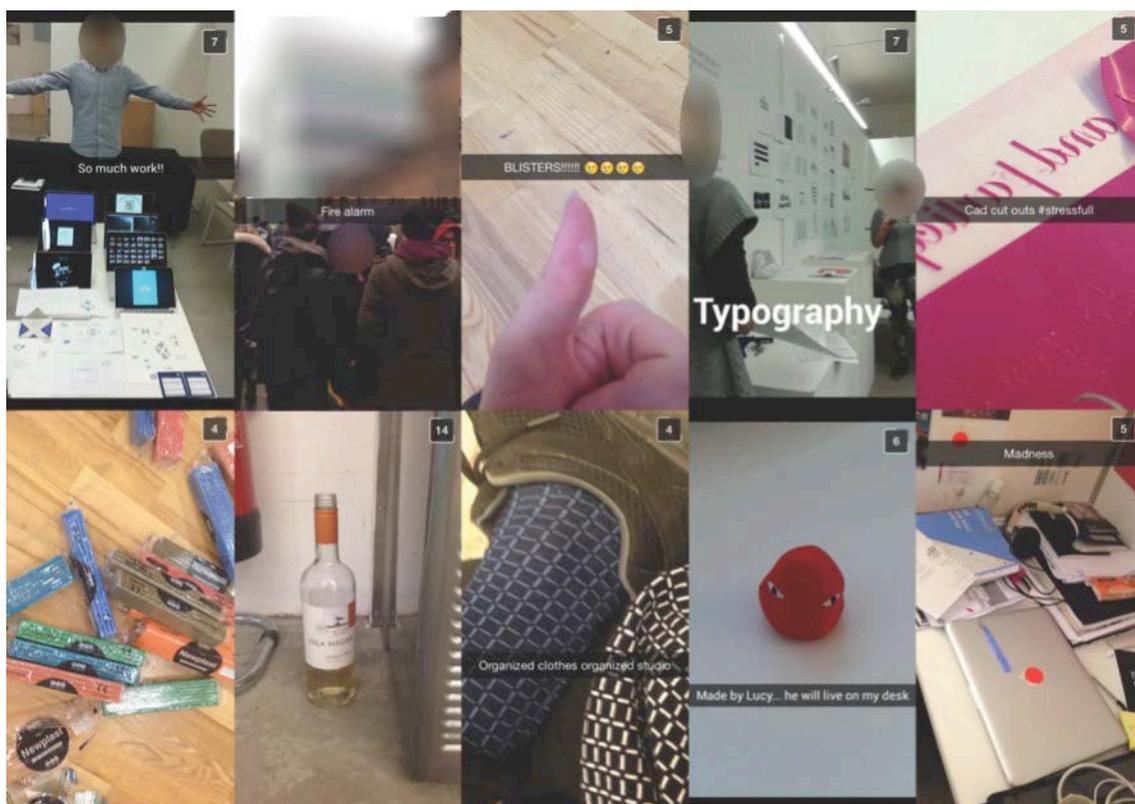


Figure 64. Practical methods, classes and play were documented quickly. © L. Marshalsey, 2015.

5.2.3.5 *Post-case study: Reflective interviews*

I returned to the art school in the UK at 6 months (June 2015) and 12 months (December 2015) after the case study activity workshops had concluded. On each occasion, I conducted 30-minute post-research reflective interviews with each of the three participants. I was keen to prompt their genuine reflections after several months had passed since the case study. How had their reflective awareness, and thoughts of, their studio learning and sensory affect changed? What was the impact on their studio practice? Had they implemented problem-solving measures into their studio learning as they experienced sensory affect on a day-to-day basis? For these reasons, the reflective interviews were initially divided into two parts. The first set of questions aimed to identify and describe any change that had occurred in the studio, their studio learning, or practice following the conclusion of the research activities. The second part asked the participants to consider reflecting back on three transcript portions from previous activity workshops that they were involved in, to discuss what the transcript themes revealed to them retrospectively, on conventional Communication resources and spaces, sound arising from people in the building, and space to work in the studio (Appendix A, 13.39 and Appendix B, 16.17, 16.18, 16.19). A recurrent theme within these post-study reflective interviews was the changing awareness and attitude towards the studio, as this student elaborates:

I've become more aware of the studio space and what we have. What I like about it and what I don't like about it. I've adapted it a bit more to make myself more comfortable... it's been easier to come into studio, which I think for me is a big difference. Normally I'd work at home... But I don't think I've worked at all at home this last term... quite a big change for me and I think I've benefitted from that... which obviously means I'm quite comfortable in the studio now. (Jill, Appendix B, p.102, l.74,76)

The participants were also able to identify problematic criteria more easily. They attributed their evolved studio practice, which favours digital outputs, to the lack of wet areas in the studio (5): "They've actually boarded up one of the sinks behind one of these walls for the degree show.

They've kept it that way... Why board up a sink? Why?" (Appendix B, p.14, l.81,83) and "I don't do anything other than paper, pens, digital stuff in this studio" (Appendix B, p.14, l.82). The participants sought to work with the challenging issues and restrictions arising from their experiences of sensory affect within their Communication Design studio, with this student stating: "I feel more at ease with the studio. I've come to terms with limitations the studio gives us and how I worked out those limitations" (Appendix B, p.125, l.28).

The participants' responses were closely bound by their engagement with qualitative experiences of sensory affect in their studio learning. There was acknowledgement of concretised themes, such as noise, the limitations for the layout and space, mess, and the social community of practice among others.

5.3 Summary

The 13 preliminary categories derive from the implementation of the research methodologies and methods to gather data during Case Study 1. This first case study in the UK has described the Participatory Action Research (PAR) approach, the narrative inquiry, and the ethnographic methods used to elicit data. The methods aligning to the research questions in Case Study 1 are shown in Table 18. In Chapter 6, I examine and build upon the initial outcomes in my examination and analysis of Case Study 1. This chapter critically examines a fuller analysis of Case Study 1 and discusses the complex coding in depth.

Research questions	Methods aligning to the research questions in Case Study 1
1.1 What role does the studio play in the teaching of Communication Design?	<ul style="list-style-type: none"> • Questionnaire • Focus group (1): informal discussion [<i>GoPro® filming</i>] • Snapchat® • Focus group (1): informal discussion [<i>Place-making</i>] • Focus group (3): cross-case reflective discussion • Photography • Observational field notes
1.2 What research methods can be developed to understand and capture sensory affect as a means to help students reflect on and manage their learning?	<ul style="list-style-type: none"> • Focus group (2): practical workshop [<i>Logo drawing – analogue</i>] • Focus group (1): informal discussion [<i>Sonic-mapping activity</i>] • Focus group (1): informal discussion [<i>GoPro® filming</i>] • Snapchat® • Focus group (2): practical workshop [<i>Student-led workshop</i>] • Sound recording • Photography
1.3 What meaning do students attribute to sensory affect?	<ul style="list-style-type: none"> • Focus group (1): informal discussion [<i>Sonic-mapping activity</i>] • Focus group (1): informal discussion [<i>Research rug</i>] • Reflective interviews – individual
1.4 How might Communication Design studio education pedagogy be adapted to support and develop an explicit exploration of the role of the senses in learning?	<ul style="list-style-type: none"> • Focus group (1): informal discussion [<i>Research rug</i>] • Reflective interviews – individual • Focus group (3): cross-case reflective discussion

Table 18. Methods aligning to the research questions in Case Study 1. © L. Marshalsey, 2017.

6 CASE STUDY 1: ANALYSIS AND INTERPRETATION

6.1 Introduction

In the previous chapter, I described the student actors, the natural settings, and the research activities of Case Study 1. Here, I begin to understand the perceptions surfacing from the collected narrative data and develop a fuller analytical interpretation of this qualitative investigation. The data I present in this chapter will be used to present the main findings in Chapter 9, and Chapter 8 examines the data from Case Study 2 in the same manner.

6.2 Managing the case study data

This research investigation closely adheres to the process of analysis that Creswell (2013) outlined in his data analysis spiral. Creswell (2013, p.183) designed the four tiers of this spiral to define the simultaneous processes involved in analysing qualitative data, beginning with the data collection stage and its organisation, then reading, memoing, and classifying categories of data, and ending with the concluding account (Figure 65). It should be noted that the process of analysis applicable to the case studies in this research investigation is original. The analytical framework described in this chapter and Chapter 8 is influenced by the work of others (Birch, 2011; Cavendish, 2011; Varbelow, 2015) and informed by a number of sources and strategies, which have been modified to best suit the qualitative, narrative inquiry of this study.

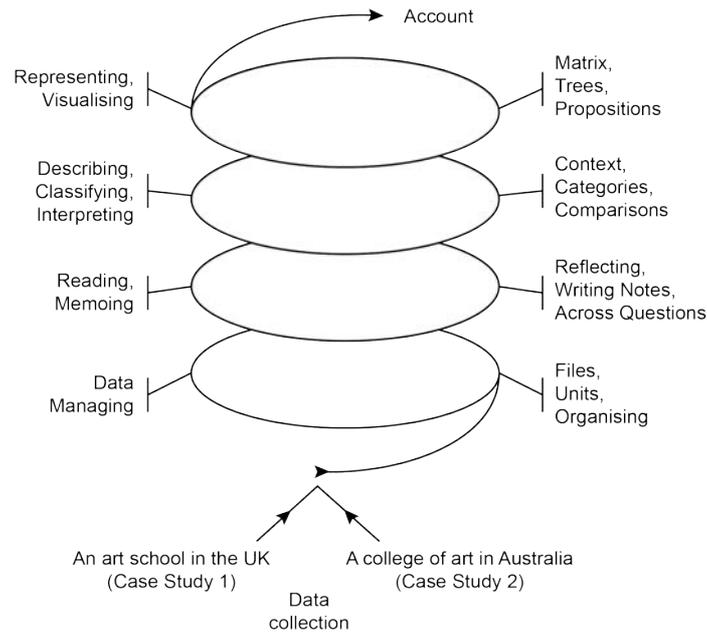


Figure 65. The Data Analysis Spiral diagram modified from Creswell (2013, p.183).
© L. Marshalsey, 2016.

The complex, multiple case study exploration of Case Study 1 in the UK and Case Study 2 in Australia produced visual, narrative, and sensory empirical data. This provides a pooled data collection greater than its distinct parts, from which patterns, categories, and themes can be identified. The data from the two sites has been managed and organised via two detailed systematic case study data archives securely stored and password-protected on an external hard drive (with Case Study 2 fully unpacked in the following two chapters). These archives comprise electronic folders for each week of the case study, with subfolders of the data source; including photography, Snapchat® data, interview data, and so on. The case study methodological data archiving forms the first revolution of the data analysis spiral (Figure 65). The accompanying appendices chronologically orientate the reader through examples of the data inventory resulting from the research activities within the two case study investigations.

6.3 Developing the four-stage approach to analysis

The four-stage approach to the analytical strategy taken in this investigation has specific characteristics. These are representative of the close reading of the narrative inquiry as a

means to generate initial categories to later form the key themes (Saldaña, 2016). This approach is similar in nature to the transcription process and thematic narrative analysis of Birch (2011), the narrative coding of categories in Cavendish (2011), and the analysis of narratives in Varbelow (2015).

The four stages of the chronological analysis of Case Study 1 can be understood in Figure 66. In the pre-coding stage, I circled, highlighted, and underlined notable data, as the raw data was collected, so as to prompt or trigger later reflection (Saldaña, 2016). Stage 1 comprises the formation of the preliminary categories from the researcher's subjective immersed reading, highlighting, and memoing of the transcripts. Stage 2 collapses these preliminary categories to form four broader descriptive codes: communities of practice, sensory affect, place/space, and tools. Stage 3 pursues an in-depth, low-tech analysis involving the revisiting and unpacking of the four descriptive codes in greater detail, and then cross-matching them directly back to each student's specific narratives. This step in the analytical process acts as evidence and verification of the thematic development so far. This stage faithfully returns to the actual phrases and descriptions in context, and this activity is not drawn from my personal perspective, as Stage 1 was. Stage 4 organises the collated concepts arising from Stage 3 into larger units of abstraction to concretise the key themes underpinning the findings of this investigation. These systematic stages of Case Study 1 are each examined in depth in the remainder of this chapter.

Stages of analysis - Case Study 1

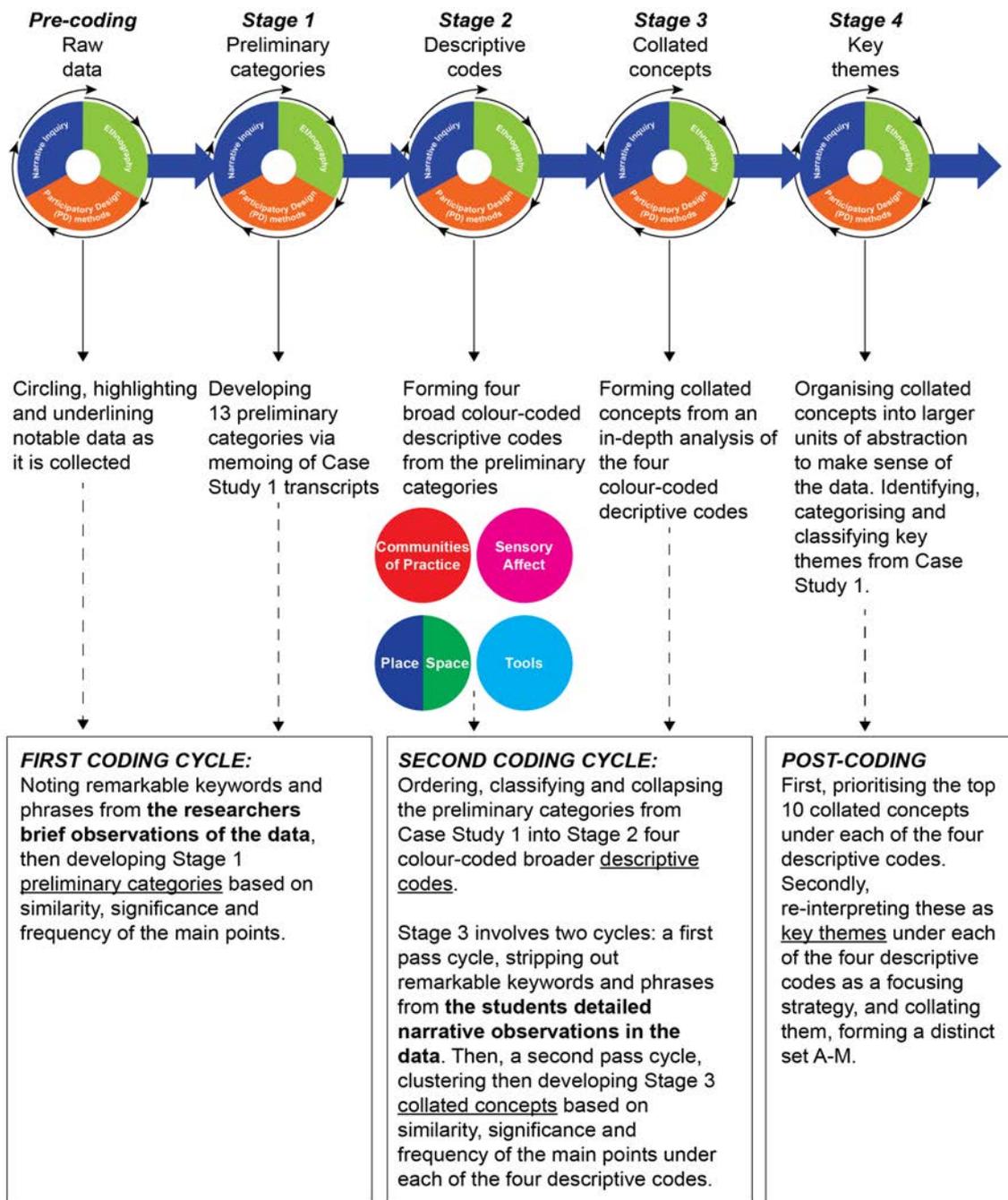


Figure 66. The four stages of analysis of Case Study 1. © L. Marshalsey, 2016.

6.4 Stage 1 analysis: Forming the preliminary categories

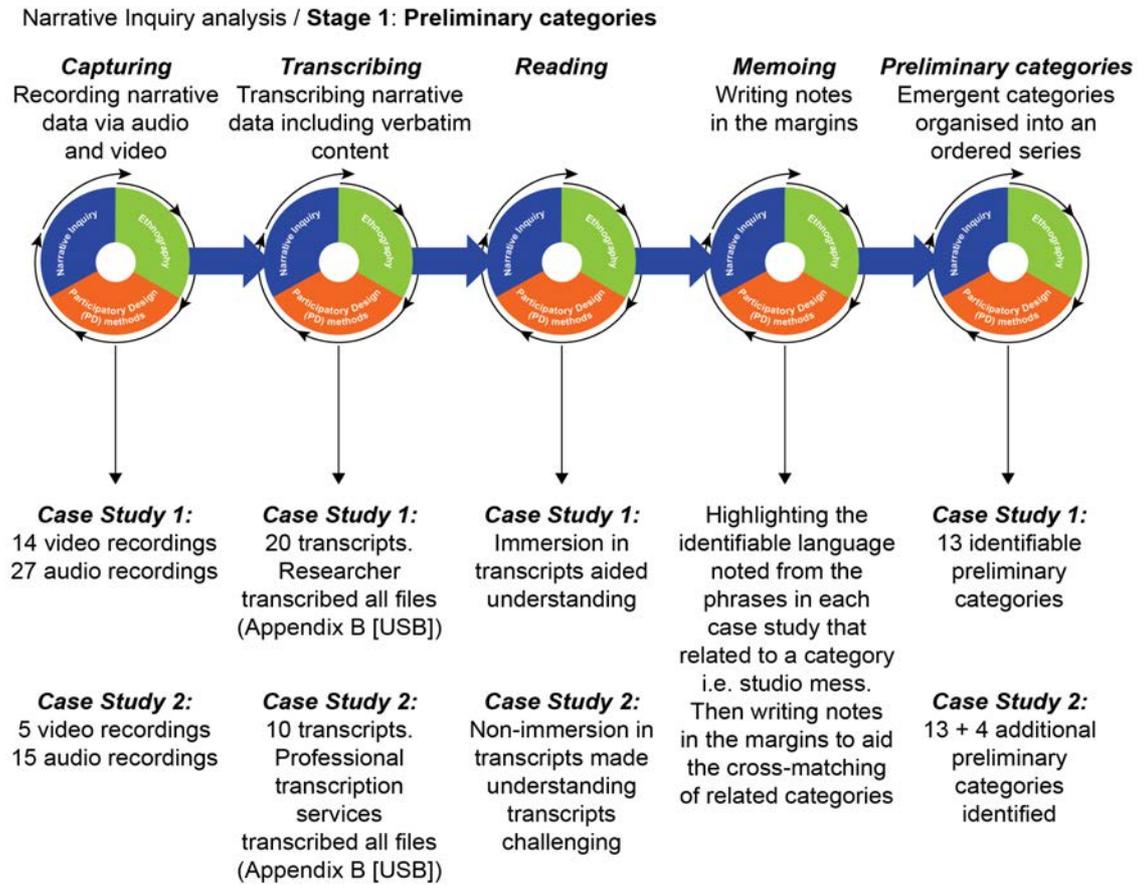


Figure 67. The process of Stage 1 analysis: Capturing data, transcribing, reading and memoing to form the preliminary categories. © L. Marshalsey, 2016.

Deciphering emergent categories from the interviews, focus groups, and workshop transcripts comes from reading, re-counting and reflecting on the stories and experiences drawn from the participants and me at each of the case study sites. The first steps of the four-stage process of analysis include capturing data, transcribing, reading and memoing the narrative data to form the preliminary categories as shown in Figure 67. The research activities were recorded via audio and video data, which were then transcribed into written form and the questionnaires responses collated for Case Study 1. I transcribed these files manually, which fostered a greater understanding and immersion of the data. In Case Study 2, these files were professionally transcribed. I later reflected that manual immersion when typing the content gave me more

control over and ownership of the data. I subsequently returned to the Case Study 2 transcripts to spend time refreshing my understanding of them prior to analysing them, as not coding manually had affected my initial comprehension of this data (Saldaña, 2016, p.22).

Reading through the transcript data, I began by highlighting the key words and phrases in each case study transcript that related to a potential category, as shown in Figure 68. I then wrote reflective handwritten notes and digital comments in the margins of each page to aid the cross-matching of related topics (Figure 69) and to distinguish and craft the initial categories.

This process of analysis helped to illuminate the relationship between the research questions (informed by the issues identified from the research literature) and the interpretation of data used to answer these questions. For example, the identification of 'studio mess' in the transcript shown in Figure 69, helped to form the preliminary category 'studio environment (mess)'. This also aided an understanding of the role the studio played in the teaching of Communication Design today. This analysis procedure is similar in nature to the analytic strategy devised by Huberman and Miles (1994).

32. ROBYN: Look at **the state of my desk!** Oh my god!
33. LORRAINE: But hang on a second. This is **me**, taking a photo every week of your desk. **This row here is Toby's but look** how yours evolves? It's actually **quite messy**, about Week 5...
34. TOBY: Yeah, yeah.
35. LORRAINE: But then you go to Robyn and **I don't think you are as messy as what you thought in the beginning.**
36. TOBY: You're **tidy.**
37. LORRAINE: Look, but you are actually showing signs of being **quite organised** here, your notice board.
38. ROBYN: Yeah, I'm so embarrassed.
39. TOBY: **I'm so messy.**
40. ROBYN Oh no!
41. LORRAINE: And then we look at yours, Jill.
42. ROBYN: It's **pristine.**
43. JILL: It just looks exactly the same [every week]. It's got a wee bit **more stuff on it from week one to week two.**
44. LORRAINE: It's very similar across the weeks isn't it?

Figure 68. Highlighting the identifiable language noted from the key phrases and concepts that related to a potential category. © L. Marshalsey, 2016.

30. JILL: Although that was your observations it would be interesting to see what you observe of us. I don't know if that's me just being like really nosey and wanting to know what you think. I think I would be quite interested in reading that aspect to it.

31. LORRAINE: Absolutely and after I've finished speaking I want you to revisit portions and... Sonic mapping, which I think was really successful... And then onto week 6... your GoPro®, more Snapchats®...

32. ROBYN: Look at **the state of my desk!** Oh my god!

33. LORRAINE: But hang on a second. This is me taking a photo every week of your desk. This row here is Tobys but look how yours evolves? Its actually **quite messy**, about week 5...

34. TOBY: Yeah, yeah.

35. LORRAINE: But then you go to Robyn and I **don't think you are as messy as what you thought in the beginning.**

36. TOBY: You're **tidy.**

37. LORRAINE: Look. But you are actually showing signs of being **quite organized** here, your notice board.

38. ROBYN: Yeah. I'm so embarrassed.

39. TOBY: **I'm so messy.**

40. ROBYN Oh no!

41. LORRAINE: And then we look at yours, Jill.

42. ROBYN: Its **pristine.**

43. JILL: It just looks exactly the same [every week]. Its got a wee bit **more stuff on it from week one to week two.**

44. LORRAINE: Its very similar across the weeks isn't it?

68

Self conscious about their own mess

reasoning about mess / each persons perception of it

tidy, organised (as an educator I see productive mess / signs of progress)

① tidy
② messy
③ proactive mess / creativity

mess over time / productive producing work

STUDIO MESS
prelim category

Figure 69. Reflective handwritten notes and/or digital comments in the margins of each page to aid the cross-matching of related topics. © L. Marshalsey, 2016.

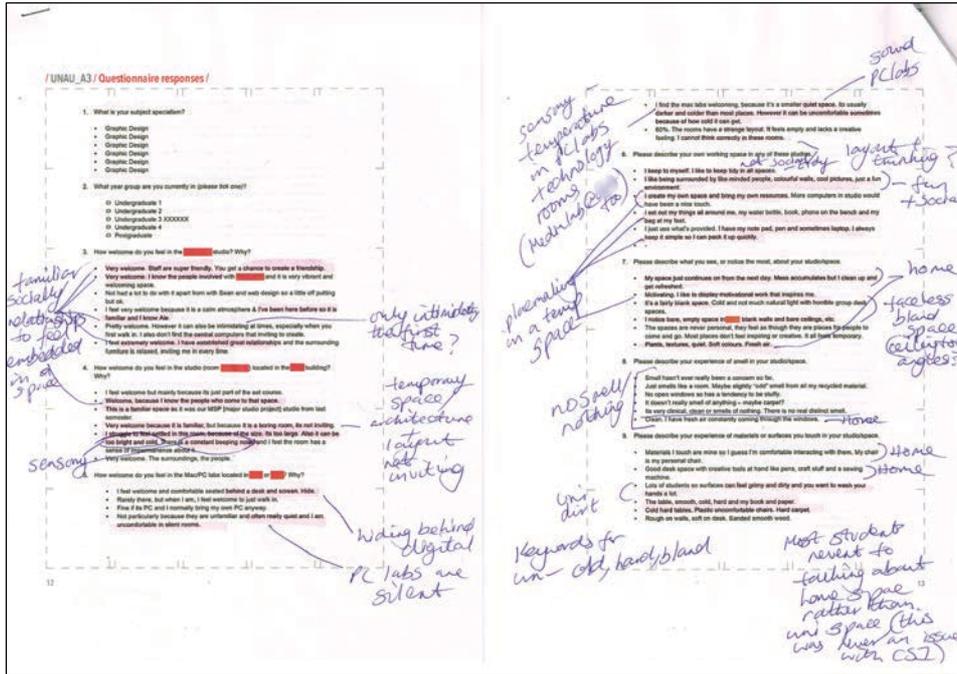


Figure 70. Stage 1 analysis: Reading, highlighting, reflecting, and writing notes and questions in the margins of a case study questionnaire. © L. Marshalsey, 2016.

This first stage – reading, highlighting, and writing notes on the questionnaire, focus group, and interview transcripts (as shown in Figure 70) – identified 13 preliminary emergent categories.

6.5 Reflecting on the storied data to form the preliminary categories

Numerous insights were identified from the storied patterns, as they evolved from reflectively analysing the within-case data. I made metaphors and meaning from the detailed and descriptive narratives (Huberman and Miles, 1994; Huber, et al., 2013). Reflective analysis is the capacity to reflect on action; this process enabled the participants and me to learn from our stories of previous actions, critical events, and experiences in order to inform our practice and community within the studio. The value of socialising together, informally discussing projects, and helping each other with tasks became noted as important aspects of practice as Robyn verified post-case study: “Even though we were not actually doing any work, we were up and about, talking, making tea, socialising” (Appendix B, p.158, l.79). Moreover, this process provides strategies to bring pertinent themes out into the open. Deliberate and conscious

reflective analysis, as a form of mental processing, prompted questions and revealed things the participants and I may not have known. Assessing the value and judging the quality and importance of the research data aids the evaluation of this investigation, since “reflective practice can enable practitioners to learn from experience about themselves, their work, and the way they relate to home and work, significant others and wider society and culture” (Bolton, 2014, p.2).

Taking the time to reflect was critical in order for the participants and me to understand and respond to the most valuable information that surfaced from a comparison of the methods we used in order to understand sensory affect within our main working environments. This allowed the participants to facilitate active control over their daily studio environment by using these methods and to manage the ways in which the specific experiential characteristics of sensory affect impacts upon studio learning. I intend to review the theoretical outline of this investigation later in this thesis to make sense of the interpreted findings and possible application. I also work within this theoretical framework to underpin the analysis of the rich data sets gathered from the two case studies.

6.5.1 Analysing narrative inquiry of focus groups

Analysing narrative inquiry of focus group data should include a summary of the most important themes, the most noteworthy quotes, and any unexpected findings (Breen, 2006, p.472). A narrative analysis extends beyond what people say, and into how they say it, into layers of meaning. Various patterns and categories may change in importance as participants debate, agree, or contest areas of discussion. It is important to take into account “the extensiveness, intensity and specificity of comments made” and the frequency and extensiveness to which the participants agree or disagree with the considered issues (Breen, 2006, p.472). The narrative analysis in this study is based on identifying three elements: interaction (personal and social); continuity (past, present, and future); and situation (physical or storied places) (Creswell, 2013, p.189). In addition, I requested that an independent research colleague analyse and cross-

check a portion of the focus group transcript data as a means to validate my codes and to aid my interpretation of the larger meaning of the stories (Figure 71).

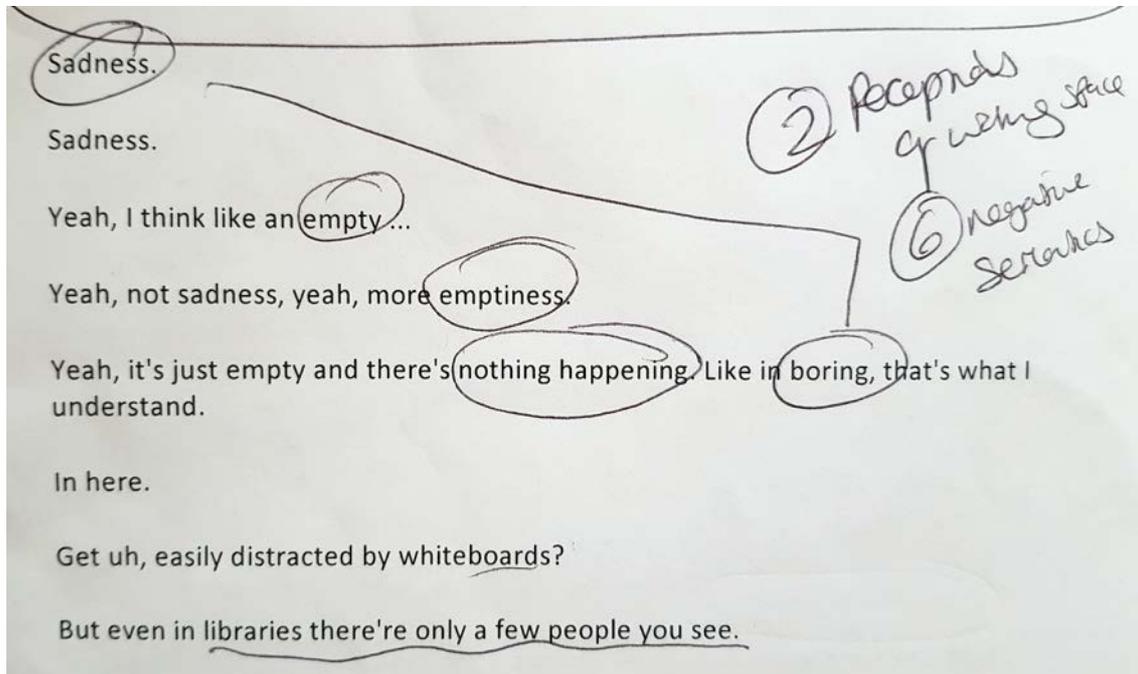


Figure 71. An independent research colleague analysing the focus group transcript data.
© L. Marshalsey, 2016.

6.5.2 Phenomenographic analysis of interviews

When conducting phenomenographic analysis of the interview data, it is imperative that I, as the researcher, consider both the 'what' aspect of the phenomenon and the 'how' aspect of the participants' stories. The objective of this phenomenographic analysis is to develop categories of description (linked to and guided by the research questions), that explain the number of qualitatively different ways the participants and I experienced a phenomenon within Communication Design studio learning. Initial descriptions of the 'what' and 'how' were grouped into patterned structures and these were then assigned preliminary categories. The categories were devised by seeking variation between responses, and the similarities among the statements appearing within the categories (Drew, 2004). For example, the narrative transcript in Figure 72 shows the usefulness of informal peer feedback when the participant experimented

with creative work within the physical studio in this instance. Here, patterns can be assigned to 'practice' and 'community', from which a preliminary category was generated (11): Community (of practice and discovery). In other portions of the transcripts, the participants voiced that social interruptions to creative work were frequent and disturbed their flow, allowing for the formation of the preliminary category (1): Social (social and visual interruptions caused by space, furniture, people and layout).

LORRAINE: And how did you produce them? Did you hand print them or?

*JILL: No it was mainly Indesign but with photography and stuff so one of the ideas was based on material and photographing them so I did that and was playing with them in Indesign and the other one was text but it was a lot of found images and stuff. I sourced quite a lot of those images because they were quite specific to what I wanted. For each of them, the point of that, I could have taken each of them off in different directions and focused on one. **But I think its good being in the studio because you get a lot of other peoples feedback.***

LORRAINE: And it stimulates interest.

*JILL: You are like 'I can keep going with this'. **You can definitely push yourself more than if it was just you at home. It does make a massive difference.***

Figure 72. Portion of an analysed interview transcript. © L. Marshalsey, 2016.

6.5.3 Supporting visual data

The visual data arising from the ethnographic methods supports the narrative and phenomenographic data analysis and the emerging preliminary categories. The still images, such as the Snapchat® data and observational photography, endorsed subtle expressions and meaning in the visual analysis. The image in Figure 73 supports Jill's narrative as she said: "My knees don't fit under the desk very well and I've got quite long legs" (Appendix B, p.15, l.99). Moving image data, such as the GoPro® footage, can be coded in several in-depth ways by replaying each recording multiple times while focusing on different patterns and categories. However, Heath et al. (2010) advise against coding directly from video data and instead

recommend using it as an inductive mechanism that supports a parallel qualitative analysis alongside social interactions and conversational, visual, and material interplay (Saldaña, 2016, p.62).



Figure 73. Observational photography of Jill's desk. © L. Marshalsey, 2016.

6.6 Stage 2 analysis: Classifying the preliminary categories into four descriptive codes

To clarify the four-step process of analysis used in this investigation, in the first stage (Stage 1) the initial key categories were identified from my brief observations of the detailed, descriptive transcripts of meaningful focus group, interview, and questionnaire accounts. These were then organised into a series of **preliminary categories**. This first coding cycle emphasised the highest concentration of 13 recurring preliminary categories identified from the initial analysis of Case Study 1. These increased to 17 following the progressive identification and development of the preliminary categories throughout Case Study 2 (the analysis of Case Study 2 is described in Chapter 8).

The second stage (Stage 2) in the process involved ordering and classifying the preliminary categories from each of the case studies into four key broader **descriptive codes**, as shown in Figure 74. The first coding cycle developed the preliminary categories from the researchers' brief observations of the data. Reducing the preliminary categories into four general broader headings allows for the codes to be re-visited in the qualitative analysis. Therefore, this permits unbiased re-examining of the data (and under each of the four broad descriptive codes in the second coding cycle) to draw out potentially new patterns from the participants' detailed narrative observations in the data, which are not influenced by the researchers' original brief observations. These four categorised wider codes were assigned a short, unique, colour-coded name, which summarised the overall meaning of the supporting preliminary sub-theme classifications. They are as follows: (1) **Communities of Practice**; (2) **Sensory Affect**; (3) **Place / Space**; and (4) **Tools**. All four codes derive from the theoretical framework of this study and relate to the research questions.

Communities of Practice is used as a key descriptive code in this investigation and derived from the earlier critical examination of Social Constructivism and Communities of Practice (CoP) theory. **Sensory Affect** theory is examined through embodied knowing and enactive cognition and is a fundamental aspect of the research in relation to creativity, wellbeing, and learning. Therefore, this term was a prerequisite as a descriptive code. **Place / Space** were originally separated as two detached descriptive codes. However, these terms have commonalities and differences that are interlinked and relatable to each other as the studio as a site for learning can be examined via the literature discussing learning spaces and a sense of place in Chapter 3. Therefore, a dual **Place / Space** code was formed. The nature of **Tools** was also meaningful as a descriptive code, which arose from the inclusion of experiential learning theory and the learning by doing approach to the methodology and methods used in this investigation.

Narrative Inquiry analysis / Stage 2: Descriptive codes - Case Study 1

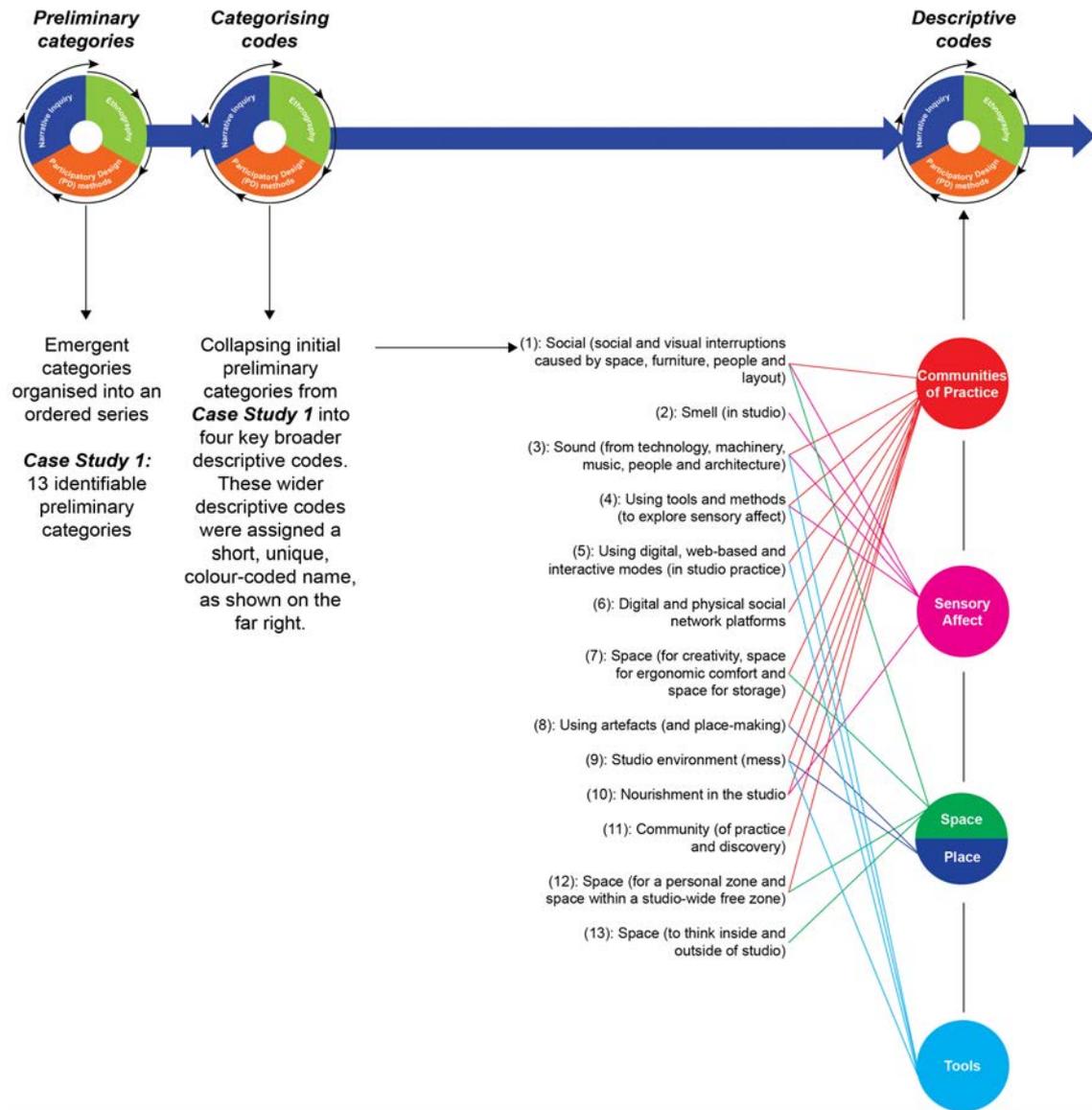


Figure 74. Stage 2 analysis: The preliminary emergent categories are organised into four colour-coded descriptive codes. © L. Marshalsey, 2016.

6.7 Stage 3 analysis: Forming the collated concepts

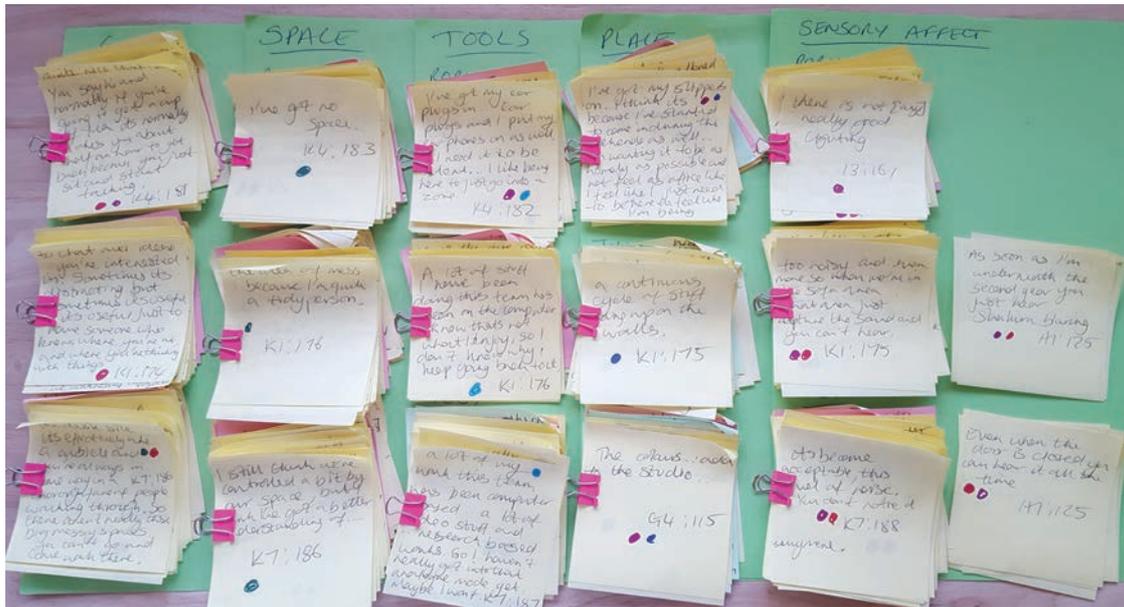


Figure 75. The first step in Stage 3 analysis: Post-It® notes were clustered under one of the four descriptive code and then clustered again under each student actor. © L. Marshalsey, 2016.

The third stage (Stage 3) in the four-step analytical process involved revisiting the rich narrative data sets in comprehensive detail as I re-examined the 20 transcripts from Case Study 1 (and later, 10 from Case Study 2). This third process of analysis involved stripping out and mapping the data from each student in coding cycles. These cycles involve taking a first pass, which entails using a single word or phrase when reviewing the data, and second pass, which involves revisiting and rewording or regrouping the data. In this way, grouping and cross-matching the phrases under each descriptive code formed the collated concepts, in a similar linear approach to Varbelow's (2015). To begin, I stripped out every relevant key phrase from each transcript that related to an individual student's attitude, views, beliefs, opinions, stories, perceptions, and feelings of their studio environment. Then each of these narrative strands was manually written onto an individual Post-It® note. These Post-It® notes were clustered under one of the four concretised descriptive codes (for example, **Communities of Practice**) and then clustered again under each of the three participant student names (for example, Toby) (Figure 75). Should a pertinent phrase overlap or represent multiple descriptive codes, then coloured dots (as previously mentioned, each descriptive code was assigned a unique colour code)

representing these codes were then added onto each Post-It® note to specify this intersection of concepts (Figure 75). This allowed the commonalities, overlaps, and differences between the key concepts to be tracked.

As mentioned, I had physically clustered the number of identifiable responses onto the Post-It® notes under each student, which had also been collated under the four descriptive codes. Then the recurring topics drawn from each student's clusters of Post-It® notes were grouped and collated under concepts belonging to each descriptive code. To clarify this process so that it may be transferable to other researchers, the following steps were actioned and should be emulated in future projects/studies (and as shown in Figure 76 and later, in greater detail in Figure 77):

- (i) One transcript was read;
- (ii) Each narrative response relating to a notable theme or issue (normally 1 – 3 sentences) was manually stripped out and written onto one physical Post-It® note;
- (iii) Each narrative response was then identified as relevant to one of the four descriptive codes (for example, **Communities of Practice**), and so the Post-It® note was physically clustered with other relevant Post-It® notes under this descriptive code on a larger sheet of paper;
- (iv) Then, under this descriptive code (for example, **Communities of Practice**), the collective Post-It® note responses were further sorted into separate clusters relating to the student they originated from (either Jill, Toby, or Robyn);
- (v) Consequently, within each student's own cluster of Post-It® notes under one descriptive code, each phrase was then identified as a positive, negative, or neutral statement, such as "very much settled in and feel welcome in the studio" (Appendix B, p.80, l.3);
- (vi) Subsequently, this phrase (as an example) was deemed to be a positive statement, which could be clustered under one similar positive concept, such as: "Established

friendships". Negative or neutral statements were classified in the same systematic way.

- (vii) Each concept was then cross-matched and compared with other participants concepts to identify a set of **collated concepts**.

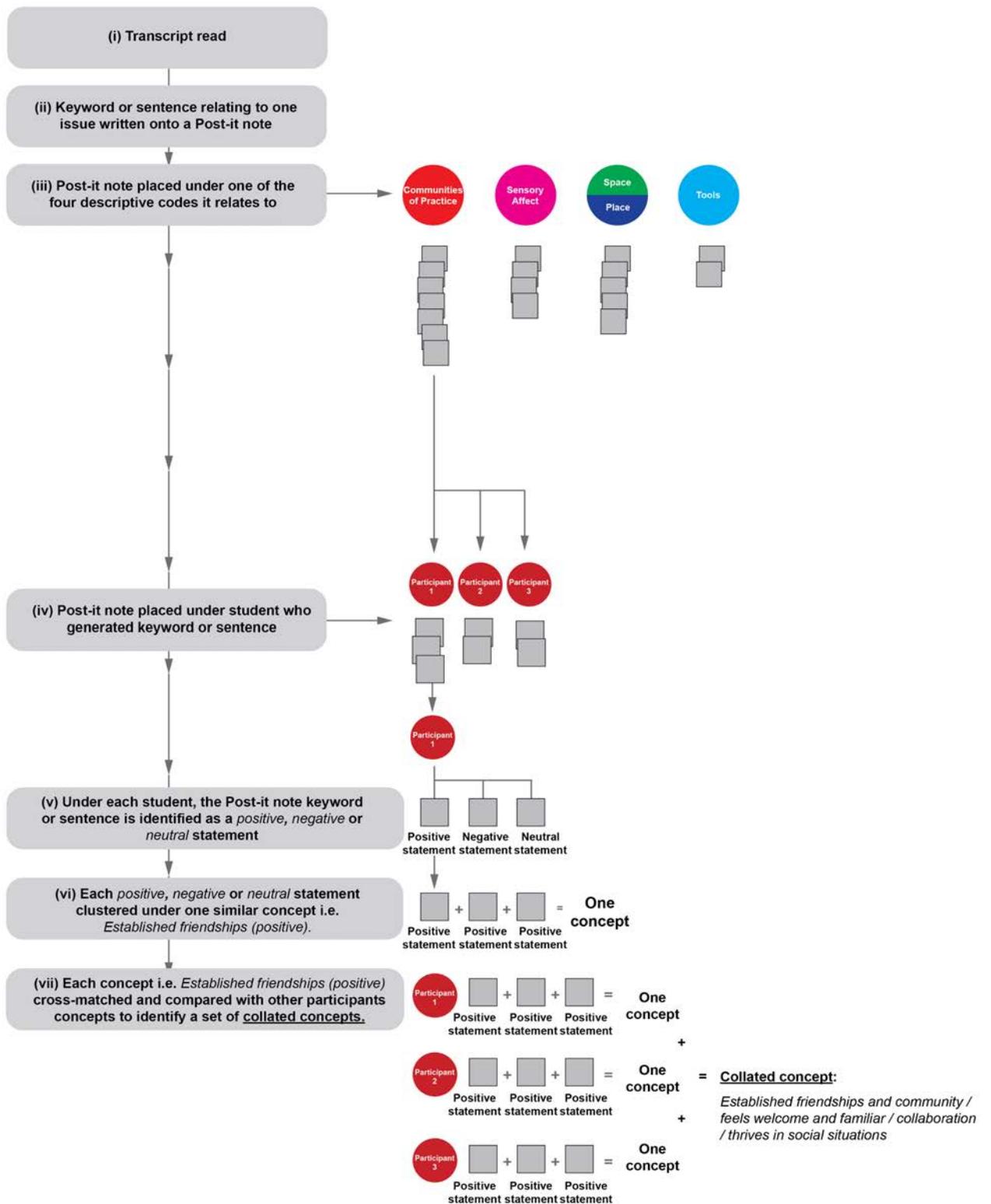


Figure 76. Steps taken to form the collated concepts from the transcripts. © L. Marshalsey, 2017.

This allowed the identification of cross-matched, collated concepts to be systematically explored and to form empirical evidence. I initially identified the consistent descriptive concepts appearing regularly (for example, “established friendships and feeling welcome in the studio”) as the primary criteria. This allowed the emotional coding of each phrase or sentence or paragraph – the positive, neutral or negative statements – to be later explicated and grouped with other relevant statements for further discussion (Saldaña, 2016). This method of analysis succeeds in drawing out the dominant context of the narrative strands and revealing the impact that experiential issues might have had on the student. Participatory research and its analysis can be seen as a mechanism for “listening” to the student’s experiences (Davies, 2015, p.28). Therefore, meaning making developed from the layers of multi-voicedness in the data. Several participants may have revealed recurring and overlapping issues that merited further discussion in the findings (Given, 2008, p.47). Lastly, the range of dominant collated concepts were grouped into tables under the four descriptive codes representing the different phenomena transpiring within studio education to aid an understanding of the within-case process of analysis. The number of identifiable responses and frequency of related language in the data tables arise from how often each student referred to an issue in the transcripts using indicative singular keywords, single or multiple sentences or whole paragraphs to explain their point of view. The detailed process of this third stage of analysis is shown in Figure 77.

Narrative Inquiry analysis / Stage 3: Collated concepts

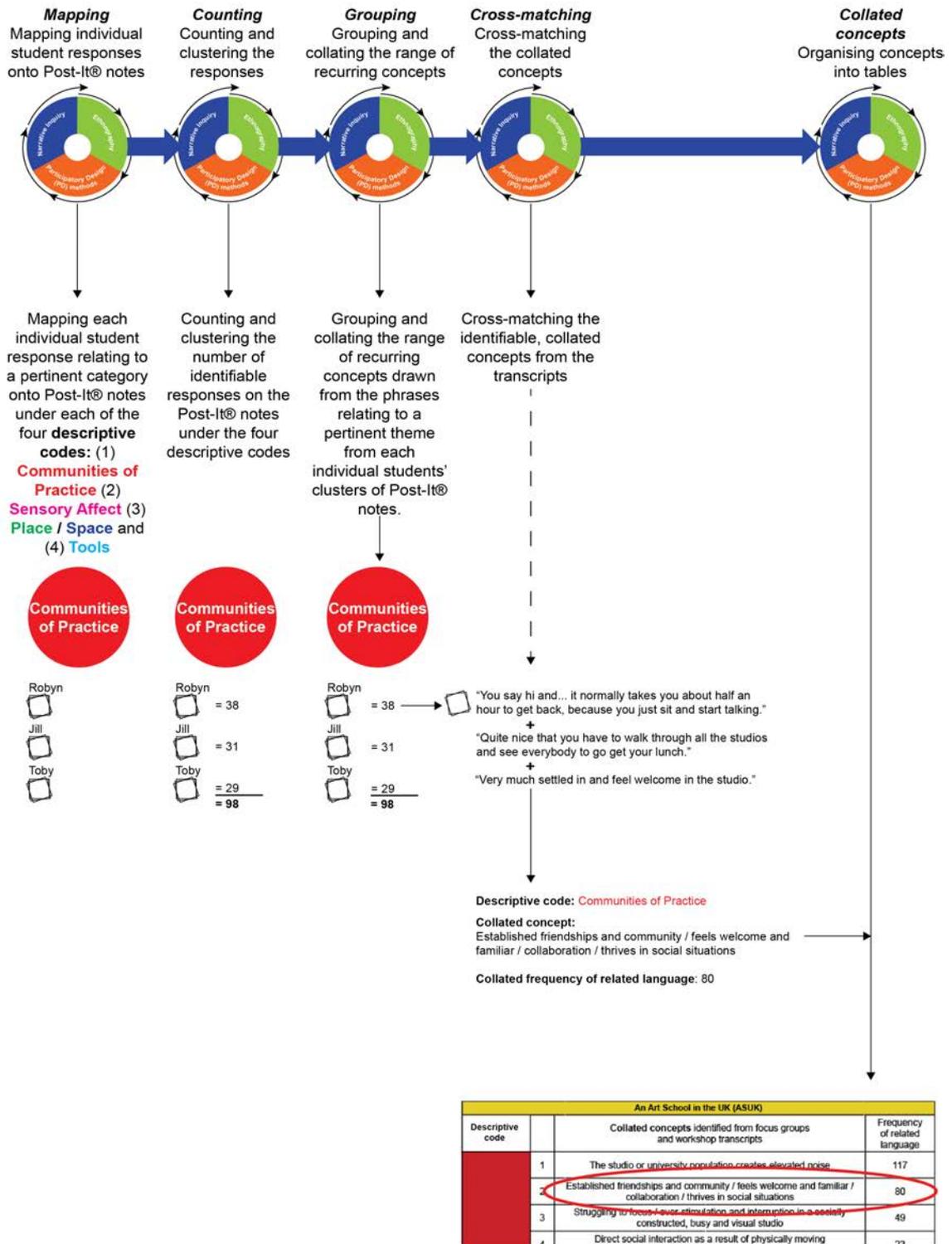


Figure 77. The process of narrative inquiry Stage 3 analysis: mapping data, counting, grouping and cross-matching to form the collated concepts. © L. Marshalsey, 2016.

To summarise, the Communication Design students acknowledged, criticised, and enjoyed a broad range of their experiences of contemporary studio education. This helped to form the salient patterns and themes as the data condensed into subjective yet meaningful preliminary categories (Huberman and Miles, 1994; Wolcott, 1999; Wolcott, 2009). I could then rigorously collate a series of concretised collated concepts mapped from the narrative analysis (and via the Post-It® note system) with each of the four descriptive codes. The data of each case study was then critically examined through the associated collated data tables, which co-ordinate with the four descriptive codes (Tables 20, 22, 24, 26). These tables demonstrably identify the dominant, high-ranking thematic patterns of information arising from the participants' dialogue, supported by additional sensory and visual data, drawings, and images. The remainder of this chapter specifically discusses how these collated concepts were categorically formed from the distinct individual and group voices of the students participating within studio learning in Case Study 1.

6.7.1 Communities of practice

The interpretation of the qualitative data presented in this section has been informed by Social Constructivism, Vygotsky's concept of the Zone of Proximal Development (ZPD) and Communities of Practice theory. These theories explain how students learn new concepts as they act and interact in shared experiences with their peer group (Vygotsky, 1978; Kozulin, et al., 2003; Michael, 2008). The data in Case Study 1 indicated that the participants constructed meaning together in their community of practice via formal educator-led critiques and connected group projects, and their informal peer group collaborations. Their responses have shown their collective interest and commitment to the role of their studio, as the participants managed the space and their relations with each other, and their ongoing caretaking of the shared studio domain.

The narrative data relating to the students' legitimate participation within the studio community of practice was quite revealing in several ways. First, when asked to describe what they noticed

the most about their studio or space, the participants responded that people populate, visually or audibly, most areas in or adjacent to the studio; as Robyn said, “You see so many people and speak to so many people in one day” (Appendix B, p.59, l.142). Interestingly, Robyn noted that her active membership of the studio community was unexpected: “it has shown me how social we are... when I thought about applying for... Graphic Design, I thought I’m always going to be at my desk. Solitude. On a computer all day” (Appendix B, p.118, l.80). Toby furthers this notion stating: “Getting more familiar with other year groups that we share the studio with. Lots of friendly faces about” (Appendix B, p.80, l.3). Robyn continued to say: “you’re not forced but you’re kind of encouraged to socialise” (Appendix B, p.11, l.47) and she intentionally seeks collaborative discussion with others to “use your classmates as a tool as well as yourself” (Appendix B, p.117, l.78). The importance of peer learning as a network of knowledge building and a shared repertoire of experience are well-documented approaches to education and ones that I encourage in my studio pedagogy (Wenger, 2000; Riddle and Souter, 2012). Jill verified this as she said, “we chat over ideas quite a bit... a lot of our projects are group projects” (Appendix B, p.11, l.48). There was also a correlation between procrastination and the verbal dissemination of projects between each other, as Robyn outlines her year group as a:

Bunch of procrastinators. We love to have a chat... it normally ends up being an hour to two hours just sitting chatting and tea as well. We make loads of cups of tea... As third-year [students] we are quite a close-knit group. We’ve been together a few years now... chatting. Still connecting. (Appendix B, p.117, l.70)

The very nature of this practice-led discipline can require cohesive teamwork, and the ease with which studio members (staff and students alike) can communicate is important, with Robyn stating: “you don’t feel uncomfortable going up to someone’s desk and saying, ‘can you have a look at this?’” (Appendix B, p.117, l.72). In the university I am employed at, I strive to ensure students feel comfortable enough to approach me as I am mindful of my manner and openness, even though I struggle to name many of the students I work with in a short, timetabled tutorial. However, this is less problematic in the much smaller studio community of Case Study 1.

Interestingly, and irrespective of student numbers, Graphic Design students do tend to be noisier and more sociable within the studio community than, for example, Illustration students. I observed a tangible difference each time I visited the studio. The practice of illustration requires periods of time spent alone drawing; as Robyn said, “Illustration, it’s completely different how they work compared to graphics cos when you go in there, it’s silent. Really, really quiet” (Appendix B, p.11, l.42).

The data analysis also suggested that sound transference is high within the studio. Robyn explains: “it’s too loud when everyone’s in, especially when there’s a deadline the next day” (Appendix B, p.16, l.118). Toby further illuminates this point as he said, “noise from all ends of the building. You have a sense of lots going on – no stillness” (Appendix B, p.80, l.5) and “it emphasises how distracted you can become in an environment” (Appendix B, p.58, l.133). Jill agreed: “as soon as it becomes deadline it absolutely goes crazy... But in a good way because of the stuff being made – of things created. But it does get a bit overwhelming” (Appendix B, p.101, l.52,54). However, Toby clearly states that:

When everyone is in... it’s difficult to concentrate. Surely, everyone should be able to come in and get their own peace at the same time. I hate that we have to have half the class gone before we can concentrate. I find that really counter-productive. (Appendix B, p.17, l.120)

In relation to this, Jill said that: “I need quiet. I’m not very good if there are a lot of people running past me, which is one problem I had last year with my desk being right in the way and with a through flow of traffic” (Appendix B, p.133, l.8). Nonetheless, Toby also suggests that: “we want it both ways. We want the private space but we want the socialness?” (Appendix B, p.127, l.62). From an educator’s perspective, I enjoy the noisy crescendo of project deadlines as creativity peaks, yet in the heavily populated learning spaces that I experience every day, this noise is mainly a symptom of informal social behaviours.

In Case Study 1, strong evidence exists of productive, informal conversations occurring over shared tea breaks and lunch, as Robyn implied: “even when you are having a lunch break, you can talk about your work, but it doesn’t feel like you are in a crit[ique] or like a serious thing... The conversations you have can lead to sparking ideas” (Appendix B, p.111, l.4). However, she does say that this practice can limit productivity in the studio at times: “if you’re going to get a cup of tea, it normally takes you about half an hour to get back, because you just sit and start talking” (Appendix B, p.142, l.30).

Although the majority of responses in Case Study 1 noted the community had positive and supportive aspects, the participants acknowledged the physical and creative mess generated by others within the communal areas of the studio environment. Robyn observes that: “what I’ve noticed the most is just how messy we are... you see the mess in the sofa area... People ate. Bits of paper, drawings and stuff” (Appendix B, p.114, l.36) and “there was like cups and stuff, tea strainer... just disgusting. I think it’s like thirty people living together and it’s hard” (Appendix B, p.112, l.20). These comments seem to reflect the group’s opinion of mess in the commonly shared zones. Robyn continued to say: “everybody is actively thinking... “Why did you leave that spoon there?” Just like pick it up and put it in the bin!” (Appendix B, p.113, l.24). Jill verified this notion and explains: “Someone comes along and goes ‘You’ve got all of these tables and they are covered in your stuff. You need to clean up one of them.’” (Appendix B, p.102, l.66). Yet when the mess is obvious on individual desk spaces, Jill said, “people... take ownership of their own space and if someone comes along and tells them they need to clear it up they go ‘no, I’m not doing it’” (Appendix B, p.101, l.62).

There were several adverse comments about the positions of desks and the continual interruption by other studio members as they travelled through the studio route: “There are desks which are more affected by walking through [the studio] so therefore they are more chatty, social desks” (Appendix B, p.99, l.28). Toby agreed as he said, “I got a big draught of people... I moved closer to the alcove... It’s a lot more private there... If you have people constantly circulating around you, it’s really distracting” (Appendix B, p.10, l.36). Jill did later

reconfigure her position in the studio to another less-affected desk several months after the case study activities concluded. In a reflective interview following this move, I discussed with her the transient routes and the interruption by other students that she had previously experienced. She anticipated that: “next year because we’re going into fourth year... we get priority over the desks... I’m not giving up my desk for anyone” (Appendix B, p.98, l.22). A variety of perspectives were expressed of the close proximity of the students’ workstations to each other in the studio. Jill situates the importance of “working out who you’re going to sit near... That’s why me and [Mary] came in together... We’re going to get desks next to each other because we work really well together” (Appendix B, p.133, l.8). This theme continued when Toby explains that group critiques function better when everyone closely congregates at the communal sofa area rather than in a traditional classroom formation: “being close kind of took the edge of it because it was like nerve-wracking orating for people. But it’s more like a cosy crit[ique] group, you know?” (Appendix B, p.124, l.22).

Toby also outlines the usefulness of other students being situated close by and consequently, to be able to freely appraise each other’s work: “to see how an audience responds to your work” (Appendix B, p.25, l.239). These perspectives confirm the notion expressed earlier that talking over projects with other studio members could stimulate workflow. Toby continued: “It’s really important to talk to other people and make sure your work is being looked at by other people so it does stay on track” (Appendix B, p.127, l.56). Jill supported this concept as she said, “you kind of help anyone that needs it” (Appendix B, p.104, l.92) and she expected the same in return:

The amount of times I’ve been stuck with a project and you start chatting to someone about it... They have so much fresh ideas because we’ve all been working on it... I think without that you just get really stuck working on your own so I think the social side of it is really important... If there was no social... if we all came in here every day at our desks and didn’t talk – it would be horrible. Four years of that? No thanks! (Appendix B, p.25, l.238)

Nevertheless, Jill does vocalise her need to have a separate thinking zone away from the community within the studio: “even when you’re there, scrolling through pages on the Internet or making a cup of tea – you’re not just doing that and nothing else. You’re always thinking while you are doing it” (Appendix B, p.59, l.138). Agreeing, Toby said, “There is the time spent in the studio thinking about things so you might not look like you are doing stuff” (Appendix B, p.59, l.136). This is a perspective I have come to understand over several years of observing my students at my employing university; even though a student might not be visibly creating work, they still are productively ‘thinking by doing’.

The following table presents the responses and key phrases from each student in Case Study 1 under the descriptive code Community of Practice (Table 19). I then assessed the frequency of the collated concepts situated in these key phrases within and across the participants responses and present these in Table 20. Elevated noise generated by the university population was significantly higher than the importance of established friendships and feeling welcome in the community of practice. These tables support the Stage 3 process of analysis and are a guide to draw the reader's attention to the dominant narratives in the study. I present similar tables in the later sections examining sensory affect, place/space and tools, and in the analysis of Case Study 2 in Chapter 8.

Case Study 1: An art school in the UK			
Descriptive code	Student	Number of identifiable responses from transcripts	Key phrases
Community of Practice	Robyn	38	<p>"You say hi and... it normally takes you about half an hour to get back, because you just sit and start talking."</p> <p>"Quite nice that you have to walk through all the studios and see everybody to go get your lunch."</p> <p>"Very much settled in and feel welcome in the studio."</p>
	Jill	31	<p>"to chat over ideas... Sometimes its distracting, sometimes its useful."</p> <p>"When you are in the studio you kind of help anyone else that needs it."</p> <p>"as soon as it becomes deadline it absolutely goes crazy... But in a... good way because of stuff being made."</p>
	Toby	29	<p>"I hate that when everyone is in, like it's difficult to concentrate."</p> <p>"The sense of community. Social aspect. Noise from all ends of the building. You have a sense of lots going on – no stillness."</p> <p>"You have people constantly circulating around you – its really distracting."</p>

Table 19. The responses and key phrases from each student in Case Study 1 under the descriptive code Community of Practice. © L. Marshalsey, 2016.

Case Study 1: An art school in the UK			
Descriptive code		Collated concepts	Frequency of related language
Communities of Practice	1	The studio or university population creates elevated noise	117
	2	Established friendships and community / feels welcome and familiar / collaboration / thrives in social situations	80
	3	Struggles to focus / over-stimulation and interruption in a socially constructed, busy and visual studio	49
	4	Direct social interaction as a result of physically moving around the studio, in group critiques or between rooms	23
	5	Students in proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio	22
	6	The students value their own (and others') artwork on display	16
	7	Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	14
	8	Communicates only with those students in physical proximity in the studio / values privacy	7
	9	The learning environment affects creativity	6
	10	Dislikes their institutional 'place' / space / little or no storage or lockers	4
	11	Willingness to stay in the studio and work on set tasks and with each other but did not / was not able to stay	4
	12	People should be encouraged to produce creative 'mess'	3
	13	Dislikes making their work-in-progress visible to other students / consciously observed by others	2
	14	A less populated studio environment would mean better resources and productivity	2
	15	Feels like a creative student when doing creative activities such as screen printing	1
	16	Struggling to become inspired, productive and enthusiastic in the studio space	1
	17	The studio population creates mess and dirt	1
	18	Did not attend university recently / observed others leaving studio early	1

Table 20. The frequency of the collated concepts appearing in Case Study 1 under the descriptive code Communities of Practice. © L. Marshalsey, 2016.

6.7.2 Sensory affect

In the previous section, I briefly examined this case study's community of practice, and of how sound transference can arise from the regular social interactions in and around the studio environment every day. This means that community of practice and sensory affect are closely linked, as the complex spatial and social processes reveal the dynamic interaction between person and environment. In Case Study 1, enactive cognition allowed the participants to feel more deeply and to understand how sensory affect can impact upon their studio learning.

All of the participants reported sound originating from people as the most dominant sensory affect disturbing them. The participants do anticipate sounds of people, work, and social interactions as a fundamental element of a busy day-to-day creative learning space, yet design flaws in the building add to the sound transmission. Toby describes sound in the studio as follows: “[It] comes from all angles, filters in like a big bowl trapping all the sound. Very fragmented noise, voice... chairs... laughing... music” (Appendix B, p.81, l.8). He also explains that: “noise has always been an issue. Especially in the madness towards the end of the year.” (Appendix B, p.125, l.40). The participants also described external noise intruding into their studio, as Robyn explains: “Sometimes the noise from the canteen is minimal and the other times it's really, really noisy... You hear the dishes and all that” (Appendix B, p.40, l.8). Jill explains that she doesn't “feel focused or ... produce very good work in the studio if I am distracted, and the noise makes it hard to be creative” (Appendix B, p.82, l.12). She clarifies this perception even further: “The mood in the studio really affects how you work, if no one is working and it's loud, it is really difficult to do any work” (Appendix B, p.6, l.12). However, she does say that sound becomes acceptable when it is generated from creativity: “Definitely [an] acceptable level of noise even when people are hammering stuff – it's fine because they will finish [eventually]” (Appendix B, p.108, l.128).

When exploring the different ways in which the students interpret a range of sensory experiences within the studio, they produced conflicting reports of their experiences of sound in

their open-plan environment. Jill explains: "Sound is the biggest issue we have" (Appendix B, p.87, l.24) and "it's always going to be a problem. It's quite quiet today but that's because a lot of people are doing essays" (Appendix B, p.134, l.10). Toby suggests: "although the building is noisy, it's quite nice that... you connect with people" (Appendix B, p.149, l.28). Robyn continued to say: "there is a lot of white noise as well when it's quiet. It's not like noisy, but there's presence there" (Appendix B, p.41, l.20). She also referred to this as: "layers representing distracting sound... You do start to notice that people talk and stuff, but when you're working you don't really notice it" (Appendix B, p.48, l.91). Robyn also said, "there is a definite... ebb and flow with the noise" (Appendix B, p.41, l.16). Toby notes the: "different levels of sound throughout the building" (Appendix B, p.74, l.35). Jill agreed as she said,

There's sound near the bins... And... sound that comes from the rest of the studio downwards, across from here... the noise from upstairs... I can hear the canteen from upstairs... You only notice it when you start listening to it... I started to hear the sounds... The different levels of sound. Like what's distracting and what you don't notice... ambient sound. (Appendix B, p.46, l.77, p.48, l.89)

The participants revealed that they have a limited control over sound in the studio or have shied away from attempting to control it. Toby said, "I'm too scared to ask" (Appendix B, p.79, l.33) when it was suggested to him to approach the source of the loud music and ask the person responsible to turn the volume down. Reflecting on this, he said, "I was thinking that's awful – we shouldn't be intimidated by the noise in our studio... That's so unfair" (Appendix B, p.130, l.82). Instead, the majority of the students regularly used headphones as both tools to block out unwanted sound and signifiers to others that they want to work uninterrupted. All of the participants agreed that "most people wear headphones" (Appendix B, p.5, l.8). However, Toby reflects that in his situation: "I can't really concentrate when I've got headphones on, I've found" (Appendix B, p.131, l.92). Conversely, Jill said, "if I'm at my desk and I want to work, I will have headphones in, otherwise I can't [work]... I think cos if you don't, people will just come up and chat... but if you've got your headphones in... they'll probably still come up and chat!"

(Appendix A, p.17, l.128). Robyn said when she wears headphones: “it’s kind of like an acknowledgement that I’m actually working” (Appendix B, p.17, l.129). Surprisingly, she also said, “I’ve got my earplugs in... and I put my earphones on as well... I need it to be silent” (Appendix B, p.144, l.58,60). Generally, headphones seem to inhibit the transference of unwanted sound to restore limited comfort levels when working; yet this is entirely dependent on a students’ preference. As an educator, I find that students wearing headphones act as a barrier towards engaging with staff.

Nonetheless, music is played openly in some areas of the art school to promote a more relaxed studio environment, as Robyn said, “in the Case Room [the letterpress room], he [the technician] plays his music... even though it feels like some music you don’t like or not familiar with, it was just like a nice thing in the background” (Appendix B, p.18, l.135,137). Toby identifies this space as a place where “you can just zone out a bit more” (Appendix B, p.78, l.16) as he explains: “because the music is on, you can just not talk and get on with your work” (Appendix B, p.18, l.140). He said that although “the radio is one of those non-creative sounds that we don’t want... with the radio... you just block it out” (Appendix B, p.130, l.88,90). Jill commented:

That’s the thing with music. You’ll never get something that everyone’s happy with but at the same time is having some music better than chaotic noise? ... I guess it just depends on whether you are the kind of person who can zone out of music or whether you can zone out of background noise, but everyone’s different. (Appendix A, p.78, l.21)

Indeed, on two separate occasions, while interviewing Jill, I could hear a saxophone and a violin playing throughout the art school building; Jill observed “The sound just travels... Now there’s a violin playing!” (Appendix B, p.134, l.14). The participants do work in the studio outside regular hours so that they can manage the affect of sound better: “I find it peaceful after those times. I find it quite nice on the weekends. It’s quiet” (Jill, Appendix B, p.16, l.113).

Furthermore, Jill said “sound is the most dominant in this space but in any studio – vision – you would expect [that] to be the biggest one. There is a lot of visual stimulus but the sound is more of a problem than vision, I guess” (Appendix B, p.73, l.26). Vision seems to disrupt Toby’s concentration as he said, “so many visual distractions constantly, while you are trying to do your work. Previously, I couldn’t work without the dividers” (Appendix B, p.9, l.17) (Figure 78). In support of this, Jill said, “through the time of day, the sound varies... the sound varies, but vision stays the same. The studio tends to look the same all the time. The sound alters throughout the day, throughout the week” (Appendix B, p.74, l.36).

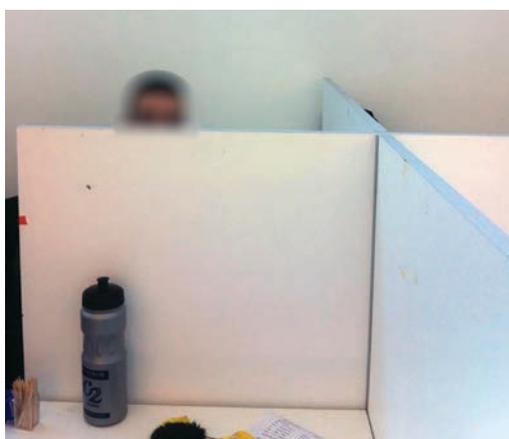


Figure 78. The desk dividers act as a boundary for each student in the studio. © L. Marshalsey, 2015.

Robyn also noted that the natural light in the studio also changes with the time of day: “when I’ve worked late in the studio, I feel quite enclosed cos it’s dark outside as well... sort of ‘caved’ in. When it’s light outside, I think it’s a benefit” (Appendix B, p.12, l.63). The data seems to suggest the studio as being light and bright, and this is reflected in the décor and furniture. Nevertheless, Robyn observes: “...there is not [any] really good lighting” (Appendix B, p.121, l.116). Contradicting herself, she continued to say: “the first thing they [people] do when they walk in is look straight up... It is all to do with the light and the sun” (Appendix B, p.12, l.58). Toby corresponds: “the way that your eye is drawn to the areas of light during the day” (Appendix B, p.12, l.66).

When describing their experiences of materials or surfaces they touch within the studio space, Robyn said, “you’re always at your desk so you’re either touching your desk or the blank walls” (Appendix B, p.74, l.37). None of the participants specifically mentioned touching creative materials or production machinery, yet Robyn did remark on: “cold and concrete, plastic, paper” (Appendix B, p.81, l.7). Jill’s response is identical as she said, “mainly, flat hard surfaces, plastic, metal and concrete. Paper and cardboard are also everywhere from people’s work” (Appendix B, p.81, l.7). Toby adds to this description: “cold, hard and sterile... Modern, man-made” (Appendix B, p.81, l.7).

Food and nourishment were important to help the participants focus, to promote engagement in learning, and for bringing the community together. Robyn stated that it was necessary to “have a cup of tea and take an hour for your lunch” (Appendix B, p.111, l.4). Remarkably, all the participants agreed there is “hardly any smell” (Appendix B, p.89, l.26) in the studio, and it remains “quite smell-less unless someone is eating lunch” (Appendix B, p.89, l.24). Jill concurs: “The only smells there are really, are food-related smells” (Appendix B, p.73, l.22). Still, Robyn does point out that “there is a smell in the Case Room [the letterpress room]” (Appendix B, p.73, l.30) and “if you were there for the full day, it could get quite sickening” (Appendix B, p.74, l.33). Jill agreed that: “the Case Room has a distinct smell but a sort of ink smell but I don’t know if I would ever want a studio that smelt of something” (Appendix B, p.73, l.32). Toby is the only respondent to mention: “Smells like paper. And cardboard. The materials we use. Not much else” (Appendix B, p.5, l.6).

The following table presents the responses and key phrases from each student in Case Study 1 under the descriptive code Sensory Affect (Table 21). The frequency of the collated concepts situated in the key phrases within and across the participants responses are presented in Table 22, and show that sound originating from the people within the building contributed to the participants struggle to focus in the studio. Additionally, and as explained in section 6.7, should a pertinent statement represent multiple descriptive codes, then closely related concepts will, through the process of analysis, eventually appear in more than one of the following collated

concept tables. For example, the collated concept 'The studio or university population creates elevated noise' appears under the table for Community of Practice as the participants identified that people produced the varying levels of noise they heard (Table 20). Secondly, a similar concept, 'Sound originating from the building and people' appears under Sensory Affect (Table 22) as the participants identified that sound could be generated from people but also transmitted by other factors, such as the design of the architecture amplifying sound. The wording of each collated concept draws from the exact language used by the participants.

Case Study 1: An art school in the UK			
Descriptive code	Student	Number of identifiable responses from transcripts	Key phrases
Sensory Affect	Robyn	38	"I think community plays a lot in conversation. Sound." "There is always noise from the canteen at the back of me." "I used to eat my lunch at my desk and be messy."
	Jill	49	"Sound... It's still a problem. It's quite quiet today but that's because a lot of people are doing essays." "I don't feel focused or like I produce very good work in the studio if I am distracted and the noise makes it hard to be creative." "The only smells there are, really are food-related smells."
	Toby	38	"Noise has always been an issue. Especially in the madness towards the end of the year." "Comes from all angles. Filters in, like a big bowl trapping all the sound. Very fragmented noise – voice and chairs and laughing and music." "Sometimes food smells from cafeteria. Not much else. Smells of paper?"

Table 21. The responses and key phrases from each student in Case Study 1 under the descriptive code Sensory Affect. © L. Marshalsey, 2016.

Case Study 1: An art school in the UK			
Descriptive code		Collated concepts	Frequency of related language
Sensory Affect	1	Sound originating from the building and people	117
	2	Struggling to focus / over-stimulation and interruption in a socially constructed, busy and visual studio	49
	3	Food, water and sustenance required for creativity, food smells, taste	38
	4	Strategies to overturn sensory affect, i.e., 'zoning out' 'washing hands' 'using headphones' 'weekend working when it's quiet'	26
	5	Music to relax to, to focus, acceptable level of noise	22
	6	Artificial lighting and/or natural light, whiteness	18
	7	Little or no identifiable smell in studio, clean or clinical smell	17
	8	Touch: objects, surfaces, furnishings and furniture in the studio	16
	9	Prefers or refers to a quiet or silent studio	13
	10	Creative 'mess' and practice-led textures in the studio	13
	11	Physically moving around the studio or between rooms	9
	12	Dirt, mess and grime caused by students	6
	13	Well-being: comfortable clothing and supportive chair/furniture	5
	14	Temperature	1
	15	Acknowledgement that people have differing sensory perspectives and needs, i.e., sound preferences	1
	16	Identifies mood through drawing and colour	1

Table 22. The frequency of the collated concepts appearing in Case Study 1 under the descriptive code Sensory Affect. © L. Marshalsey, 2016.

6.7.3 Place / Space

Dewey advocated that student interactions within a supportive environment means they accumulate, reflect, reorganise and reinterpret their experiences of learning. In the shared studio domain, this means experiences can become more educational or beneficial as the students take ownership of their physical environment. To assess the role that the studio plays in the teaching of Communication Design, both a sense of place and the impact of the physical studio space were analysed. Consequently, place and space followed two distinct themes in the data. Firstly, it is apparent that place and space exist as an act of an individual's presence and representation in the studio environment and, secondly, as an act of mark-making and occupation within the studio by the group member. When I asked the participants to describe the ways in which they take ownership of an individual desk space within the studio at the beginning of the year, Robyn replies: "I write my name. At the table, it marks it up" (Appendix B, p.27, l.28). Jill explains that:

The first thing I would have to do to my desk would be to understand the space. So, I do that by organising it... You've got your space to work in and it's set up how you like it. It's a nice feeling coming in and it's all there ready for you. (Appendix B, p.29, l.53)

Jill explained being in the studio over a period of time: "I think it always takes a while to get settled... it didn't feel right at first" (Appendix B, p.30, l.57). She said, "the second half of the year, it's been easier to come into studio... I don't think I've worked at all at home this term" (Appendix B, p.102, l.74). She said that she had "become more comfortable in the studio" (Appendix B, p.102, l.70).

The ownership of a studio desk seems to provide a degree of membership and a sense of security in the busy overall studio. Indeed, in the first week of the research activities, the participants felt it necessary to return to their own workstations to populate the questionnaires instead of remaining with me in the communal sofa area. Jill explains this behaviour: "I

experience the studio from my desk most of the time, so when I was writing about the studio it was easier to be in exactly the place you normally are” (Appendix B, p.8, l.5). Robyn validates Jill’s view that: “being at your desk... is like a personal zone... a good head space just to think” (Appendix B, p.9, l.20). Jill agreed that her desk space is: “my comfort zone. My place once I’ve made it. That’s me happy. But I’ve never really appreciated it before” (Appendix B, p.87, l.24). Toby outlines the need for smaller, personal zone within the wider studio environment as: “a free zone where you can just walk around... and speak to people, socialise but I think it’s really important to have that little enclosed area that really feels a bit smaller. A little box to go back to” (Appendix B, p.9, l.13). Continuing this, Jill said, “you almost need... separate spaces... very, very different between an art classroom and a design studio. Between a desk and a space. To not necessarily know what a bad studio is, but to know what a normal one is” (Appendix B, p.106, l.110,112). Interestingly, Robyn also identified the psychological distinction between different spaces: “I use my desk as a working space... The sofa space is where you eat and where you socialise... I think it’s like a psychological separation” (Appendix B, p.111, l.2). The studio contains various private, interactive, thinking, and productivity zones located within the individual desk spaces and in the overall social studio-wide community space. Jill explains the participants’ expectations of studio:

Thinking and doing. In the same way, you need studio space and home space... [you] need that kind of physical and mental [space]. Different places you kind of expect different things of yourself... different expectations for different rooms. (Appendix B, p.107, l.118)

The position of the participants’ workstation within the broader studio layout is also conducive to a positive sense of place, with Toby stating:

I moved because... I picked one nearest the photocopier cos I just love the photocopier but then I realised I didn’t use it at all. I thought this is rubbish because I’m right in the middle... I couldn’t concentrate. (Appendix B, p.10, l.34,36)

However, he admitted that it takes time each day to settle into his personal zone and he essentially contributes to the flow of physical traffic around the studio space as: “It feels like I do nothing. It takes a while to get settled, you know? Like the way I’m always moving around” (Appendix B, p.56, l.95). The third- and fourth- year student groups have had two years of habituation inside, and acclimatisation to, the studio within this specific discipline pathway. Jill implied that students from earlier stages of the degree might not yet know how to work in a studio space as much as the later year groups do as she said:

In first year when they went into a space, they wouldn’t really know. And you wouldn’t necessarily be aware of what the problems might be... we do a bit of ‘how to learn’ and ‘how best to motivate yourself’ or whatever, but the space often doesn’t come into that. (Appendix B, p.105, l.104)

Moving on, strong evidence exists in the data of using artefacts and personal objects to identify oneself in the wider studio landscape, and to furnish their personal thinking zone within this environment. Robyn said, “I put some photographs there, and my Pug [ornament] on the table” (Appendix B, p.28, l.35). Jill said, “I’ve got an old pen pot... I like to organise stuff” as a form of place-making (Appendix B, p.27, l.15). Robyn also said that it’s important “if you’ve got an object that reminds you of a good project you’ve done or a happy environment you would take that with you, just to take a little essence to each [place]” (Appendix B, p.30, l.63). Interestingly, Toby adds found objects to his repertoire of place-making artefacts: “I’ve got a flag... a representation of work and stuff. I didn’t make this – I found it in the studio and just stuck it up on the wall” (Appendix B, p.27, l.19). With this concept in mind, Jill highlighted the difference between a blank, empty space and a decorated studio workstation:

Last year I didn’t put anything on the walls and I found it really difficult to motivate myself to go into [the studio] ... then I printed off some photographs from the holiday I’d been on. I put them up on the wall and I just felt more inclined to go and work there.

After putting something personal on it... so now I think about the idea of an empty desk as that kind of phase... I really didn't want to go to my desk. There was no reason to go there. (Appendix B, p.87, l.28)

The responses indicate that there is a clear need for using personal, subjective images and artefacts and practical materials as a means to create place. Toby verified this when he said, "I just brought practical things. Something I would use or materials. Nothing decorative" (Appendix B, p.31, l.69). Then he seems to bring the two personal and practical elements together as he explains: "I personalise it, like bring my own things into it or start making work and then from that I'll... start making things" (Appendix B, p.27, l.29). Certainly, Robyn is the only student to take place-making even further to feel at home within the studio: "I've got my slippers on... I think it's because I've started to come in during the weekends as well... I'm wanting it to be as homely as possible and not feel as office-like..." (Appendix B, p.143, l.46,48) and "I just need to be in here to feel like I'm being productive" (Appendix B, p.144, l.50). However, Jill has observed:

When I'm chatting to someone at their desk, I'm more aware of what's on their desk. How they've made their place. It's like [Mary] – she has got nothing on her desk at all and I've found that really weird. (Appendix B, p.87, l.26)

This awareness of other students' individual spaces and how they make place within them might explain why Robyn was distinctly aware and apologetic of her self-perceived messiness in the studio. Of her own desk, she said, "Look at the state of my desk! Oh my God!" (Appendix B, p.51, l.19) and "I'm so embarrassed" (Appendix B, p.68, l.38). This was especially bothersome to her if one of her peers had a reputation for tidiness, as she said: "Jill's desk is clean and organised" (Appendix B, p.58, l.128). The need for allocated, private space is measured out by the use of desk dividers and the boundaries these create between the students: "we love the dividers but we are always peeking over them" (Robyn, Appendix B, p.116, l.70). These boundaries deflect visual intrusion and contain physical belongings and artwork from others

within the studio environment as shown above in Figure 78. However, for Robyn, the desk dividers function as “dividers to differentiate people’s work and for me I was quite a messy worker, so I think people next to me were like ‘Oh my God, get that stuff away from me’” (Appendix B, p.9, l.20). Nonetheless, Robyn does say: “mine’s is [a] controlled mess and [a] tidy mess... I wouldn’t say I’m... tidy... but I like to have things in specific places” (Appendix B, p.113, l.28,30) and “I still feel like my desk is... a creative mess” (Appendix B, p.112, l.12). She also explains that the staff members regularly reprimand the students for generating mess: “Yesterday we got a telling off for being messy” (Robyn, Appendix B, p.22, l.190) and “The tutors keep saying how messy we are. But we’re like – ‘oh no, that’s a creative mess’” (Appendix B, p.112, l.8). Yet, Jill said she does: “try and shut it [the mess] off as long as my desk is under control” (Appendix B, p.101, l.56). As discussed in the previous chapter, Jill has extended the visible size of her space by installing a mirrored wall on one side of her desk (as shown in Figure 36 and Figure 37): “it’s not really a mirror, [it’s] a shiny piece of paper... now I’ve got the reflective bit, it doubles... makes my desk seem a lot bigger, but it also takes away the whiteness” (Appendix B, p.14, l.89, 91). This feature successfully doubles Jill’s visually organised space in a cluttered studio environment. The whiteness Jill referred to originates from the natural light flooding the gallery-like studio space.

Interestingly, in addition to the desk dividers, the students in third- and fourth-year are given access to wall space with their desks, which is seen as a privilege among the students. This seems to promote a greater degree of importance within the studio, as the students can openly display individual and group work in progress as participants of communal critiques. Jill describes this as: “a continuous cycle of stuff going up on the walls” (Appendix B, p.136, l.36). The impenetrable concrete architecture throughout the building also means it is challenging to use anything other than Blu-Tak® to fix work to the walls, so artwork must be lightweight: “you can’t hang anything, hang stuff” (Robyn, Appendix B, p.24, l.219). Taking place-making even further within the studio, Robyn said, “We started to take [mark] our heights on the wall and write on the wall” (Appendix B, p.114, l.42). Toby makes an interesting observation that finding

place within the studio environment also depends on factors external to the studio and community:

I think it might also have an effect on where you live and travel to the studio. There's more of a sense of commitment if you are coming from far away. If you live nearby, then it's always a temptation to just go home. (Appendix B, p.30, l.58)

Robyn also indicated that governance of the art school affected how the students make their sense of place within the studio and the wider art school itself: "we weren't allowed to put any posters up. So, the students were all... poster vigilantes and [were] putting them in really dangerous places" as a reaction to the ruling body (Appendix B, p.114, l.46). In the art school itself, there is a sense of preciousness in the internal spaces: "[it] feels precious as in you can't really do certain things in case you damage the build[ing]" (Robyn, Appendix B, p.7, l.14). The students are also constrained in the areas they can and can't work in, as Robyn explains: "The Green Room, which I was using for my last project. But I did get told off that it's not a project space, but then again it was massive shapes I was making and I couldn't do that at my desk" (Appendix B, p.22, l.201). She continued: "The spaces aren't used at all... If you put paper down and set up an easel, you could do some work in there... they didn't lock the doors so you could sneak in and do it. Now... they've locked the doors" (Appendix B, p.120, l.104) and while Jill said that "the project spaces are now offices" (Appendix B, p.23, l.212). Robyn describes the students' frustration:

The students are starting to get a little angry at the fact we can't use the studio in the way we want to use the studio... space-wise. You're not allowed to spray paint, but then some girls in the hall just putting paper up and taking photographs of it and they got their names taken. (Appendix B, p.121, l.114)

Toby adds to Robyn's statement, saying: "If you have guidelines telling you how to do something... you don't feel a sense of..." (Appendix B, p.29, l.51). Robyn also outlines the need

for good relationships with others in and around the studio and in the wider art school as an act of community: “I think classmates as well can play a big role. If it’s a hostile environment then no matter how many pugs [things] you put up [to feel at home]” (Appendix B, p.29, l.55).

In contrast to the large communal studio, the Communication Design students have priority and access to the small Case Room, which houses the letterpress machinery. Jill describes this readymade space:

Those specialist areas still have that kind of excitement that, you know, when you go in there – you are going to be productive. You’re not going in there to sit and do nothing, or sit and think. You are going in there because you’ve got an idea or because you don’t have an idea but you might experiment with something and I think that’s the difference between studio and this space. Studio has to be somewhere you can sit and think and you have no pressure to do anything... whereas in those rooms you go to actually make work, explore or develop something. (Appendix B, p.106, line114)

In summary, there are a number of important concepts appearing in the data from Case Study 1 relating to the physical studio space. These include the impact of the small, tightly packed desk formation and the students having permission to work in external areas and spaces within the broader art school. The lack of storage in the studio contributes to the physical mess in the populated studio environment. From the narrative data, it can be seen that by far the greatest demand is for an individual desk space and therefore, space to work. All the participants voiced strong opinions of space throughout Case Study 1. Robyn said, “I’ve got no space” (Appendix B, p.145, l.70) and “[I feel] enclosed like a cave” (Appendix B, p.4, l.4). Toby said that: “there’s times when you want to look at someone’s work who is next to you but you can’t because you are so close to them” (Appendix B, p.124, l.22). Jill agreed: “it is quite crammed, the desks and dividers fill most of the space, but the desks are quite sheltered” (Appendix B, p.5, l.5). Robyn also describes how the studio is constrictive due to the number and positions of the desks: “down the corridor between the desks is quite tight” (Appendix B, p.60, l.148) and “it’s quite

boxy as well... it's quite condensed, tight" (Appendix B, p.60, l.146). Robyn said, "being in an art school, you hoard quite a lot of things [in the hope] that they will come in handy" (Appendix B, p.112, l.14). She continued to reason: "I try to keep tidy to save space but due to lack of storage, [it's] quite cramped" (Appendix B, p.80, l.4). However, in one of the post-case study reflective interviews, Robyn said, "we've got better storage, but I don't know if that's because we're fourth year and we've got priority over space" (Appendix B, p.140, l.2).

When considering the physical space, Toby explains how the studio environment affects him: "it's a bit lofty... I feel a bit small. The building's imposing on me a little bit... It's... such a gallery" (Appendix B, p.12, l.66). The choice and layout of the furniture within the building affects the participants' ergonomic and spatial needs. Robyn said, "I need to sit with my legs up and sitting in a little ball and here I tend to just lounge about. But these are really uncomfortable as well. You can't sit right back. You have to kinda... slump" (Appendix B, p.15, l.96). Jill concurs: "I have the same problem at home as I do here. My knees don't fit under the desk very well and I've got quite long legs. I can't be comfortable because there is a board in front of you" (Appendix B, p.15, l.99). She suggests modifying the desk spaces so that it becomes: "an adjustable one so we could change the height of the desk or chair... for me, if I could raise the desk cos I can't cross my legs under the desk... you would be a bit more comfortable" (Appendix B, p.15, l.102). Robyn also suggests a normal studio needs "a wet area – that's got shelves, you've got your sink, you've got your kettle and microwave" (Appendix B, p.142, l.26).

Strong evidence exists on the impact the lack of space has on the student's practices: "The size and space of studio impacts the way I think about my work. I'm quite messy, so I'd work better in a big space" (Anon., Appendix B, p.6, l.12). Robyn explains, "sometimes when you are using big bits of paper or loads of little cut-outs the desk isn't big enough" (Appendix B, p.22, l.199). Jill verified this, as she said, "Everything I've done this year has been computer-based... it's easier than the hassle of finding spaces and booking spaces and having that limited amount of time [in the space]" (Appendix B, p.137, l.48,52). Toby corroborates this notion as he has "noticed a bigger shift in my work... It became... smaller scale and I put a lot of blame on the

fact that studio space was a limiting thing” (Appendix B, p.128, l.72) and “there is no space you can do big work” (Appendix B, p.23, l.208). He continued to say: “it has definitely affected the work I’ve made... it’s become a lot more digital-based and less expressive... I’m not saying I don’t like the work I make now, but I don’t think it has the same kind of free will” (Appendix B, p.13, l.77).

Yet, a striking observation to emerge from Robyn’s narrative is her willingness to defend the studio space: “I’ve accepted that it’s not going to change any time soon. I’m going to have to live with it. I feel like I badmouth it but if someone else badmouthed it, I would defend it... I’ve grown to like it” (Appendix B, p.92, l.58). Jill said, “I’ve become more aware of the studio space and what we have. What I like about it and what I don’t like about it. I’ve adapted it a bit more to make myself more comfortable” (Appendix B, p.102, l.72). In agreement, Toby said, “I feel more at ease with the studio. I’ve come to terms with limitations the studio gives us and how I worked out those limitations” (Appendix B, p.125, l.28). He continued: “I still think we’re controlled a bit by our space, but I think I’ve got a better understanding of [it]” (Appendix B, p.148, l.16). Interestingly, Toby admits: “I don’t think I’ve ever had a perfect work space” (Appendix B, p.15, l.101).

The following table presents the responses and key phrases from each student in Case Study 1 under the descriptive code Place/Space (Table 23). The frequency of the collated concepts situated in the key phrases from the participants responses are presented in Table 24. This table evidences that although place-making is necessary in learning spaces, the participants disliked their allocated, institutional place due to the cramped conditions. Furthermore, sound originating from the people within the university was dominant in the studio.

Case Study 1: An art school in the UK			
Descriptive code	Student	Number of identifiable responses from transcripts	Key phrases
Place	Robyn	31	<p>"We felt more at home because you could draw on the wall." "I bought tea and coffee. Practical things." "If you've got an object that reminds you of a good project you've done or a happy environment, you would take that with you. Just to take a little essence to each [place]."</p>
	Jill	30	<p>"I think we're using the walls a lot more this year. Almost everyone that's got a wall space has got things on the walls." "I think it always takes a while to get settled... It didn't quite feel right at first. Now it feels like it's fine." "You've got your space to work in and it's set up how you like it. It's a nice feeling coming in and it's all there ready for you."</p>
	Toby	17	<p>"I just brought practical things. Something I would use or materials. Nothing decorative. That just comes from what I do." "So they are the ones I'll take with me whenever I go next. It's like if something really means something to you, you'd take that with you. In terms of your desk, if you want that there. Yes, as long as it means something."</p>
Space	Robyn	47	<p>"We've got better storage, but I don't know if that's just because we're fourth year and we've got priority over space." "I've noticed how messy we are. The tutors keep saying how messy we are. But we're like – "Oh no, that's creative mess"." "I use my desk as a working space... The sofa space is where you eat and where you socialise... I think it's like the psychological separation."</p>
	Jill	46	<p>"I've not used any other spaces than the studio... it's just too much hassle to actually make it happen." "Thinking and doing. In the same way you need studio space and home space... need that kind of physical and mental [space]. Different places you kind of expect different things of yourself... different expectations for different rooms."</p>
	Toby	42	<p>"We do need a bigger space." "I feel more at ease with the studio. I've come to terms with limitations the studio gives us..." "A bit cramped and awkward sometimes so it's like being huddled into a little square."</p>

Table 23. The responses and key phrases from each student in Case Study 1 under the descriptive code Place / Space. © L. Marshalsey, 2016.

Case Study 1: An art school in the UK			
Descriptive code		Collated concepts	Frequency of related language
Place	1	A 'homey' feel to spaces is a form of place-making, using sofas and soft furnishings, 'tucked away' in corners and walls	39
	2	Dislikes or embarrassed by their institutional 'place', "I'm so messy"	18
	3	Posters, books, photographs and artefacts on display	17
	4	The students value their own (and others') artwork on display	16
	5	Nostalgic or 'sense of place' attachment to furniture, design, people, practice and artefacts in the studio	16
	6	Own or readily available materials and tools on display, accessible or nearby	15
	7	Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	11
	8	Clean spaces = clear mind / organised and structured space inside the studio promotes focus	10
	9	Envious of other people's studio spaces	3
	10	Prefers resources / to work at home rather than at university	1
Space	1	Sound originating from studio / creative space / within the university	117
	2	University studios feel temporary, cramped, claustrophobic or resemble classrooms / offices	30
	3	Suggests arranging the furniture differently or re-assigning the function of the space would make a difference to studio engagement	26
	4	Has difficulty moving around and working in the space / limitations	25
	5	Students in proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio	21
	6	Large or empty rooms and open spaces may not be conducive to creative work or focus	17
	7	Spaces for listening, thinking and talking help students focus, but these spaces are generally not for creative work	14
	8	Spaces with 'creative mess' are more appealing and easier to work in	9
	9	Formal arrangement of furniture in the space / table 'islands'	4
	10	Would be encouraging to have 'paint sections' and 'wet areas' in studio space	3
	11	Dislikes their institutional space	3
	12	Struggling to become inspired, productive and enthusiastic in the studio space	3
	13	A large centre table within a smaller room feels creative	1
	14	Student does not like to have back to the rest of the room or the door	1
	15	Works in a café rather than the university studio	1

Table 24. The frequency of the collated concepts appearing in Case Study 1 under the descriptive code Place / Space. © L. Marshalsey, 2016.

6.7.4 Tools

The experiential learning by doing model focused on advocating hands-on exploration, using tools that enabled participants to gather information about their learning environment, and therefore, understand it better (Fry, et al., 2008). When both participant and object are active, knowledge is created (Piaget, 1954). The participants responded through play, tools and artefacts in this investigation. The Participatory Design (PD) research methods captured what participants said about their experiences of their studio environment, and how their Communication Design practice might be adapted in order to take account of and work with sensory affect more explicitly using these PD tools.

An interesting observation arises from the data when the participants evaluate the impact of sensory affect on their current practice. They prefer hands-on processes, drawing and tactile tools; yet numerous instances of digital practice were also identified in the analysis. In the first week of the research investigation, Toby admitted to working with “found object, drawing, sculpture... I hope to do more hand-rendered typographic works in the future – I feel the digital makes this too easy” (Appendix B, p.82, l.11). Toby typified the participants’ attitudes towards conventional processes when he said, “hands-on techniques allow you to appreciate the characteristics of traditional methods” (Appendix B, p.6, l.11). In the closing stages of the case study, Toby reflected through a self-review of his practice throughout his third-year and admitted:

I did a few big paintings. Just because I was really depressed with the computer work I’d made all year. I wanted to do something completely, drastically different... I felt it was wrong to make something on the computer. I had to have more than one voice.
(Appendix B, p.125, l.30, p.126, l.44)

He continued to say: “It made me aware of how much my work is digital this year... I don’t know whether it’s a bad thing to get so locked into a digital world. And I wonder if the building has had

an impact on that” (Appendix B, p.96, l.40). Jill supported this view as she said, “A lot of stuff I have been doing this term has been on the computer. I know that’s not what I enjoy, so I don’t know why I keep going back to it” (Appendix B, p.138, l.56). Jill continued, “I don’t do anything other than paper, pens, digital stuff in this studio” (Appendix B, p.14, l.82), although she does briefly state “so hand drawing things... physically making things rather than [making them] digitally” (Appendix B, p.138, l.56). Robyn notes that: “I started to draw and then just went straight to digital” (Appendix B, p.42, l.28). She also explains: “a lot of people have designed digital things... some of its hand painted... You don’t just be a graphic designer on a computer” (Appendix B, p.119, l.98). Jill thinks that having tools readily available has had an influence on her choice method of practice, as she said,

I can’t really work until I’ve got a stationary kind of layout... When I’m working, I have everything I need. There is nothing more annoying than if you are trying to do work and you say; “oh, I’ll just use that”, and I don’t have it here at my desk. It’s at home or I need to go and get it from somewhere else. (Appendix B, p.28, l.37)

This theme continued when Robyn concludes the disruption to the participants’ conventional studio practice as due to the lack of a wet area: “There is not a sink in the graphics studio. You have to either go down to Illustration or go to the toilet” (Appendix B, p.14, l.80). She also reluctantly chooses to work at home with her own resources instead of utilising the studio resources: “with the last project I had to use an iron. I had to go home and do it... if I was in my own studio, you’d have them all in hand” (Appendix B, p.92, l.54). She also regularly uses other spaces and resources external to the studio: “I went into the library and I was photocopying stuff” (Appendix B, p.49, l.100). However, when introducing digital recording tools into the studio (such as the GoPro® film cameras used in one of the research activities), Robyn said people become self-conscious: “At first you were a bit self-conscious but probably after about five minutes you were fine. It was the other people – they got really edgy” (Appendix B, p.50, l.5).

Taken together, these responses suggest that traditional and digital production methods provide varying levels of sensory engagement. In particular, traditional methods are noted for being messy and tactile (for example, when using letterpress and wet ink). Digital processes are referred to as clean and dry, and require equipment on a smaller, more portable scale than traditional techniques do. The availability of a wide range of non-specialist and specialist resources in the art school, such as letterpress and digital facilities, offers the students free choice to experiment with their creative process and to develop projects. Jill explains: “we’ve been working on a couple of projects in the Case Room and now we’re... more free, to kind of experiment. [We have] more confidence to do things” (Appendix B, p.86, l.18). She reasons: “you achieve something. You come out the Case Room and you’ve got all this stuff... to go to the woodwork shop and come out with something that I’ve made” (Appendix B, p.20, l.167,169). Robyn agreed: “...Case Room and also screen-printing – so much fun and something to be proud of at the end” (Appendix B, p.81, l.11). She explains: “with digital stuff, you can tinker at it, whereas with the Case Room, you print. The only way to see if you have something worthwhile is to print it, look at it and do it again. I like the idea of the really hands-on aspect” (Appendix B, p.91, l.44). She also verified that: “The hands-on approach helps me to better understand typefaces, etc” (Appendix B, p.6, l.11). Toby reflected: “[I was] doing a hand-rendered workshop a couple of weeks ago and I really enjoyed the process. We used watercolours to do it. I’ve never done that before” (Appendix B, p.95, l.28).

The following table presents the responses and key phrases from each student in Case Study 1 under the descriptive code Tools (Table 25). The frequency of the collated concepts situated in the key phrases from the participants responses are presented in Table 26. This table indicates that hands-on processes and tools were favoured slightly more than online and digital practice.

Case Study 1: An art school in the UK			
Descriptive code	Student	Number of identifiable responses from transcripts	Key phrases
Tools	Robyn	21	<p>"I've got my ear plugs in...Ear plugs and I put my earphones on as well. I need it to be silent."</p> <p>"Case Room and also screen printing. So much fun and something to be proud of at the end."</p> <p>"I started to draw and then just went straight to digital."</p>
	Jill	17	<p>"A lot of stuff I have been doing this term has been on the computer. I know that's not what I enjoy, so I don't know why I keep going back to it." "I don't do anything other than paper, pens, digital stuff in this studio."</p> <p>"We've been working on... projects in the Case Room and now we're more free to kind of experiment. More confidence to do those things."</p>
	Toby	20	<p>"A lot of my work this term has been computer-based... I haven't really got into that analogue mode yet. Maybe I won't."</p> <p>"I turn my laptop on and maybe use headphones to kind of zone out of the surroundings... nothing much more than that."</p> <p>"I hope to do more hand-rendered typographic works in the future – I feel the digital makes this too easy."</p>

Table 25. The responses and key phrases from each student in Case Study 1 under the descriptive code Tools. © L. Marshalsey, 2016.

Case Study 1: An art school in the UK			
Descriptive code		Collated concepts	Frequency of related language
Tools	1	Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes	39
	2	Uses digital practice and the Internet as a resource	35
	3	Posters, books, photographs and artefacts on display	17
	4	Own or readily available materials and tools on display, accessible or nearby	15
	5	Using tools to overcome sensory affect such as noise-cancelling headphones	11
	6	Feels like a creative student when doing creative activities such as screen printing	10
	7	Trying to limit digital production in the students' own practice or disregarded digital practice	10
	8	Wet materials and resources not working effectively or not accessible for all students	3
	9	Has difficulty translating digital work into a tangible, real outcome or is uncomfortable with digital resources	3
	10	Evolves initial paper sketches into digital practice	1
	11	Prefers resources at home rather than at university	1
	12	Would be encouraging to have 'paint sections' and 'wet areas' in studio	1
	13	Does not like or cannot bring resources and tools to university	1
	14	Requires more suitable resources to be able to work effectively or focus	1
	15	Takes regular breaks from the computer	1

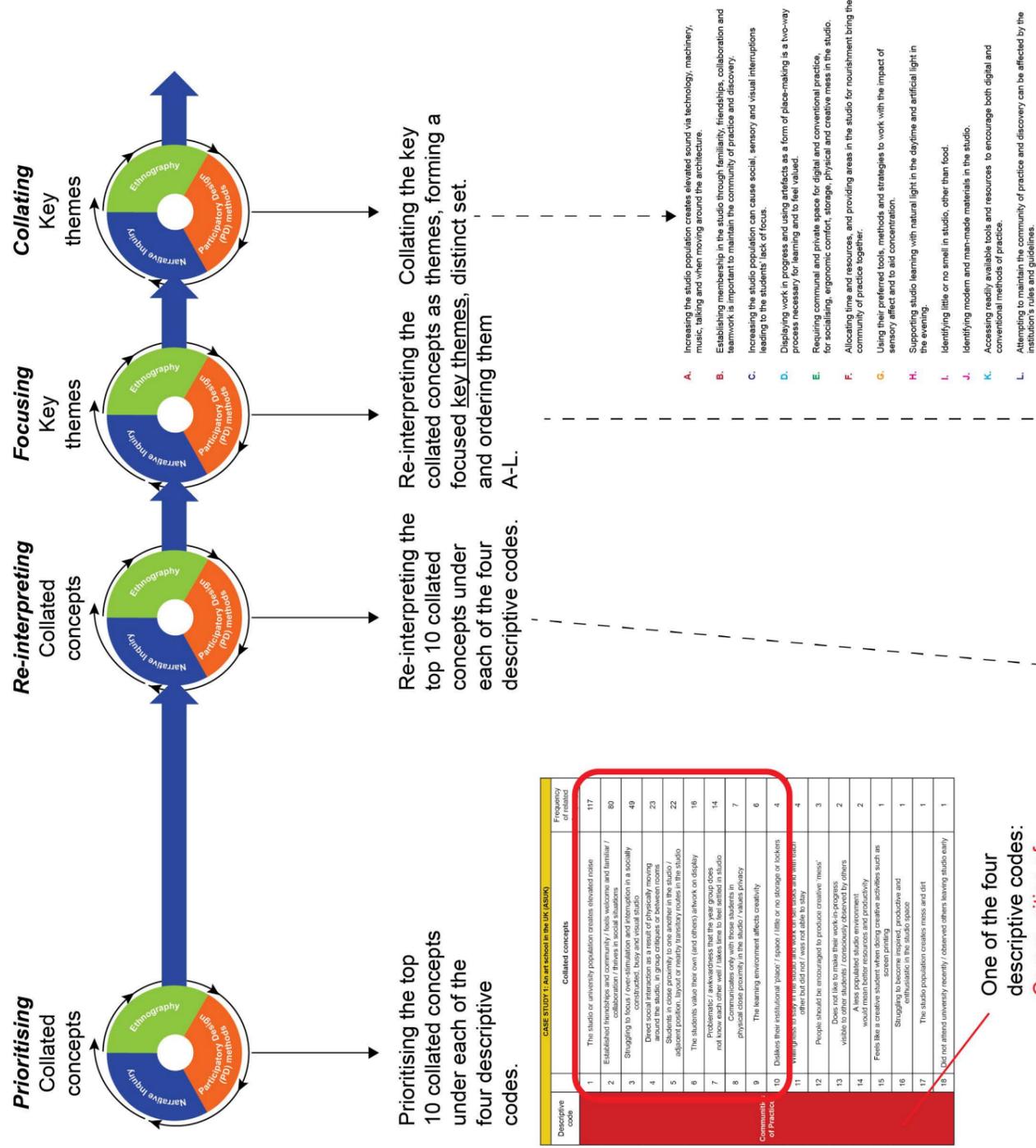
Table 26. The frequency of the collated concepts appearing in Case Study 1 under the descriptive code Tools. © L. Marshalsey, 2016.

6.8 Stage 4 analysis: Key themes

The last step in the analysis and interpretation of Case Study 1 is the post-coding identification, categorisation and classification of **key themes**, as shown in Figure 79. These key themes prioritise the essential meanings drawn from the collated concepts. This technique loosely employs Saldaña's (2016, p.186) "top ten list" focusing strategy. Saldaña's strategy encourages the extraction of no more than 10 quotes or passages from memos, interview transcripts and field notes that are unusually interesting (2016). These are considered and arranged in a suitable order, and this arrangement is based on the unique characteristics provided by the

data. This strategy aids the intentional selection of a limited number of collated concepts that have emerged in this study, so as to focus the parameters of this investigation. In this study, the top 10 collated concepts from each descriptive code table (which occasionally repeated concepts) are produced from the most remarkable observations made by the participants themselves. These qualitative observations originate from the narrative inquiry and this focusing strategy enables the various interpretations of studio learning to be prioritised and reflected upon. Next, the top 10 collated concepts from each of the tables 20, 22, 24 and 26 have been selected. According to conceptual similarity, significance and frequency, these concepts are then collapsed together and re-interpreted into a broader set of central themes. This reduction forms a distinct set of identifiable key themes A-L as shown in Table 27, which can be taken forward into the analysis of Case Study 2. The organisation of the raw data into patterns of descriptive coding and the collated concepts form these larger units of abstraction (Saldaña, 2016). This helped to make sense of the data from Case Study 1 and address the research questions. The following key themes interpret and summarise the variety of perspectives expressed by the participants and me within the selected art school in the UK.

Narrative Inquiry analysis / Stage 4: Key themes - Case Study 1



One of the four descriptive codes: Communities of Practice

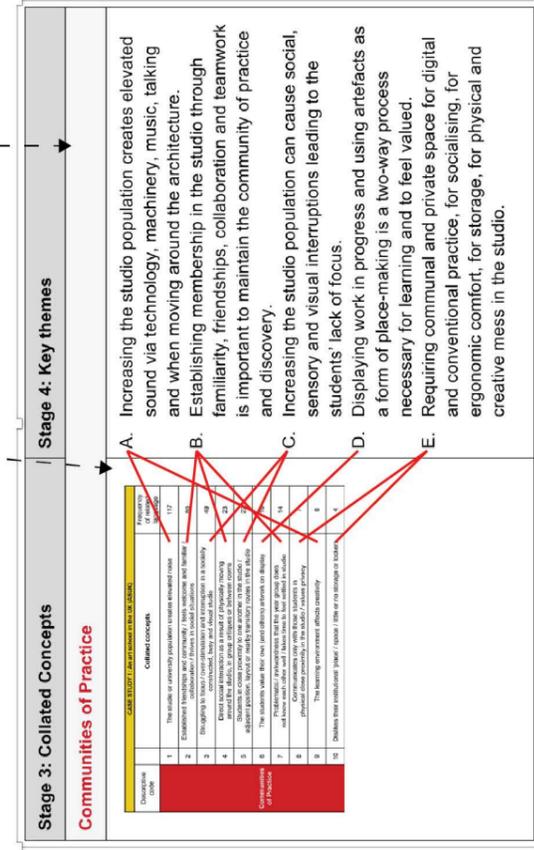


Figure 79. The process of narrative inquiry Stage 4 analysis: prioritising and re-interpreting the collated concepts to form key themes. © L. Marshalsey, 2016.

Stage 3: Collated Concepts	Stage 4: Key themes																																				
Communities of Practice																																					
<table border="1"> <thead> <tr> <th colspan="3" style="background-color: #ffff00;">CASE STUDY 1: An art school in the UK (ASDK)</th> </tr> <tr> <th style="background-color: #ff0000; color: white;">Descriptive code</th> <th style="background-color: #ff0000; color: white;">Collated concepts</th> <th style="background-color: #ff0000; color: white;">Frequency of related language</th> </tr> </thead> <tbody> <tr> <td style="background-color: #ff0000; color: white;">1</td> <td>The studio or university population creates elevated noise</td> <td>117</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">2</td> <td>Established friendships and community / feels welcome and familiar / collaboration / thrives in social situations</td> <td>90</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">3</td> <td>Struggling to focus / over-stimulation and interruption in a socially constructed, busy and visual studio</td> <td>49</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">4</td> <td>Direct social interaction as a result of physically moving around the studio, in group critiques or between rooms</td> <td>23</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">5</td> <td>Students in close proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio</td> <td>22</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">6</td> <td>The students value their own (and others) artwork on display</td> <td>16</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">7</td> <td>Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio</td> <td>14</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">8</td> <td>Communicates only with those students in physical close proximity in the studio / values privacy</td> <td>7</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">9</td> <td>The learning environment affects creativity</td> <td>6</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">10</td> <td>Dislikes their institutional 'place' / space / little or no storage or lockers</td> <td>4</td> </tr> </tbody> </table>	CASE STUDY 1: An art school in the UK (ASDK)			Descriptive code	Collated concepts	Frequency of related language	1	The studio or university population creates elevated noise	117	2	Established friendships and community / feels welcome and familiar / collaboration / thrives in social situations	90	3	Struggling to focus / over-stimulation and interruption in a socially constructed, busy and visual studio	49	4	Direct social interaction as a result of physically moving around the studio, in group critiques or between rooms	23	5	Students in close proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio	22	6	The students value their own (and others) artwork on display	16	7	Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	14	8	Communicates only with those students in physical close proximity in the studio / values privacy	7	9	The learning environment affects creativity	6	10	Dislikes their institutional 'place' / space / little or no storage or lockers	4	<p>A. Increasing the studio population creates elevated sound via technology, machinery, music, talking and when moving around the architecture.</p> <p>B. Establishing membership in the studio through familiarity, friendships, collaboration and teamwork is important to maintain the community of practice and discovery.</p> <p>C. Increasing the studio population can cause social, sensory and visual interruptions leading to the students' lack of focus.</p> <p>D. Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.</p> <p>E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio.</p>
CASE STUDY 1: An art school in the UK (ASDK)																																					
Descriptive code	Collated concepts	Frequency of related language																																			
1	The studio or university population creates elevated noise	117																																			
2	Established friendships and community / feels welcome and familiar / collaboration / thrives in social situations	90																																			
3	Struggling to focus / over-stimulation and interruption in a socially constructed, busy and visual studio	49																																			
4	Direct social interaction as a result of physically moving around the studio, in group critiques or between rooms	23																																			
5	Students in close proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio	22																																			
6	The students value their own (and others) artwork on display	16																																			
7	Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	14																																			
8	Communicates only with those students in physical close proximity in the studio / values privacy	7																																			
9	The learning environment affects creativity	6																																			
10	Dislikes their institutional 'place' / space / little or no storage or lockers	4																																			
Sensory Affect																																					
<table border="1"> <thead> <tr> <th colspan="3" style="background-color: #ffff00;">CASE STUDY 1: An art school in the UK (ASDK)</th> </tr> <tr> <th style="background-color: #ff00ff; color: white;">Descriptive code</th> <th style="background-color: #ff00ff; color: white;">Collated concepts</th> <th style="background-color: #ff00ff; color: white;">Frequency of related language</th> </tr> </thead> <tbody> <tr> <td style="background-color: #ff00ff; color: white;">1</td> <td>Sound originating from the building and people</td> <td>117</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">2</td> <td>Struggling to focus / over-stimulation and interruption in a socially constructed, busy and visual studio</td> <td>49</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">3</td> <td>Food, water and sustenance required for creativity, food smells, taste</td> <td>38</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">4</td> <td>Strategies to overturn sensory affect i.e. 'zoning out' 'washing hands' 'using headphones' 'weekend working when it's quiet'</td> <td>26</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">5</td> <td>Music to relax to, to focus, acceptable level of noise</td> <td>22</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">6</td> <td>Artificial lighting and/or natural light, whiteness</td> <td>18</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">7</td> <td>Little or no identifiable smell in studio, clean or clinical smell</td> <td>17</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">8</td> <td>'Touch' objects, surfaces, furnishings and furniture in the studio</td> <td>16</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">9</td> <td>Prefers or refers to a quiet or silent studio</td> <td>13</td> </tr> <tr> <td style="background-color: #ff00ff; color: white;">10</td> <td>Creative 'mess' and practice-led textures in the studio</td> <td>13</td> </tr> </tbody> </table>	CASE STUDY 1: An art school in the UK (ASDK)			Descriptive code	Collated concepts	Frequency of related language	1	Sound originating from the building and people	117	2	Struggling to focus / over-stimulation and interruption in a socially constructed, busy and visual studio	49	3	Food, water and sustenance required for creativity, food smells, taste	38	4	Strategies to overturn sensory affect i.e. 'zoning out' 'washing hands' 'using headphones' 'weekend working when it's quiet'	26	5	Music to relax to, to focus, acceptable level of noise	22	6	Artificial lighting and/or natural light, whiteness	18	7	Little or no identifiable smell in studio, clean or clinical smell	17	8	'Touch' objects, surfaces, furnishings and furniture in the studio	16	9	Prefers or refers to a quiet or silent studio	13	10	Creative 'mess' and practice-led textures in the studio	13	<p>A. Increasing the studio population creates elevated sound via technology, machinery, music, talking and when moving around the architecture.</p> <p>C. Increasing the studio population can cause social, sensory and visual interruptions leading to the students' lack of focus.</p> <p>E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio.</p> <p>F. Allocating time and resources, and providing areas in the studio for nourishment bring the community of practice together.</p> <p>G. Using their preferred tools, methods and strategies to work with the impact of sensory affect and to aid concentration.</p> <p>H. Supporting studio learning with natural light in the daytime and artificial light in the evening.</p> <p>I. Identifying little or no smell in studio, other than food.</p> <p>J. Identifying modern and man-made materials in the studio.</p>
CASE STUDY 1: An art school in the UK (ASDK)																																					
Descriptive code	Collated concepts	Frequency of related language																																			
1	Sound originating from the building and people	117																																			
2	Struggling to focus / over-stimulation and interruption in a socially constructed, busy and visual studio	49																																			
3	Food, water and sustenance required for creativity, food smells, taste	38																																			
4	Strategies to overturn sensory affect i.e. 'zoning out' 'washing hands' 'using headphones' 'weekend working when it's quiet'	26																																			
5	Music to relax to, to focus, acceptable level of noise	22																																			
6	Artificial lighting and/or natural light, whiteness	18																																			
7	Little or no identifiable smell in studio, clean or clinical smell	17																																			
8	'Touch' objects, surfaces, furnishings and furniture in the studio	16																																			
9	Prefers or refers to a quiet or silent studio	13																																			
10	Creative 'mess' and practice-led textures in the studio	13																																			

Place / Space																															
<table border="1"> <thead> <tr> <th colspan="3">CASE STUDY 1: An art school in the UK (ASUR)</th> </tr> <tr> <th>Descriptive code</th> <th>Collated concepts</th> <th>Frequency of related language</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Place</td> <td>1 A 'homey' feel to spaces is a form of place-making, using sofas and soft furnishings, 'lucked away' in corners and walls</td> <td>39</td> </tr> <tr> <td>2 Dislikes or embarrassed by their institutional 'place', 'I'm so messy'</td> <td>18</td> </tr> <tr> <td>3 Posters, books, photographs and artefacts on display</td> <td>17</td> </tr> <tr> <td>4 The students value their own (and others) artwork on display</td> <td>15</td> </tr> <tr> <td>5 Nostalgic or 'sense of place' attachment to furniture, design, people, practice and artefacts in the studio</td> <td>16</td> </tr> <tr> <td rowspan="5">Space</td> <td>1 Sound originating from studio / creative space / within the university</td> <td>117</td> </tr> <tr> <td>2 University studios feel temporary, cramped, claustrophobic or resemble classrooms / offices</td> <td>30</td> </tr> <tr> <td>3 Suggests arranging the furniture differently or re-assigning the function of the space would make a difference to studio engagement</td> <td>26</td> </tr> <tr> <td>4 Has difficulty moving around and working in the space / limitations</td> <td>25</td> </tr> <tr> <td>5 Students in close proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio</td> <td>21</td> </tr> </tbody> </table>			CASE STUDY 1: An art school in the UK (ASUR)			Descriptive code	Collated concepts	Frequency of related language	Place	1 A 'homey' feel to spaces is a form of place-making, using sofas and soft furnishings, 'lucked away' in corners and walls	39	2 Dislikes or embarrassed by their institutional 'place', 'I'm so messy'	18	3 Posters, books, photographs and artefacts on display	17	4 The students value their own (and others) artwork on display	15	5 Nostalgic or 'sense of place' attachment to furniture, design, people, practice and artefacts in the studio	16	Space	1 Sound originating from studio / creative space / within the university	117	2 University studios feel temporary, cramped, claustrophobic or resemble classrooms / offices	30	3 Suggests arranging the furniture differently or re-assigning the function of the space would make a difference to studio engagement	26	4 Has difficulty moving around and working in the space / limitations	25	5 Students in close proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio	21	<p>A. Increasing the studio population creates elevated sound via technology, machinery, music, talking and when moving around the architecture.</p> <p>B. Establishing membership in the studio through familiarity, friendships, collaboration and teamwork is important to maintain the community of practice and discovery.</p> <p>C. Increasing the studio population can cause social, sensory and visual interruptions leading to the students' lack of focus.</p> <p>D. Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.</p> <p>E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio.</p>
CASE STUDY 1: An art school in the UK (ASUR)																															
Descriptive code	Collated concepts	Frequency of related language																													
Place	1 A 'homey' feel to spaces is a form of place-making, using sofas and soft furnishings, 'lucked away' in corners and walls	39																													
	2 Dislikes or embarrassed by their institutional 'place', 'I'm so messy'	18																													
	3 Posters, books, photographs and artefacts on display	17																													
	4 The students value their own (and others) artwork on display	15																													
	5 Nostalgic or 'sense of place' attachment to furniture, design, people, practice and artefacts in the studio	16																													
Space	1 Sound originating from studio / creative space / within the university	117																													
	2 University studios feel temporary, cramped, claustrophobic or resemble classrooms / offices	30																													
	3 Suggests arranging the furniture differently or re-assigning the function of the space would make a difference to studio engagement	26																													
	4 Has difficulty moving around and working in the space / limitations	25																													
	5 Students in close proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio	21																													
<table border="1"> <thead> <tr> <th colspan="3">CASE STUDY 1: An art school in the UK (ASUR)</th> </tr> <tr> <th>Descriptive code</th> <th>Collated concepts</th> <th>Frequency of related language</th> </tr> </thead> <tbody> <tr> <td rowspan="10">Tools</td> <td>1 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes</td> <td>39</td> </tr> <tr> <td>2 Uses digital practice and the Internet as a resource</td> <td>35</td> </tr> <tr> <td>3 Posters, books, photographs and artefacts on display</td> <td>17</td> </tr> <tr> <td>4 Own or readily available materials and tools on display, accessible or nearby</td> <td>15</td> </tr> <tr> <td>5 Using tools to overcome sensory affect such as 'noise-cancelling headphones'</td> <td>11</td> </tr> <tr> <td>6 Feels like a creative student when doing creative activities such as screen printing</td> <td>10</td> </tr> <tr> <td>7 Trying to limit digital production in the students' own practice or disregarded digital practice</td> <td>10</td> </tr> <tr> <td>8 Wet materials and resources not working effectively or not accessible for all students</td> <td>3</td> </tr> <tr> <td>9 Has difficulty translating digital work into a tangible, real outcome or is uncomfortable with digital resources</td> <td>3</td> </tr> <tr> <td>10 Evolves initial paper sketches into digital practice</td> <td>1</td> </tr> </tbody> </table>			CASE STUDY 1: An art school in the UK (ASUR)			Descriptive code	Collated concepts	Frequency of related language	Tools	1 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes	39	2 Uses digital practice and the Internet as a resource	35	3 Posters, books, photographs and artefacts on display	17	4 Own or readily available materials and tools on display, accessible or nearby	15	5 Using tools to overcome sensory affect such as 'noise-cancelling headphones'	11	6 Feels like a creative student when doing creative activities such as screen printing	10	7 Trying to limit digital production in the students' own practice or disregarded digital practice	10	8 Wet materials and resources not working effectively or not accessible for all students	3	9 Has difficulty translating digital work into a tangible, real outcome or is uncomfortable with digital resources	3	10 Evolves initial paper sketches into digital practice	1	<p>D. Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.</p> <p>E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio.</p> <p>G. Using their preferred tools, methods and strategies to work with the impact of sensory affect and to aid concentration.</p> <p>K. Accessing readily available tools and resources to encourage digital and conventional methods of practice.</p> <p>L. Attempting to maintain the community of practice and discovery can be affected by the institution's rules and guidelines.</p>	
CASE STUDY 1: An art school in the UK (ASUR)																															
Descriptive code	Collated concepts	Frequency of related language																													
Tools	1 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes	39																													
	2 Uses digital practice and the Internet as a resource	35																													
	3 Posters, books, photographs and artefacts on display	17																													
	4 Own or readily available materials and tools on display, accessible or nearby	15																													
	5 Using tools to overcome sensory affect such as 'noise-cancelling headphones'	11																													
	6 Feels like a creative student when doing creative activities such as screen printing	10																													
	7 Trying to limit digital production in the students' own practice or disregarded digital practice	10																													
	8 Wet materials and resources not working effectively or not accessible for all students	3																													
	9 Has difficulty translating digital work into a tangible, real outcome or is uncomfortable with digital resources	3																													
	10 Evolves initial paper sketches into digital practice	1																													

Table 27. The top 10 collated concepts from each descriptive code table have been selected and re-interpreted as a distinct set of identifiable key themes A-L. © L. Marshalsey, 2016.

6.9 Summary

The preceding sections have provided a holistic overview of the culture-sharing studio group and have specifically drawn out the value judgements the participants placed on their own insights, which aided the formation of the key thematic units of analysis (A-L) within Case Study 1 (Creswell, 2013, p.291). From the multiple perspectives, realistic scenarios, and detailed

stories, the participants and I attempted to make sense of their behaviours in response to their shifting and transforming experiences of sensory affect within the real-life studio learning. In particular, the participants have built a strong rationale to understand why they do what they do and how they do it. This case study was participatory in the sense that the participants took greater ownership of the data as this investigation progressed. The research activities became more about the participants' own experiences within their everyday studio rather than about the participants and I as regular co-inhabitants of this particular studio together. As an outsider in this institution, I approached this case study with less didacticism than in Case Study 2.

In conclusion, the four-stage approach to analysis has produced a definitive list of key themes relating to the experiential impact of sensory affect in contemporary Communication Design studio education. To recap, the distinct set of key themes, which can be clearly mapped back to the data set, are shown in Table 28.

- A.** Increasing the studio population creates elevated sound via technology, machinery, music, talking and when moving around the architecture.
- B.** Establishing membership in the studio through familiarity, friendships, collaboration and teamwork is important to maintain the community of practice and discovery.
- C.** Increasing the studio population can cause social, sensory and visual interruptions leading to the students' lack of focus.
- D.** Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.
- E.** Requiring communal and private space for digital and conventional practice, for socialising, ergonomic comfort, storage, physical and creative mess in the studio.
- F.** Allocating time and resources, and providing areas in the studio for nourishment bring the community of practice together.
- G.** Using their preferred tools, methods and strategies to work with the impact of sensory affect and to aid concentration.
- H.** Supporting studio learning with natural light in the daytime and artificial light in the evening.
- I.** Identifying little or no smell in studio, other than food.
- J.** Identifying modern and man-made materials in the studio.
- K.** Accessing readily available tools and resources to encourage both digital and conventional methods of practice.
- L.** Attempting to maintain the community of practice and discovery can be affected by the institution's rules and guidelines.

Table 28. The key themes (A-L) from Case Study 1. © L. Marshalsey, 2016

The next two chapters detail and interrogate the data from Case Study 2 as a means to rigorously investigate the framework and interpretation of this second setting before the discussion of the findings in the closing chapters of this thesis.

7 CASE STUDY 2: A COLLEGE OF ART IN AUSTRALIA

7.1 Purpose and rationale

In this chapter, I describe the chronological framework of Case Study 2 conducted in collaboration with a group of case study participants (students) at a college of art in Australia. This case study provides a progressive account of the participatory and exploratory ethnographic methods used to obtain data in a second context; specifically, studio-based classrooms. Case Study 2 continues to explore participants' conceptions of sensory affect and its relationship to learning in order to identify the emergent outcomes of the broader study. However, this chapter does not describe in detail all of the 8-week research activities, as Chapter 5 does for Case Study 1. This is to avoid repeating the descriptions of identical activities, such as the Week 1 questionnaire (explained in Chapter 5) and due, in part, to some of the Case Study 2 activities being less responsive than others, such as the smell and taste workshop. Furthermore, from Week 2 onwards, the methods in each case study differed slightly and therefore, those activities that were most responsive to the Case Study 2 participants are outlined in this chapter.

To begin the process of investigating Case Study 2, the pre-research recruitment presentation took place on 24 March 2015. Following this, I collaborated with seven participants and the weekly research workshops were conducted over 8 weeks within the college of art in Australia. These core research activities occurred from July until September 2015, and these are described more fully in Table 31. The research then extended into one further post-case study session in July 2016, as one participant agreed to contribute further.

7.1.1 Case Study methodology

Facilitating the action research case study approach across two different educational institutions meant the range of research methods used was closely maintained and modified, as necessary,

in the second site. The studio environment in Case Study 1 (the specialised art school setting) is very different to that of Case Study 2 (the mainstream university setting). Consequently, the questionnaire and opening focus group discussion of the questionnaire responses remained the same in the first two weeks of both case studies to establish a baseline of data relating to the issues pertinent to each institution. The data collection stages in this case study were again conducted across an eight-week timeframe as (1) reflective workshop activities undertaken in groups and (2) reflexive activities and research methods undertaken as individuals.

7.1.2 Orientation

I briefly visited this Australian university in July 2014, one year prior to commencing Case Study 2, to consider its suitability as a second case study. I observed its position as a college of art as well as within the larger institution across two campuses. I spent two days touring these university campuses and met with Design students and staff. I delivered an introductory presentation outlining my PhD study to a cohort of Design educators and third-year Graphic Design students for approximately one hour. The Digital Media department (inclusive of Graphic and Communication Design) is situated across the ground floors of three adjacent buildings in one of the campuses chosen for this study. I photographed the design buildings and the campus settings to observe and document the undergraduate studio culture. As previously mentioned in Chapter 5, the data from the Case Study 2 orientation visit has not been included in the accompanying appendices for reasons of anonymity. The full case study transcripts from the broader study are provided on the accompanying USB only.

7.1.3 Recruitment

On 24 March 2015, and six months before the full case study activities began, I conducted a one-day, two-stage research activity with a group of third-year Digital Media students as a means to provide prospective participants with an orientation to Case Study 2. Prospective participants were identified and selected through their enrolment in the Bachelor of Digital

Media (BDMe), majoring in Graphic Design, at this university. The course content for this degree sits within a modular timetable delivery, which means that the year group are not based in one specialised location. I gained access to this group via permission from one of the Design educators who allowed me to conduct this recruitment activity with their core Design class, which consisted of 69 students. The research orientation activities comprised one short, individual drawing task (the students were asked to draw their ideal studio environment) and one whole class studio task involving the production of a manifesto. These participatory research activities generated interest towards the case study content from a distinctly larger year group than that of Case Study 1, and consequently, seven student volunteers were recruited at this time.

The commencement of Case Study 2 began on 31 July 2015. I required no negotiated access to the participating students as I already had direct contact with them on a daily basis as part of their everyday degree activities. I made clear to the participating students that there would be no academic advantage to participating in the case study and that I would endeavour to assume the role of a neutral researcher, and not as their Design educator, throughout the study.

Additionally, each of the participating students was assigned one pseudonym to protect their identity and this is specified in the ethical clearance granted to this study (Appendix 14.1). For the purposes of this investigation, the three female and four male participants shall be known as Rose, Valerie, Anne, Dan, Charlie, Jack, and Saul. They ranged in age from 20 to 41 years of age. Each student was enrolled in third-year of the Bachelor of Digital Media degree at this university at the commencement of the case study. Jack and Valerie participated fully for the duration of the eight-week study. Dan, Charlie, and Rose participated on a regular basis, and Anne and Saul participated infrequently. Each student was given a Consent Form (Appendix A, 14.2) and my business card (for contactable purposes), prior to the commencement of the research activities.

The research took place in the participants' everyday, designated studio-based classroom environments. These spaces are composed of a PC/Mac lab, and for the purposes of this study known as Studio P (Figure 81) (Appendix A, 14.4); a third-year design internship facility, known as Studio L (Figure 82) (Appendix A, 14.5); and a large open classroom, which can be partitioned into two smaller spaces using sections of a moveable wall, known as Studio G (Figure 83) (Appendix A, 14.6). Each learning space is located on the ground floor across two of the campus buildings at this Australian institution (Figure 80). The research was conducted mainly in the large partitioned open classroom (Studio G) and less so, in the internship space of Studio L. Studio P was heavily timetabled and was not available for the case study at this time, yet the participants and I drew upon their previous experiences in this space in the research investigation.



Figure 80. The locations of the studio-based classrooms, G, P and L in Case Study 2. © L. Marshalsey, 2017.



Figure 81. Studio P inside Case Study 2: A college of art in Australia. © L. Marshalsey, 2016.



Figure 82. Studio L inside Case Study 2: A college of art in Australia. © L. Marshalsey, 2016.



Figure 83. Studio G inside Case Study 2: A college of art in Australia. © L. Marshalsey, 2016.

Case Study 2 took place from 31 July until 25 September 2015 and involved eight weeks of research activities. The research sessions were held on a Friday every week between the hours of 12 noon and 1pm. No further data was collected in the weeks and months following the study, as the student participants did not volunteer extra research contributions. Supplementary to this, it should be noted the participants of Case Study 2 don't have desks allocated to them.

7.1.4 Characterising the participants

As with Case Study 1, here it is necessary to briefly characterise the participants of Case Study 2. This ensures the participants' personalities, opinions, stories, perspectives, and personal voices (as individuals and as group members) are narrated effectively throughout this investigation. The seven participants exhibited similar creative, enthusiastic, and sociable personalities, to those in the first case study. However, these participants appeared to be more vocal in their criticisms of their studio-based classrooms. For example, one student thought: "some spiteful person designed the space" (Appendix B, p.322, l.207) and another said, "it's just empty and there's nothing happening" (Appendix B, p.240, l.139).

From my observations as the lead researcher and through my associations as the participants' day-to-day Design educator, I perceived Rose as chatty, bubbly, and opinionated. She is a high achiever at this university but Rose tends to remain on the periphery of the student year group. She is uncomfortable in busy university environments, which she attends sporadically as she said, "it can be so stimulating... maybe it's just the way I am, but I get a little bit overwhelmed because I like my own personal study desk [at home]" (Appendix B, p.169, l.75).

Valerie is a quiet, conscientious student and a close friend of Rose. They are normally seen together in the university. She appears to be affected by the sensory experiences of learning spaces more than the other participants. Her responses frequently suggest this, as she said, "when you're in a room with heaps of people, you block out everyone except who's at your table because there's too much noise" (Appendix B, p.169, l.67).

In contrast, Anne is loud, actively engaged and enthusiastic. She is an older student who tends to have many vocalised opinions and who will participate assertively in tasks. She normally assumes a leadership role in any group curriculum activities. Anne is a dominant character by nature and a natural organiser of the other students.

Dan is innovative and productive in design, film and photography projects. He is outgoing, popular and firmly in the centre of most curricular and non-curricular creative and social activities. Dan showed enthusiasm throughout the case study and was receptive to engaging with new methods. He talks quickly, communicating his thoughts in a hurried way as he said, "I think it was for an hour. I think that's right now though. If we're going to, really need to go actually. I think I'd rather go home and work on stuff. I need to do some sewing. I need to get my sew on" (Appendix B, p.177, l.183).

Charlie is a competent, high-achieving student who is almost obsessively neat, organised, and methodological. He is focused and concentrated and will voice his opinions openly. His maturity means he has a more developed awareness of people's needs and spaces than the other participants. Charlie studied creative spaces as part of his third-year major research project at university and he said of Studio G: "If we're talking, like, down to ultimate productivity, that space may quite be the worst" (Appendix B, p.179, l.213).

Jack is an accomplished student who is timid, quiet, and friendly. He will often be silent in both individual and group discussions. I perceive Jack to be a thinker who spends much of his time working at home rather than at university, yet he has much to contribute to debates and discussions. He appears self-conscious and may be drowned out by more dominant and vocal students in the studio class.

Saul is a worrier, extremely self-conscious, has a short attention span, and he remained mostly silent in the one research activity he attended for this study. A creative student who has much to contribute, he gives the impression that his contribution will not be accepted. As an educator, I find it challenging to draw out his true voice and engage his attention for any length of time in class. He will not voice his opinion until directly asked and will stay on the periphery of the student group unless he is with students with whom he is familiar. He documents his daily thoughts in a journal, as he said, "So this is my sketchbook and I write in it every day and in just about everywhere. And that's about it" (Appendix B, p.201, l.33).

7.1.5 Expanding the preliminary categories

The categories emerging from Case Study 1 were verified and expanded in Case Study 2. The following sections will chart the same numerical ordering of the categories as explained in Case Study 1 (Chapter 5). Previously identified categories will be referred to via their previously assigned number and the new emergent categories will be assigned a continuation of this numerical sequence. This method of signposting indicates a chronological trajectory of categories throughout both the case studies. As a reminder, the preliminary categories from Case Study 1 are shown in Table 29.

- | |
|--|
| <ul style="list-style-type: none">(1): Social (social and visual interruptions caused by space, furniture, people and layout)(2): Smell (in the studio)(3): Sound (from technology, machinery, music, people and architecture)(4): Using tools and methods (to explore sensory affect)(5): Using digital, web-based and interactive modes (in studio practice)(6): Digital and physical social network platforms(7): Space (for creativity, space for ergonomic comfort and space for storage)(8): Using artefacts (and place-making)(9): Studio environment (mess)(10): Nourishment (in the studio)(11): Community (of practice and discovery)(12): Space (for a personal zone and space within a studio-wide free zone)(13): Space (to think inside and outside of the studio) |
|--|

Table 29. The preliminary categories from Case Study 1. © L. Marshalsey, 2016.

In addition, four further emergent categories were identified from Case Study 2. These are shown in Table 30.

(14): Touch (15): Temperature (16): Light (natural and artificial) (17): Space (to listen, talk and debrief)

Table 30. Four further emergent categories were identified from Case Study 2. © L. Marshalsey, 2016.

7.2 Gathering data

The forthcoming sections provide a brief overview of the structure and functions of Case Study 2's methodological framework. As with Case Study 1, the research was carried out in the field using participatory group workshop methods and individual reflexive activities, which are detailed in chronological order (Table 31). The reflective activity-based workshops remained largely the same as Case Study 1 in the opening weeks of Case Study 2. Modifications to the methodological framework occurred as the participant responses were reflectively analysed and as the research activities started to draw out the participants' experiences of sensory affect. For example, a smell and taste workshop and an ethnographic sound drawing exercise were introduced to the investigation. This was because early in the investigation, I realised that the participants in Case Study 2 were already acutely aware of the limitations of their learning spaces. Therefore, I decided to modify the existing ethnographic methods for Case Study 2 to capitalise on this awareness. At the time I conducted Case Study 1, the participants and I were still orientating the investigation towards meaning making of sensory affect. This notion is discussed in more depth later in this chapter.

Week	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Post-case study
Date	21 – 22nd July 2014 24 March 2015	31 July 2015	7 August 2015	14 August 2015	21 August 2015	4 September 2015	11 September 2015	18 September 2015	25 September 2015	1 July 2016
Duration	1 hour	1 hour	1 hour	1 hour	1 hour	1 hour	1 hour	1 hour	1 hour	0.5 hour
Activity	Pre-research study recruitment	Questionnaire and individual research methods.	Focus group, Drawing Exercise 2 and individual research methods.	<i>CROSS-CASE REFLECTION</i> : Focus group and individual research methods.	Focus group, Critical event / critical event recall and individual research methods.	Critical event / critical event recall (workshop) and individual methods.	<i>CROSS-CASE REFLECTION</i> : Focus group, critical event recall and individual research methods.	Critical event / critical event recall (workshop) and individual methods.	Critical event / critical event recall and individual research methods.	<i>CROSS-CASE REFLECTION</i> : Reflective interview.
Reflective workshop activities in groups	Recruitment presentation to student year group.	Consent forms distributed. Qualitative questionnaire to students.	Focus group discussing the questionnaire responses from Week 1. Drawing exercise 1.	Focus group discussing a sense of place and place making. Reflecting back on Snapchats® from Case Study 1.	Sound drawing workshop and launch of design activity (1 week duration): Touch journals	Critical event / workshop on touch journals and visual codes.	Focus group on video filming activity and reflecting back on Case Study 1's GoPro® filming activity.	Critical event / workshop on smell and taste.	Researcher-led critical event recall activity. Group manifesto task as a reflective activity. Repeated student questionnaire.	-
Reflexive activities as individuals	-	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.	Students: Snapchat® Researcher: Photography, sound recording.	Researcher: Reflective interview with student.
Appendices	-	14.2 – 14.7	14.8 – 14.11	14.12 – 14.13	14.14 – 14.15	14.16 – 14.18	14.19	14.20 – 14.21	14.22	14.22
Description	Verbal presentation of research study to third-year students, who were initially interested in participating and who were invited to take part.	Distribution of consent forms and my business card to those participating. An evidence-based questionnaire allowed me to ascertain and identify emergent issues and topics from the collective qualitative responses. Snapchat® methods were distributed to students.	A focus group discussion to debate the topics arising from the questionnaire responses. I used semi-structured, open-ended questions to trigger a group discussion in a relaxed, conversational context. The Drawing Exercise expressed sensory affect present in studio onto iPads.	Semi-structured open-ended discussion gathered the students perspectives of place-making in studio. They brought artefacts they use to inhabit their personal zones inside and outside of the wider studio context.	The students participated in a series of short drawing tasks while listening to recorded sounds representative of their studio environment as a group. Launched touch journal activity (1 week duration).	Semi-structured workshop visually collating the ways each student had interpreted and classified numerous 'touches' present within their studio in their touch journals. These were re-interpreted together as a group as visual codes to help aggregate the common 'touches'.	The students viewed their own video filming activity then watched the edited GoPro® footage from Case Study 1 to aid reflection. Semi-structured open-ended discussion of this filming activity. Reflectively discussed and analysed this task.	Semi-structured workshop which facilitated the students to smell and taste the things in the studio from the chairs and carpet to old library books to new sketchbooks, then visually manipulating the ways each student had interpreted and classified smell and taste in their studio.	I created a seven reflective 'stations' of data, which acted as a visual timeline of the reflective activities to date. It facilitated the visualisation and analysis of the data allowing the students to reflect upon and to compare the evidential data as a whole using Post-it® sticky notes.	One of the Australian Case Study 2 students – Valerie – visited the Case Study 1 studio in the UK. I interviewed her to ascertain her perspective now that she could physically engage with her counterpart's studio environment.
Associated preliminary theme/s	-	(1): Social and visual interruptions (2): Smell (3): Sound (6): Digital and physical social networks (11): Community of practice (12): Space for a personal zone (13): Spaces to think (14) Touch (15) Temperature (16) Natural and artificial light	(1): Social and visual interruptions (3): Sound (4): Use of tools and methods (5): Using digital, web-based and interactive modes (8): Place-making (11): Community of practice (12): Space for a personal zone (14) Touch (17) Spaces to listen, talk and debrief	(4): Use of tools and methods (7): Space (8): Place-making (12): Space for a personal zone	(3): Sound (4): Use of tools and methods	(4): Use of tools and methods (5): Using digital, web-based and interactive modes (9): Studio mess (10): Nourishment in the studio (14) Touch	(5): Using digital, web-based and interactive modes (8): Place-making (11): Community of practice (12): Space for a personal zone (13): Spaces to think	(2): Smell (8): Place-making (9): Studio mess (10): Nourishment in the studio (14) Touch	(2): Smell (3): Sound (4): Use of tools and methods (5): Using digital, web-based and interactive modes (7): Space (8): Place-making (9): Studio mess (10): Nourishment in the studio (12): Space for a personal zone (16) Natural and artificial light	(3): Sound (4): Use of tools and methods (7): Space (8): Place-making (11): Community of practice (12): Space for a personal zone (16) Natural and artificial light

Table 31. Case Study 2: The chronological data collection via reflective group workshops and reflexive activities as individuals. © L. Marshalsey, 2016.

7.2.1 The within-case details of Case Study 2

The tables of details of Case Study 2 are outlined in the appendices in an effort to develop an analytical, within-case, framework to accompany the systematic analysis (Appendix A, 14.23–14.25). These descriptive tables shape the usefulness of the activities and tools, as they are cross-matched with the participants, the research objectives, and the keyword responses. The tables from 14.23 to 14.24 explain the reflective workshop activities conducted as group members in the college of art in Australia. The reflexive activities as individuals are detailed in table 14.25.

7.2.2 Reflective workshop activities in groups

The workshop activities aimed to make thinking visible and enabled the development of an agenda for reflection to encourage the participants to think critically about their own (and others') experiences of studio learning. The activity cultivated a sense of familiarity and ease between us, allowing each person to speak honestly in a friendly environment when participating in the workshops. However, in contrast to the continuous participation and attendance of all the students in Case Study 1, the group dynamic of Case Study 2 changed each week depending on the number and personalities of the students present in the activities. Attendance varied from week to week from between two and six students.

More importantly, as the case study progressed, I soon realised that I could not detach myself from my professional role within this institution as I previously thought would be possible. I could not completely change from being an insider academic staff member to an impartial outsider researcher. On reflection, I continued to behave as an educator in the sense that I directed the students into the tasks, rather than enabling them to do the tasks themselves. I did not feel able to completely separate myself from my role, my students or the environment particularly as the research activities mainly took place within my own everyday teaching classroom. Therefore, I

sought to manage the power dynamics between us. The research outcomes were influenced by our everyday behaviours within our studio-based classroom learning at this college of art.

It is apparent that the participants also assumed a student/teacher approach to the activities each week as they often waited for instruction and I was keen to deliver direction to enable and encourage participation. Prior to this study, I already knew they were unhappy within the studio-based classrooms from my previous experiences and interactions with them. I feared that the participants would not contribute much to the tasks if I did not direct them. Indeed, there was a lack of expectation and trust on my part, as I projected my own biased assumptions of the student behaviours I expected to observe within these sessions. I realised I had anticipated the same behaviours I had previously observed in this room within our regular timetabled classes. On reflection, I did not fully hand the power to the participants to tailor their own research journey. Nevertheless, the research activities did help to make their thinking visible and to reflect upon their own experiences of sensory affect within learning spaces, although with limited success as an intervention. The participants and I had generated data that was an explicit mirror of our real-life studio-based classroom teaching and learning. The data collection stages of the reflective workshop group activities in Case Study 2 are shown in Table 31.

7.2.2.1 Week 2: Focus group on the questionnaire responses

Identical to the Case Study 1 first week activity, the questionnaire required the participants to provide anonymous and qualitative stories of their own experiences of learning spaces (Appendix 14.3). The initial questionnaire data provided issues from which I could form a semi-structured, open-ended focus group in the second week to draw out the commonly shared points among the group. These rich accounts, prompted by the participants' emotional responses to their real-life studio-based classroom learning, were discussed between the five participating participants and me to provide a wider perspective of their day-to-day experiences. I sought to identify any differences of opinion or corroborative statements among the

participants' accounts, or a distinctive demarcation between the thematic narrative data derived from Case Study 1 and Case Study 2 (Stewart and Shamdasani, 1990).

Numerous credible themes arose and several thematic responses outlined the participants' desire to work at home rather than within the university learning spaces. As a Design educator in this institution, I found this an astonishing realisation, but when reflecting on my own daily experiences of these environments, I recognised that I do the same. I work in the university two or three days a week delivering timetabled lectures and tutorial classes, and I generally choose to work at home the rest of the week, as I concentrate better alone at home, uninterrupted. Many of my educator colleagues do the same. The willingness of the majority of the students (and staff) to work at home was verified in the data and as one student said, "I feel I get distracted and lose my train of thought and can get creatively smothered by lots of people around. I prefer to work alone at home" (Appendix B, p.162, l.14). The strong expressive language used by this student (for example, 'smothered') correlates with another student's similar description of working in the university studio environment: "[I like] being able to escape [the studio to go] home and... getting calm and collected at home" (Appendix B, p.163, l.15) (12). Themes of distraction, interruption, discomfort, and struggle were prevalent in the stories of the learning spaces, as one student responded: "I don't like going home [from university] after a few hours and feeling like I got nothing done" (Appendix B, p.163, l.15) (1). A third student described the struggle for motivation in the studio: "I feel as though my learning environment affects my creativity. I struggle to get inspired and enthusiastic about what I'm doing" (Appendix B, p.162, l.14) (13). I have observed very similar statements from fellow educators and these accounts apply directly to my own working practice. For example, even when my door is closed I will have students knocking on the door or windows trying to engage my attention. From my own personal experience, I find it difficult to remain engaged and focused within this university environment for long, as noise, mess, cold air conditioning, or visual disturbances infiltrate my environment. Therefore, I often choose to work at home on a weekday or in my office at the weekends, when it is less populated.

Furthermore, I have observed many students leaving the timetabled studio class before it finishes and one student stated: “so I just take notes and wait to go home to work” (Appendix B, p.162, l.14). I began to suspect that to complete their work efficiently, the participants could only accomplish this at home. The participants do not exhibit a lack of motivation to work on university projects but they do reveal little incentive to work on their projects within the studio-based classrooms, as exemplified in these responses: “I feel like I can’t stay and act. I need to go do something, and I can’t do it here” (Appendix B, p.184, l.282) and “I finally just resigned myself to the fact that, yeah, I’m not going to get anything done at uni. So, I’m not going to bring anything in” (Appendix B, p.185, l.306). I empathise with the students and the apparent lack of motivation they feel in relation to working in these environments. As an educator, I find it challenging to work within these environments; I need to work hard to generate enthusiasm amongst my students to work on projects, creative or otherwise. Therefore, I often bring into my class artefacts and materials from home, newly produced learning materials specifically catering for these exact scenarios in an attempt to trigger motivation and design thinking in a studio environment. However, in my own conceptions of studio spaces, I often feel I am imitating studio-style instruction within a classroom, rather than delivering specialist design education within a dedicated studio environment.

The social aspect of learning spaces seemed to be one of the most notable issues the participants experienced. This ranged from not knowing other students’ names in their year group, as one said, “I can’t name most of the people in our year” (Appendix B, p.263, l.120), to the participants only mixing with others at their own table islands inside the studio classes: “when you’re in a room with heaps of people, you block out everyone except who’s at your table because there’s too much noise” (Appendix B, p.169, l.67) (3,6). This observation clearly mirrors my own. For example, I regularly attempt to block out the students throughout the rest of the tutorial room if I am attempting to engage with a group of students at one table. In order to focus on the group’s verbal discussion or visual work in progress, I need to effectively exclude peripheral noise and visual distractions from other students. This is challenging and consequently, I often lose my train of thought.

Over-populated, busy educational environments contribute to elevated noise levels, yet less populated learning spaces with fewer students appear to contribute to an uncomfortable silence (1). Nevertheless, students often encounter each other in these spaces, which provides opportunities to create friendships and collegial relationships. This encourages the students to feel welcome and work within the university, as one participant said, "I feel extremely welcome. I have established great relationships" (Appendix B, p.159, l.3) (11). In contrast, I rarely encounter or work with other Design educators in this college of art and often only meet them in scheduled meetings or coffee breaks. Design educators each have their own individual office (with the Design staff offices located in three different buildings), which fosters this segregation. Consequently, it has taken longer to form peer relationships. In previous institutions, I was not allocated my own desk or office and instead was situated in an open-plan hot-desking communal room shared with other staff members. Collegial relationships were easier to form and team-teaching (formal or informally ad hoc) was common. Day trips with student groups to galleries and other stimulating environments were co-organised between Design educators, yet from my observations this has never happened in this institution. Additionally, I find it challenging to form bonds with the students on a day-to-day basis due to the large student numbers in a mere two-hour scheduled tutorial.

Moving on, the participants experienced sensory affect in several ways involving light, temperature, sound, touches, and smell, mentioning: "it can be too bright and cold. There is a constant beeping noise" (Appendix B, p.160, l.4) and "it's usually darker and colder than most places... it can be uncomfortable sometimes because of how cold it can get" (Appendix B, p.160, l.5). The artificial lighting in the darker studio-based classrooms can be somewhat severe and the automated air conditioning can often render the rooms chilly (15). It is not possible to adjust the temperature on a day-to-day basis as the estates management controls this off-site, and one student responded: "I just couldn't stand how cold it was" (Appendix B, p.179, l.209). I also struggle to teach effectively in these cold rooms as the unstable temperature disrupts my concentration. In contrast, I did not notice any dramatic change of temperature in the studio

spaces within Case Study 1. Indeed, I did not even register that temperature might be a factor in Case Study 1, yet it is an issue in Case Study 2.

In the classrooms of Studio G in Case Study 2, the poorly timed dimmer lighting circuit often plunges a working class into darkness. The motion detector lighting system intermittently fails throughout the day even when the studio is heavily populated, causing both students and me to pause several times mid-flow to activate the light switch (1). The lighting is also switched on or off in clusters of lights and individual lights cannot be turned off or on, which is difficult when I conduct visual artwork critiques (16). Some areas of the room cannot be lit well enough to utilise them. In addition, there is an automated fire and security alarm beep that persistently resonates throughout the day in the corridor outside of Studio G (3).

There was no real recognition of smell or odours from the data responses. The participants say, “It doesn’t really smell of anything – maybe carpet?”, “Just smells like a room”, and “tendency to be stuffy” (Appendix B, p.161, l.8) (2). A high turnover of students in each studio space also supported the reluctance to touch people, surfaces, and things, as touch equated with being unclean in this student’s view: “Lots of students, so surfaces can feel grimy and dirty and you want to wash your hands a lot” (Anne, Appendix B, p.161, l.9) (14). The preliminary categories from the focus group in Week 2 are shown in Table 32.

- | |
|---|
| <p>(1): Social (social and visual interruptions caused by space, furniture, people and layout)</p> <p>(2): Smell (in the studio)</p> <p>(3): Sound (from technology, machinery, music, people and architecture)</p> <p>(6): Digital and physical social network platforms</p> <p>(11): Community (of practice and discovery)</p> <p>(12): Space (for a personal zone and space within a studio-wide free zone)</p> <p>(13): Space (to think inside and outside of the studio)</p> <p>(14): Touch</p> <p>(15): Temperature</p> <p>(16): Light (natural and artificial)</p> |
|---|

Table 32. The preliminary categories from the focus group in Week 2. © L. Marshalsey, 2016.

7.2.2.2 *Week 2: Drawing activity*

In Week 2 of the case study schedule, the participants discussed their responses to the questionnaire, while simultaneously engaging in a digital drawing exercise using an iPad® with a Sensu® pressure sensitive brush stylus and an AluPen® ultra fine ballpoint digital pen (Appendix A, 14.8–14.10). Each student took turns to interpret three photographs of their current studio-based classrooms, using mark-making to demonstrate how they felt about each space using different textures and colours on each of the three images (Figures 82–84).

Interestingly, the participants' narrative accounts of the studio-based classrooms correlated with their sensory representations of each space in their drawings. They described the university classrooms as spaces for listening and talking, as Rose said, "I like the space when it comes to listening" (Appendix B, p.171, l.98) and "I find it even does help me... focus when we're just talking" (Appendix B, p.171, l.104) (17). According to the data, the main purpose of each learning space was to provide a place to listen to instruction, and to interact with educators. They also function as a debrief space. However, in the image of Studio P (Figure 84), one student has added the sibilant sound "shhhhhh!!" alongside dark rainclouds and raindrops. When I asked the participants to select the quietest of the three learning spaces, they chose

Studio P as a silent area and added that it also has an unbearably cold temperature – referenced by the rain cloud in the digital drawing (3,14).



Figure 84. Sensory affect in Studio P interpreted by a student using digital drawing techniques. © L. Marshalsey, 2016.

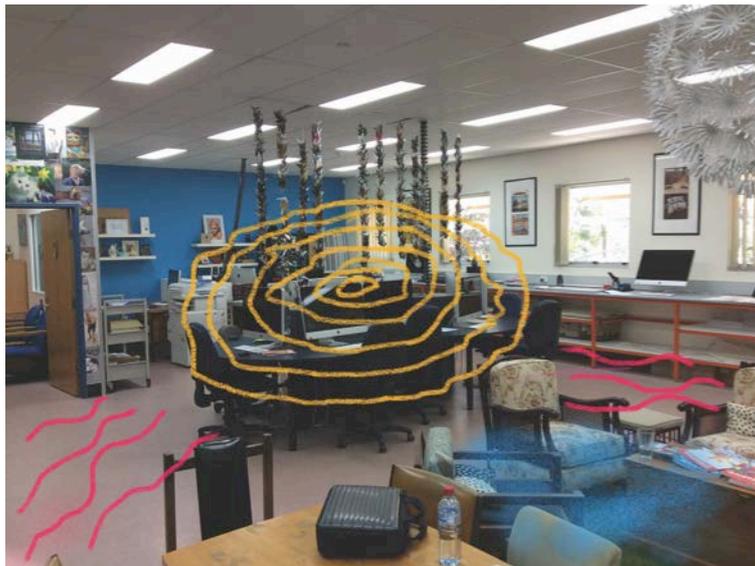


Figure 85. Sensory affect in Studio L interpreted by a student using digital drawing techniques. © L. Marshalsey, 2016.



Figure 86. Sensory affect in Studio G interpreted by a student using digital drawing techniques. © L. Marshalsey, 2016.

In contrast, the digital drawings of Studio L define this space as a busy and bustling area (Figure 85). This space is predominantly a social and visually stimulating meeting area for students, as Charlie comments: “there’s normally music playing... books and design posters. Creative sort of things. Records. We feel that it’s not bland, flat, and boring” (Appendix B, p.166, l.23) (3,8,11). Most student activity occurs at the central computer table. This is depicted using a busy circular yellow swirl with two transitory studio routes depicted in pink. In contrast, the photograph of Studio G (Figure 86) is digitally manipulated to represent the comparison between the lively populated grouped table areas in orange and the inactive yet spacious studio-wide free zone in muted blue and grey colours (1,12). The preliminary categories emerging from the drawing activities in Week 2 are shown in Table 33.

- | |
|---|
| <p>(1): Social (social and visual interruptions caused by space, furniture, people and layout)</p> <p>(3): Sound (from technology, machinery, music, people and architecture)</p> <p>(8): Using artefacts (and place-making)</p> <p>(11): Community (of practice and discovery)</p> <p>(12): Space (for a personal zone and space within a studio-wide free zone)</p> <p>(14): Touch</p> <p>(17): Space (to listen, talk and debrief)</p> |
|---|

Table 33. The preliminary categories emerging from the drawing activities in Week 2. © L. Marshalsey, 2016.

7.2.2.3 Week 3: Case Study 2 view Case Study 1 Snapchat® data

In August 2015, I displayed on screen the Snapchat® images created by the participants in Case Study 1 in the UK to the Australian Case Study 2 participants. This cross-case reflection occurred within the session investigating the meaning of ‘place’. I was keen to review the Case Study 2 participants’ initial reactions of the participants’ assigned workspaces in Case Study 1, particularly as the research investigation in Australia was in the early stages and the students are not assigned desk space in the college of art. They immediately noticed the contrast in the campus buildings between Case Study 1’s specialist art school and their own mainstream university buildings.

Secondly, viewing the images of the communal sofa areas within the studio in Case Study 1 also stimulated discussion among the Case Study 2 participants. In this dialogue, the Australian participants in Case Study 2 could identify the need to duplicate real-life industry environments, including sofas and coffee tables within learning spaces, as a means to aid the transition out of education and into industry. Rose said, “I think it depends on the different studios that you get a job in though, because some agencies won’t be like that. Most clients... you sit down at a coffee table and you have a conversation.... rather than sitting at a formal desk.... So maybe it... mimics it” (Appendix B, p.192, l.34). Nonetheless, Rose also vocalised that the cramped environment she observed within the images of studio in Case Study 1 might cause problems:

“really kind of crammed and forced... in a space like this you probably have to really focus on the person who’s talking... It’s hard to be creative when you’re sitting on top of each other” (Appendix B, p.193, l.37). This observation supports one of the key themes that increasing the learning space population can cause social, sensory, and visual interruptions, leading to a lack of focus. Charlie also observed, the Case Study 1 studio seemed to be: “pretty claustrophobic in those spaces” (Appendix B, p.196, l.78) in comparison to the studio-based classrooms he is familiar with in Australia.

With regards to viewing the photography of the individually assigned desk spaces in Case Study 1, Case Study 2 student Valerie said, “I like the fact that they’ve got their own station, that’s what I would really like. To have your own section where you could actually have your stuff, you can stick stuff up, and leave your work there to come back to” (Appendix B, p.195, l.64). The participants from Case Study 2 also liked the idea that all classes and critiques in Case Study 1 are held within the one working studio. Instead, within Case Study 2, the Australian students are familiar with a modular, fixed timetable delivered in multiple learning spaces. Realising that the Case Study 1 participants had all their lectures, classes, and project work in one fluid space, Rose from Case Study 2 said, “Oh wow, so... if you were talking about something [and] you could really be working on that something while... that’s kind of cool, I like that” (Appendix B, p.194, l.50). However, her fellow student Charlie was more critical of this pedagogical practice, as he said that: “having lectures... in different rooms it makes people get up, be on the move... and that kind of keeps you going” (Appendix B, p.196, l.80).

7.2.2.4 Week 4: Sound drawing workshop

Following this, I then aimed to assess the participants’ perceptions of the sounds affecting their studio learning by using sound clips as the stimulus for analogue drawing (Appendix A, 14.14). From the previous Case Study 1 data, I had identified several studio-related sounds to be played in this workshop activity. I recorded and edited the five sound clips with each lasting three minutes. The nature of the sounds remained unknown until the task had ended in order to

encourage spontaneity in the participants' drawing responses. When reflecting on this task, Anne confirmed: "I just drew the very first thing that... jumped into my head" (Appendix B, p.217, l.18).

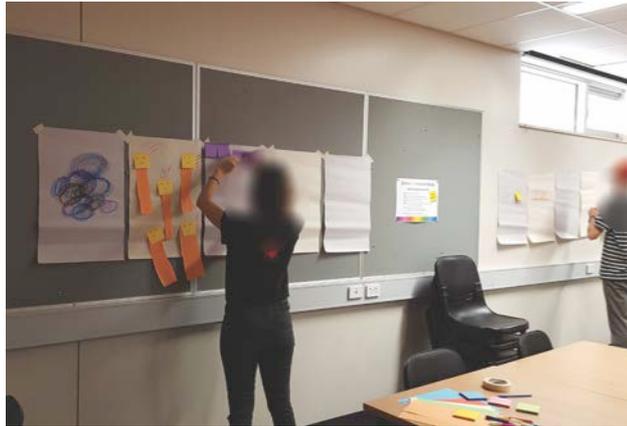


Figure 87. The participants visualised their responses to each of the sound clips through drawing on paper. © L. Marshalsey, 2016.

The six participants simultaneously produced a set of five drawings visualising their responses to the sound clips through mark-making on paper (Figure 87). The sound clips consisted of five mixed social and non-social sounds; air conditioning, the sound present inside the open-plan studio from Case Study 1; a loud intermittent beep; a creative workshop; and a clip of music from Mort Garson' electronic symphony *Plantasia* from 1976. This last portion of music was chosen by the participants from Case Study 1 to use in their concluding research workshop activity to promote healthy sound in their studio spaces (3).

There was a difference between the sounds originating from the people participating in creative workshops and the sound instigated by people within the architecture itself. The participants described the creative workshop as organised and invigorating, and Dan said, "it sounded like more of a controlled space, so and then all of the creativity flowing and so, sort of like noise floating" (Appendix B, p.219, l.39). In contrast, the sound of an open-plan studio environment produced this verbal response from Dan: "the sound was like a hundred people walking past, I

felt like I was in this corridor working and then a hundred people walking behind me” (Appendix B, p.219, l.39). His accompanying visual drawing response to this can be seen in Figure 88.

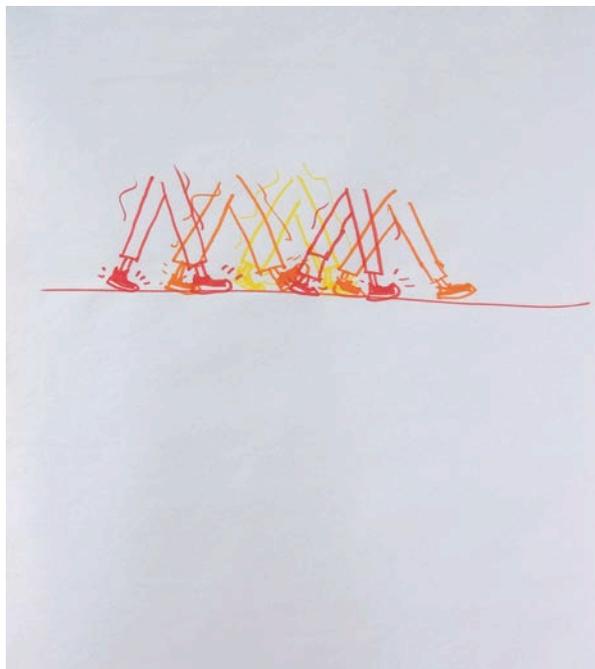


Figure 88. “a hundred people walking behind me”. © L. Marshalsey, 2016.

A positive visual and verbal correlation was found between each of the drawings produced in response to the fire alarm and security beep, as shown in Figure 89. The participants commented: “Did everyone use red to draw that?”, “Is it always this loud?”, “...It’s aggravating now” (Appendix B, p.216, l.7,8,9), “I really hated it and it was hurting my head” (Appendix B, p.218, l.31). Interestingly, this sound was previously unnoticed until Charlie identified it in the early stages of the Case Study 2 schedule; as Dan confirms: “I never noticed it until Charlie said something [about it] ... I’m pretty good at zoning out stuff like that” (Appendix B, p.218, l.26,28). The hum signalling the presence of air conditioning in the studio was also previously overlooked until this task (Figure 90).

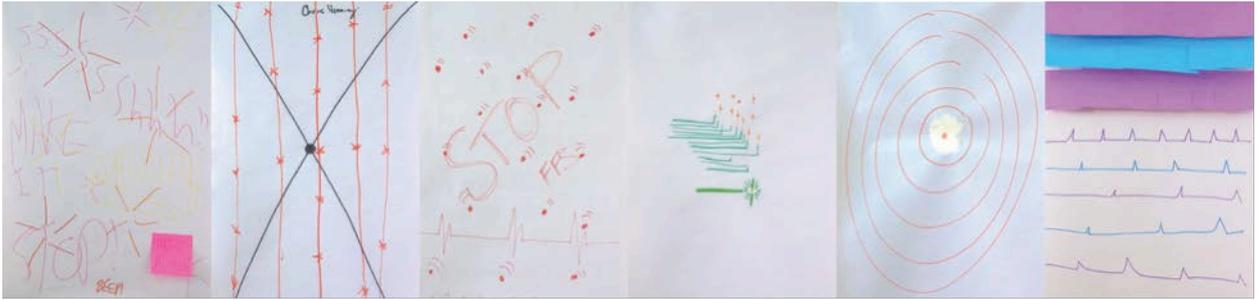


Figure 89. The participants visualised their responses to a loud intermittent beep through drawing on paper. © L. Marshalsey, 2016.



Figure 90. A student visualised their response to the sound of air conditioning through drawing. © L. Marshalsey, 2016.

The results of this activity suggest that sound is an important sensory affect experienced within their environment. Music received the most relaxed response of all, yet it did not appear to encourage work on creative projects. As Dan said, “And the last one was like really nice and calming, but it is more like I want to go to sleep... I didn’t feel like doing more work so, it was really nice and [I] felt relaxed but I did not want to do anything, I just wanted to hang out”

(Appendix B, p.219, l.39). By the end of this group activity workshop, and with a successive range of verbal and drawn responses, the overall data for this case study indicates that sound is a factor that impacts upon learning. For example, Rose said, “It just made me think how much sound affects me” (Appendix B, p.218, l.24) (Table 34).

(3): Sound (from technology, machinery, music, people and architecture) (4): Using tools and methods (to explore sensory affect)

Table 34. The preliminary categories emerging from the sound drawing workshop in Week 4. © L. Marshalsey, 2016.

7.2.2.5 Week 6: Case Study 2 view Case Study 1's GoPro® data

Moving on to Week 6, I replayed the GoPro® film footage produced by the participants in Case Study 1 in the UK to the Australian Case Study 2 participants. The participants from Case Study 2 had collectively viewed their recorded footage in this session prior to viewing the Case Study 1 GoPro® data. This cross-case reflection immediately followed on from this planned activity. The objective was to gather the participants' reactions to their counterparts' educational studio environments and to compare these observations immediately after viewing their own footage. The intention was to identify whether the participants in Case Study 2 agreed with the observations identified by the students in Case Study 1.

Social interaction was the first aspect that Dan identified when observing the participants' environment within Case Study 1. He noted, “So friendly, you say hi to everybody” (Appendix B, p.257, l.4), “they make tea while they're there?” and “That's so cool” (Appendix B, p.257, l.10,11). This apparent friendliness in the Case Study 1 studio stimulated strong emotions, as Valerie observed their peers: “So much laughing. Like they're all friends in that room, I'm jealous” (Appendix B, p.260, l.62). Dan continued: “[looks like] it's a friendly environment”

(Appendix B, p.260, l.63) and “you can just lift up your head and be like, ‘Hey, what's up? What are you working on?’” (Appendix B, p.261, l.82). This further evidence supports my observation that the participants in Case Study 2 are members of a decidedly different community of practice than Case Study 1. Instead, the participants within Case Study 2 appear to be participants of dispersed multiple communities, inclusive of social media channels, café culture and face-to-face studio tutorials among others. This, I think, is a direct result of their widespread hot-desking and no-desking classroom culture. The most revealing statement in relation to this issue is the clear visibility of work in progress to peers, as Rose remarked of the Case Study 1 participants:

I think the biggest thing I noticed is that everyone's studio work, like everyone was comfortable doing what they were doing. No one looked really like they didn't want to be there or... they were all talking to each other, they were all happy to talk to each other... Whereas here, quite often, I feel uncomfortable with that. (Appendix B, p.263, l.113, 115)

Furthermore, these observations align with several of the key themes, such as establishing the importance of membership in the learning spaces: through familiarity, friendships, collaboration and teamwork to maintain the community of practice. Secondly, that displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning. The reciprocal nature of these activities is important for students to feel valued in the studio.

In relation to sensory affect within the Case Study 1 studio, Valerie and Dan from Case Study 2 observed that: “It's very quiet though” (Appendix B, p.257, l.12). Valerie noted the sound in this studio resembled: “kind of ambient noise” (Appendix B, p.263, l.110) and “I like hearing other people working and doing their thing” (Appendix B, p.263, l.111). The participants also noted that the studio: “seems very crafty to me... For a design studio... a lot of paper and stuff” (Appendix B, p.261, l.86,88,90) and “There's so much things to touch!” (Appendix B, p.262, l.95). The participants also noticed that natural light flooded the Case Study 1 studio and that

the concrete floors meant the students could make creative mess more openly. By contrast, the carpeted classrooms of Case Study 2 meant the students avoided wet-based production in their tutorial sessions.

7.2.2.6 *Week 8: Reflective manifesto*

In the concluding week, I directed a task which involved creating a reflective manifesto, as a way to stimulate reflection on the data produced as individuals and as group participants throughout the eight-week case study (Appendix A, 14.22). A manifesto is a set of views, motives, guidelines, or rules formed by a verbal group declaration, which, in this case, involved the co-creation of meaning around the theme of sensory affect in Communication Design studio education. This manifesto mirrored the research rug task from Case Study 1, but with variations to the format as environmental factors affected this method within Case Study 2. The research rug conveyed and articulated the data in the environment in which it was created. However, the environment in Case Study 2 restricted the use of one large, rolled-out research rug, as high numbers of students moved around the building, and the learning spaces were crowded with furniture. With hindsight, displaying several individual research 'stations' for the manifesto task, rather than the research rug, affected the participants' abilities to make reflective connections between the data and their developing insight.

Reflection is the capacity to think about thought – it is a process of continuous learning. In this case, reflection enabled the participants and me to learn from those experiences collated throughout the activities. Reflection provided strategies to bring effects out into the open, and to frame appropriate and searching questions as a form of mental processing and thinking. Thus, the participants and I examined the data closely in order to better understand it. After careful consideration, the participants reconsidered their previous actions to judge the quality and importance of their experiences within their studio-based classroom learning. As the students reflected on their experiences about themselves, their work, their home workspaces, and the university learning spaces, they began to formulate a student-led sensory affect manifesto. This

manifesto attempted to reconcile sensory affect with learning using some of the previous activities, such as the iPad® drawing exercise. This manifesto activity encouraged a strong emotional response from the participants as they outlined the resources they felt they deserved under the obligations and requirements of the institution. As the participants wrote their views on the paper, they had reflexively drawn from aspects of the physical, conventional studio that they had previously viewed in the Case Study 1 data and liked. For example, one of the points they wrote on the manifesto: 'Place-making – artefacts to help sense of belonging/comfort' connected with their responses in Week 3, as Valerie had said: "I like the fact that they've got their own station, that's what I would really like. To have your own section where you could actually have your stuff, you can stick stuff up and leave your work there to come back to and stuff like that" (Appendix B, p.194, l.64).

This was the only research activity over which the students took ownership and where I felt able to step back as the facilitator. There was flurry of activity as they wrote important statements on the sheet shown in Figure 91. Unfortunately, the session ran out of time and the students had to cut this task short to attend another class. The preliminary categories emerging from the reflective activity in Week 8 are shown in Table 35.

A MANIFESTO FOR SENSORY AFFECT
IN COMMUNICATION DESIGN
STUDIO EDUCATION

- Using Colour to identify a space.
- Using lines & shapes to identify your mood before entering the space.
- Placemaking - artifacts to help sense of belonging/comfort
- Make sure all senses are satisfied while in the space (hunger, taste etc).
- Create a relaxed, comfortable space near your creative space
- Make sure there is a background ambient sound.
- Limit the number of people in space to 20-30
- Make sure the physical layout is comfortable
- Make sure there are windows for fresh air, for smell, as well as vision
- Don't paint walls red - colour psychology!!
- Artwork on the walls
- Sinks for paint etc.
- Remove clothes from walls
- bins at each work station
- Comfortable chairs
- Digital resources as well as other resources - diversity

Figure 91. The student manifesto task in Week 8. © L. Marshalsey, 2016.

- | |
|--|
| <p>(2): Smell (in the studio)</p> <p>(3): Sound (from technology, machinery, music, people and architecture)</p> <p>(4): Using tools and methods (to explore sensory affect)</p> <p>(5): Using digital, web-based and interactive modes (in studio practice)</p> <p>(7): Space (for creativity, space for ergonomic comfort and space for storage)</p> <p>(8): Using artefacts (and place-making)</p> <p>(9): Studio environment (mess)</p> <p>(10): Nourishment (in the studio)</p> <p>(12): Space (for a personal zone and space within a studio-wide free zone)</p> <p>(16): Light (natural and artificial)</p> |
|--|

Table 35. The preliminary categories emerging from the reflective activity in Week 8. © L. Marshalsey, 2016.

7.2.3 Reflexive activities as individuals

As a result of iterative within-case analysis, the set of methods used within Case Study 2 remained largely the same as those methods used in Case Study 1 - except for the inclusion of touch journals (Eisenhardt, 1989, p.523; Yin, 2013). The following sections outline the methods used by the students and me.

7.2.3.1 *My observational field notes*

In both case studies, I observed several students using headphones during classes as a tool to overcome sound intrusion (4). Worryingly, in Case Study 2, I regularly witnessed numerous students leaving the studio early, to go home, with their laptops and bags, as they found it impossible to work in this loud environment (3). This can occur at the beginning, middle or end of studio tutorial sessions. The participants regularly told me that they leave as a result of larger student numbers generating noise and their inability to engage with working processes as a consequence. As an educator, I feel under pressure to make them stay and feel guilty if I do not have the opportunity to speak with every student about their work before they leave. Therefore, I do not sit down and disseminate feedback at a pace I feel it should be delivered to individual

students, as a basis for open discussion. Rather, I hurriedly deliver my comments and move on quickly to the next student in case they should leave. There is little opportunity for a two-way exchange in which to unpack discussion. This form of delivery leaves me feeling challenged and unfulfilled as an educator.



Figure 92. The populated timetabled classes of studio G. © L. Marshalsey, 2016.



Figure 93. Students do not occupy their desk space in this university. © L. Marshalsey, 2016.

Moreover, as the students do not occupy their own assigned desk spaces, they position themselves at one of the available tables and they each bring a few belongings to create their own place within the larger space (8,12) (Figure 92 and Figure 93). There are no attempts at longitudinal place-making as the classes are timetabled to last a few short hours and no personal artefacts are used as decoration of the work space – only functional tools. For each

student, this generally consists of a laptop and a notebook on the table (5). There are no materials, belongings or practice-led experimentations and little debris sits on the floor. There is no secure storage available. However, each student has adequate space around them as the tables and chairs are positioned reasonably far apart.

There are no clearly defined personal zones for each student; the educators are assigned a computer and projection screen at the front of each room. From that location in each class, I bring my laptop, a box of learning materials, Post-It® notes, and a water bottle, to form a temporary sense of place. However, I often find myself leaving the classroom several times to retrieve a supportive, pertinent learning aid, artefact, or book to show a student in class. I almost find it a relief to return to my personal office workspace, which is filled with my own artefacts, resources, and books; these attempts to add a sense of permanence to the temporary studio consumes my energy.

Interestingly, the most striking observation I have made as an educator is my inability to identify each student's own preferred working practice (and indeed occasionally their names too) or their preferred creative style in a space that had little or no visible work in progress. The learning spaces are noisy and busy, and often feel temporal. For example, I could not identify any students setting up their own place at their workspaces in this environment. It is not possible for the students to create a sense of place within a short, timetabled class every week. The preliminary categories emerging from my observations of the studio are shown in Table 36.

- | |
|--|
| <p>(1): Social (social and visual interruptions caused by space, furniture, people and layout)</p> <p>(3): Sound (from technology, machinery, music, people and architecture)</p> <p>(4): Using tools and methods (to explore sensory affect)</p> <p>(5): Using digital, web-based and interactive modes (in studio practice)</p> <p>(7): Space (for creativity, space for ergonomic comfort and space for storage)</p> <p>(8): Using artefacts (and place-making)</p> <p>(10): Nourishment (in the studio)</p> <p>(11): Community (of practice and discovery)</p> <p>(12): Space (for a personal zone and space within a studio-wide free zone)</p> |
|--|

Table 36. The preliminary categories emerging from my observations of the studio. © L. Marshalsey, 2016.

7.2.3.2 *My visual observations of the studio-based classroom spaces*

As previously stated, my current role as a Design educator in this institution meant that I had already established a level of trust with the students in order to observe them in their natural setting. Their natural setting is also mine. In the opening week of Case Study 2, I photographed three natural settings familiar to the students and me, in order to record and contextualise the spaces. These, as previously explained, were Studio P, Studio L, and Studio G.

Studio P is a small self-contained room hosting PC and Mac computers (5) (Figure 84). The tables form four back-to-back wooden rows and one end of the room is dedicated to the screen projector and the connected teaching computer. Studio L is a non-teaching space functioning as a student-led professional Graphic Design environment (Figure 85). This learning space aims to provide a bridge between the university and industry, with students fulfilling 100-hour internships here as a mandatory course requirement. This learning space is divided into several micro-environments: a cluster of computers tables in the centre, an informal sofa area, a craft table, the Creative Director's desk, the Finance Manager's office, and, lastly, the photocopier and printing area. There are posters and vinyl record covers on the walls with constructed paper mobiles and books on bookshelves (8). Popular music plays in the background (3) and the studio is regularly populated with students working on assignments. The furniture is a mix of old and new, with AstroTurf flooring in the sofa area and retro visual stimuli on the walls as an act of

place-making (1). The stakeholders have attempted to distinguish this space from the other regular educational environments within this university.

Studio G is a teaching space used for the majority of timetabled Communication Design subjects within the college of art. This room can incorporate creative and non-creative subjects. This is a large closed-plan classroom space, which can be divided into two smaller classrooms to accommodate smaller class groups (Figure 86). This learning space hosts a year group of approximately eighty to ninety Design students. There is no allocated desk space for each student, as the high turnover of timetabled classes every two hours does not allow ownership of the space (Figure 93). Classes can be electives, which can mean business students mixing with the creative students. The students are generally familiar with each other as they progress together in overlapping year groups during their three-year degree (11). The university's three rolling trimesters and two annual entry points make it challenging to form and sustain social networks, as one student observes: "someone says hi to you, and you're like, 'Hang on, who are you?'" (Appendix B, p.267, l.179). Tables have been grouped into islands, and the natural light is low, with the windows high and narrow on one side of the room. The room is lit by artificial strip lighting. I have observed large numbers of students in this studio environment and occasionally there are not enough chairs for each one, so some of them sit on the floor or on the side cupboards during lectures, tutorials, and seminars (7). When I teach in this space, it can sound busy, productive, and enjoyable due to the conversations, different accents, and laughter of the large number of students (1). The physical proximity of other students at their individual table islands allows the class to discuss project briefs, work as members of peer critiques, or have coffee and lunch together in this space (10).

7.2.3.3 Sound recording in the studio

I recorded audio in each of the three studio settings to assess the impact of sound and to capture the aural studio culture. The recordings took place in Weeks 1, 2, and 4, and I deliberately reduced the recording schedule from six occurrences in Case Study 1 to three

occurrences in Case Study 2. The audio recordings of studio sound verified the presence of multiple conversations and a persistent background hum audible in the data, similar to the recordings of Case Study 1 (Figure 94). As Case Study 2 progressed, it became clear that it was better to document the participants' own storied interpretations of the effects of sound rather than attempting to identify interpretations from a generic room recording.

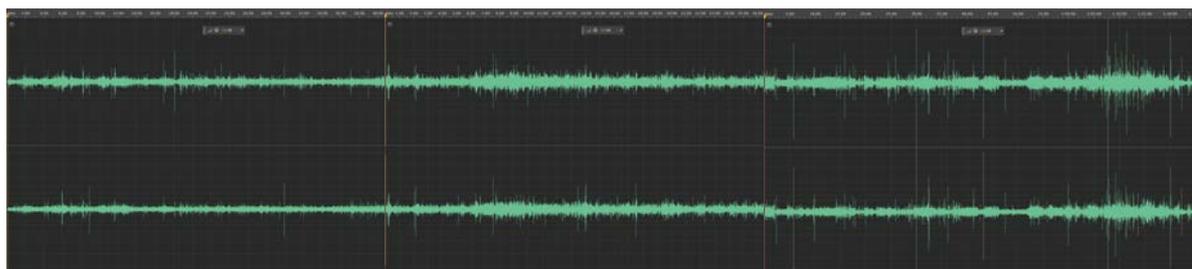


Figure 94. Sound waves captured during quiet and busy tutorials in Case Study 2. © L. Marshalsey, 2015.

The participants identified several issues relating to sound and, notably, sound transference is high in the larger Studio G when heavily populated with students, with Studio L less so, and Studio P mostly silent. The recordings of Studio G took place at 10am and 3pm on different days, when group sizes of between 14 and approximately 50 students were timetabled in this one space.

7.2.3.4 *The participants image-making*

In order to make the visual methods participatory and reflexive, the participants had full control of the three ethnographic image-making methods. These included video, the Snapchat® mobile app, and the touch journals. These tools allow a degree of ownership and the opportunity for participants to direct the research themselves, as they had the ability to influence the treatment of the data and the outputs (Richards, 2011). Reflection through these methods turned experience into learning and helped to identify the wider factors at play.

Within Case Study 2, the participants seemed to be acutely aware that their social and sensory needs were not being met through their learning spaces. The Snapchat® images produced during the first four weeks of the eight-week case study evidenced that the participants mostly work at home as they visually documented their own home-based, self-allocated desk spaces (Appendix A, 14.7, 14.11, 14.13, 14,15) (Figure 95). From 239 submitted images, only 9 images documented university life. The remainder of the Snapchat® images recorded workflow, the social community, desk space and production processes that were taken at home or in locations external to the campus. To test this notion, at the mid-point of the case study schedule, I suggested to the participants that they should try capturing Snapchats® from within the university and to exclude off-campus for the remainder of the case study. The number of Snapchat® images dropped off sharply from 217 in the first four weeks to a total of 22 images in the second block of four weeks. Similar to the first block of images, at the conclusion of the case study, only 4 images had recorded campus life, with an additional 18 images displaying aspects of the participants' home studio environment and digital creative processes (Appendix A, 14.18, 14.19, 14.21). However, food and nourishment in non-owned spaces, such as cafés, bars, and at home is a recurring theme in the daily Snapchat® images produced by the participants in Australia (10) (Figure 96). This evidenced the social aspect of their everyday lives and their various communities in an Australian campus café culture (Fitzgibbon and Prior, 2010). All of the people appearing in the images were fellow Design students (11).

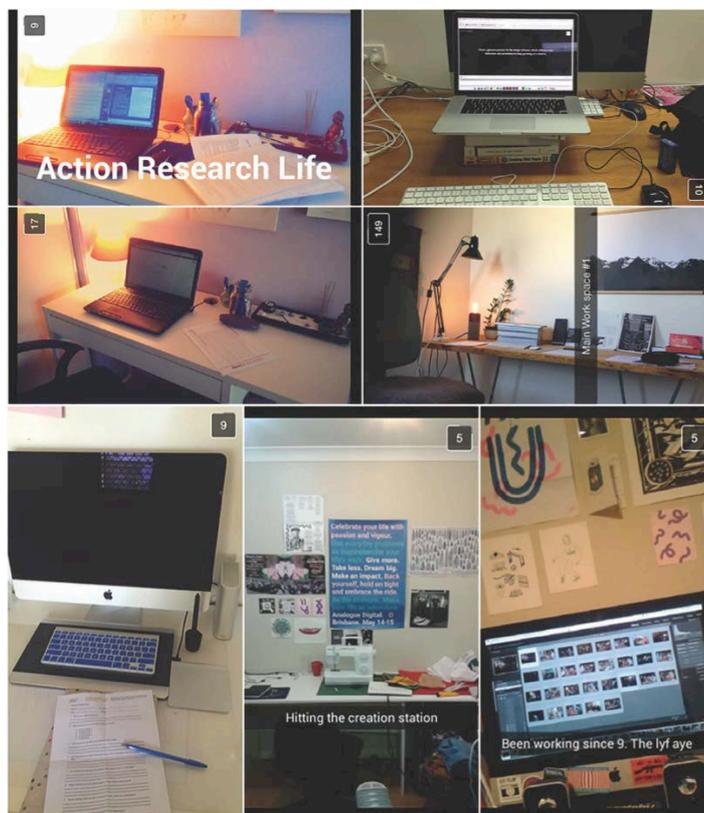


Figure 95. The participants documented their own home-based desk spaces through the Snapchat® method. © L. Marshalsey, 2016.



Figure 96. Food and sustenance in cafes, bars and at home is a recurring theme in the Snapchat® images. © L. Marshalsey, 2016.

This data clearly reveals that the participants' sense of place and personal acts of place-making regularly occur in their home environment, yet rarely in the university learning spaces. The different participants produced strikingly similar perspectives of their individual home workspaces, including evidence of a predominantly digital practice (5). They also used artefacts and artworks as tools for place-making at home (8). It was apparent there was minimal creative

mess (9) and the organisation of their spaces was key to their personal zones, as shown in Figure 95. The need for a clearly defined personal zone at home in which to work on university assignments was unmistakably evident (12). The students seemed unable to make their own definition of place in this institution since they have not been assigned a personal desk space to do so. This is a consequence of the policy and management of space use within this university (and within many other similar institutions) where the fixed timetabling fosters a high turnover of students and classes. As the students do not have a say in the allocation of the educational space, this impacts upon notions of personal space within their learning environments. Augé (2008) refers to this ambivalent space that contains no familiar artefacts of choice or sense of belonging as a 'non-place'. Consequently, the students spend an increasing amount of time in front of computers and technology, causing a "profound alteration of awareness: something we perceive, but only in a partial and incoherent manner" (Augé, 2008, abstract).

In contrast to the Snapchat® images, very little video content was produced for Case Study 2. Previously, the Case Study 1 participants had examined their self-conscious behaviours when using the GoPro® video cameras and had expressed their view that the cameras had distorted a true reflection of studio life within Case Study 1, as one student said, "you did feel like you were taking part in a test" (Appendix B, p.56, l.109). I decided to reject the GoPro® video cameras as a tool and to not provide this equipment to the participants within Case Study 2. The Case Study 1 participants had said the novelty of using these cameras had affected their real-life filming. However, the decision to encourage the participants to source their own preferential filming method affected the participants' enthusiasm to film real studio life. The participants were disappointed I hadn't supplied the GoPro® video cameras for this research activity and Dan stated:

I was trying to film a video and then messing up a lot because I couldn't focus because I had to keep stopping the film, like I couldn't be in that train of thought... if I had a GoPro® on my head [all] the time, I probably would have zoned out. (Appendix B, p.255, l.356)

Nevertheless, the participants' lack of enthusiasm for filming may have been a result of lack of attendance rather than a change of equipment, as Charlie said, "I didn't have a reason, I guess, to come in" (Appendix B, p.234, l.26). Students did not attend the university learning spaces for the majority of this working week, as Jack, Valerie, and Rose discussed:

Jack: I wasn't at uni this week.

Lorraine: Okay. So, you chose to work at home?

Jack: Yeah, I was working at home. (Appendix B, p.232, l.4-6)

...

Valerie: I was only at uni on Monday for ten minutes for my consultation.

Rose: I took a time lapse of... me doing my usual routine, you know, that I walk whenever I come to uni, but I didn't take [record] much because, yeah, I wasn't here for the last two weeks. (Appendix B, p.233, l.12,16)

The participants produced a few short transitory sequences in the video footage, with some clips lasting for only three seconds' duration. It is apparent that recording their routes from home to university and between the different learning spaces was important to them, yet the studio-based classrooms themselves were not prominent in this data (Figure 97). However, Dan did film more than the other participants. He produced several short video clips as he recorded his non-timetabled self-study period of time within Studio L and his workflow when he used a communal photocopier as a design tool within this space (5). The most striking result to emerge from the reflective data in the closing week of the case study schedule was that the participants thought they "had nothing worth filming at uni" (Figure 98). Their lack of a sense of belonging within the university as an institution and as members of the educational environment was troubling, as Valerie said (8): "I don't feel like I identify as a [parent university] student. I'm in a bit of a limbo right now" (Appendix B, p.251, l.309).



Figure 97. Still frames from the student's filming task. © L. Marshalsey, 2016.

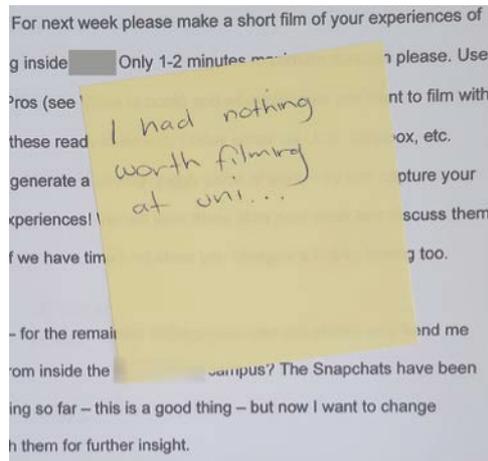


Figure 98. A participant's reflective Post-It® note on the filming task: "I had nothing worth filming at uni". © L. Marshalsey, 2016.

Turning now to the touch journals, this method was adopted to help the participants and me to understand their hands-on interaction with the studio artefacts, materials, and surfaces over the course of a full week. The participants were asked to visually populate a blank journal via lists, words, drawings, or any mark-making method they preferred (Appendix A, 14.16). It was envisaged that the habitual recording of touch data might include creative and non-creative

production materials and tools, digital and physical techniques, studio mess and furniture surfaces. Each of the participants chose different mark-making techniques from words to dots to drawings to represent the physical interactions they had experienced (Figure 99). The results obtained from the visual touch journals included a collated list of the most touched things that week, with the six most prolific touches listed as – a computer mouse, phone, keyboard, highlighter pens, ballpoint pens, and cups (14). Paper was further down the collated list, illuminating that although the students participate in drawing as a creative production method, they mostly produce digital work (5).

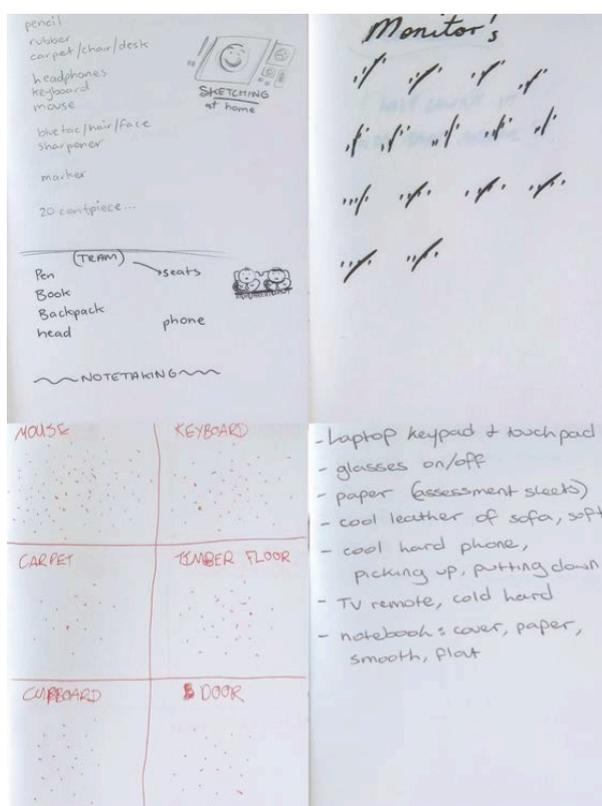


Figure 99. Varying approaches to mark-making in the touch journals. © L. Marshalsey, 2016.

Recognising that each student had assumed a different technique, the students initially worried that they hadn't populated their journals 'correctly'. I had stated previously they should take ownership of the journal for this task using any preferred visual style of recording data and information. I reassured them that using their individual style to generate data was beneficial. In

their everyday tutorials, the students sought guidance and reassurance from the educators that they are “doing it right”. They seemed to exhibit a lack of confidence in their abilities, and I have realised that I also tend to mirror this behaviour as an educator. I feel I often second-guess myself in this environment and my confidence is not as robust as it once was within my previous educational institution. At times, I feel uncertain that I might not be “doing it right” either within these studio environments. The preliminary categories emerging from the student’s image-making are shown in Table 37.

- | |
|--|
| (5): Using digital, web-based and interactive modes (in studio practice)
(8): Using artefacts (and place-making)
(9): Studio environment (mess)
(10): Nourishment (in the studio)
(11): Community (of practice and discovery)
(12): Space (for a personal zone and space within a studio-wide free zone)
(14): Touch |
|--|

Table 37. The preliminary categories emerging from the participants’ image-making.
© L. Marshalsey, 2016.

7.2.3.5 *Post-case study: One Case Study 2 participant visits the Case Study 1 studio in the UK*

On 1 July 2016, one of the Australian Case Study 2 participants, Valerie, visited the UK. Knowing this beforehand, I invited Valerie to visit the Case Study 1 studio with me so that I may informally interview her. This was to understand her perspective now that it was possible to physically engage with her counterparts’ studio environment. Initially, she observed that the art school in the UK did not feel like a university to her at all. Instead, it felt informal and relaxed, which was an interesting benchmark of her perception of the college of art in Australia. Valerie also expressed that the studio felt very connected, as every student was housed together as part of an active community in one building rather than dispersed across multiple, disconnected

small physical campus buildings, as is the case in her Australian college of art. The close desk formation in each studio also surprised her and she was astounded that students had assigned desks in which they could happily leave work in progress. She expressed astonishment that other students "...don't destroy" the work when openly left within the studio environment. She was both jealous and fascinated by this behaviour and the degree of trust among the community. Valerie cited that this behaviour was just not possible at her institution in Case Study 2. To have a dedicated place within studio, no matter how small, was a wonderful concept to her. Reflecting upon her comments, I felt regret that I, as her educator, couldn't provide or replicate these conditions within our own institution in Australia. Indeed, I felt I contributed to the oppression. Therefore, the comments from both sets of participants in the last few sections echo my own sentiments and reflections of the impact of our studios in the college of art in Australia.

Although the desk formation may be cramped and the studio noisy in the UK art school as it tries to accommodate larger student numbers, the studio model of Case Study 1, in my opinion, still offers a great deal to its students in relation to experiential learning. From my perspective as an educator, the Australian participants in this study experienced a range of sensory affects within standardised classroom environments that appear to have impacted on them greatly, with some experiences more negative than others. These participants have no experience of a specialised design studio model that the UK students have experienced. Instead, as a strategy, the students in Case Study 2 have produced their own intervention and consciously formed learning spaces at home in order to work with sensory affect more explicitly. It would seem that many participants have unconsciously sought to create a supportive studio model at home. Indeed, it may be more challenging to encourage the Case Study 2 students to attend the university learning spaces (and this is echoed in many design education institutions worldwide) when they have created supplementary studio spaces at home. The preliminary categories emerging post-case study are shown in Table 38.

- | |
|--|
| <p>(3): Sound (from technology, machinery, music, people and architecture)</p> <p>(4): Using tools and methods (to explore sensory affect)</p> <p>(7): Space (for creativity, space for ergonomic comfort and space for storage)</p> <p>(8): Using artefacts (and place-making)</p> <p>(11): Community (of practice and discovery)</p> <p>(12): Space (for a personal zone and space within a studio-wide free zone)</p> <p>(16): Light (natural and artificial)</p> |
|--|

Table 38. The preliminary categories emerging post-case study. © L. Marshalsey, 2016.

7.3 Summary

Case Study 2 has further explored the category themes from Case Study 1 using an iterative, on-going action research approach. The activity-based group workshops and individual research tools evolved with some modifications to the methods following the reflective analysis that included students' opinions, narratives, and responses. The methods aligning to the research questions in Case Study 2 are shown in Table 39. The next chapter considers a fuller comparative analysis of Case Study 2.

Research questions	Methods aligning to the research questions in Case Study 2
1.1 What role does the studio play in the teaching of Communication Design?	<ul style="list-style-type: none"> • Questionnaire • Focus group (1): informal discussion [GoPro® filming] • Snapchat® • Focus group (1): informal discussion [Place-making] • Focus group (3): cross-case reflective discussion • Photography • Observational field notes
1.2 What research methods can be developed to understand and capture sensory affect as a means to help students reflect on and manage their learning?	<ul style="list-style-type: none"> • Focus group (2): practical workshop [iPad® drawing – digital] • Focus group (2): practical workshop [Sound drawing – analogue] • Focus group (1): informal discussion [GoPro® filming] • Snapchat® • Focus group (2): practical workshop [Touch journals] • Focus group (2): practical workshop [Smell & taste] • Sound recording • Photography
1.3 What meaning do students attribute to sensory affect?	<ul style="list-style-type: none"> • Focus group (2): practical workshop [Sound drawing – analogue] • Focus group (2): practical workshop [Manifesto] • Reflective interviews – individual
1.4 How might Communication Design studio education pedagogy be adapted to support and develop an explicit exploration of the role of the senses in learning?	<ul style="list-style-type: none"> • Focus group (2): practical workshop [Manifesto] • Reflective interviews – individual • Focus group (3): cross-case reflective discussion

Table 39. Methods aligning to the research questions in Case Study 2. © L. Marshalsey, 2017.

8 CASE STUDY 2: ANALYSIS AND INTERPRETATION

8.1 Introduction

In the following sections, I outline the analytical approach, procedures, and the results obtained from the qualitative investigation of this second case study. These sections map the storied data derived from the activities and transcripts in Case Study 2. This approach (which is explained in detail in Chapter 6, sections 6.2 to 6.7, and to avoid repetition, is briefly described in this chapter) is identical to the systematic analysis employed in Case Study 1. The data I present in this chapter will be used to answer the research questions in relation to Case Study 2.

Each participant in this study maintains their identity as both an individual and as a group members and consequently she/he may exhibit different forms of reflexive and reflective conduct in the data (Wenger, 2000, p.158). Therefore, what disturbs or upsets one student may enthuse or motivate another, especially in a “nexus of multimembership” (Wenger, 2000, p.157). The tables included throughout this chapter help to summarise the analytical process towards the formulation of the key thematic experiences.

8.2 Developing the four-stage approach to analysis

The chronological data investigation and representation of Case Study 2 followed a four-stage approach to analysis (Figure 100), and as discussed previously in Chapter 6: Case Study 1.

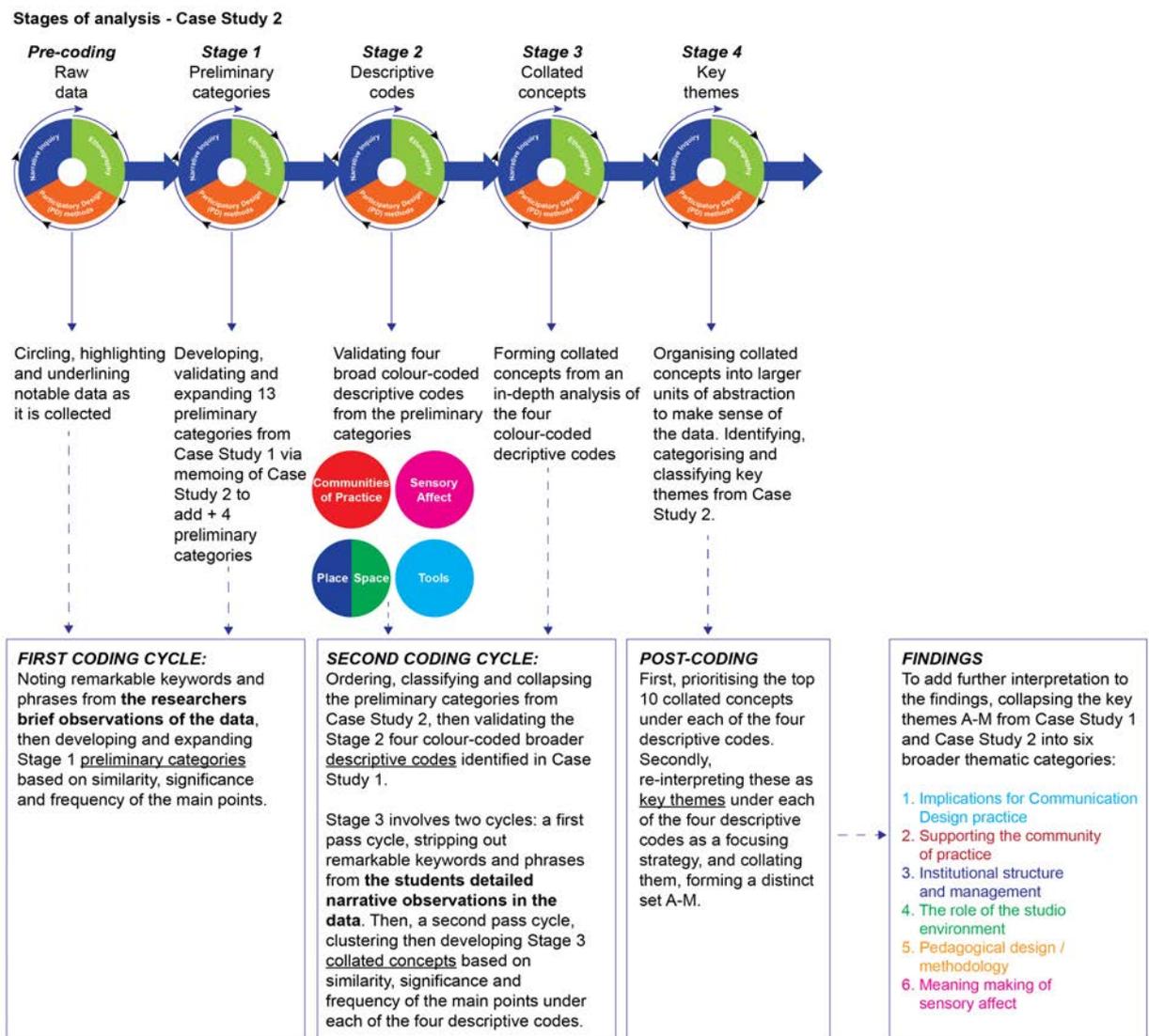


Figure 100. The four stages of analysis of Case Study 2. © L. Marshalsey, 2016.

8.3 Stage 1 analysis: Expanding the preliminary categories

The first stage of analysis develops, validates, and expands the preliminary categories from Case Study 1 and replicates the same method of memoing the transcript data within Case Study 2. As a reminder of this process, the reader should refer to Figure 68 and Figure 69 as shown in Chapter 6. Reflective handwritten notes and digital comments were formed in the margins to identify and validate the preliminary categories and to recognise additional ones. An additional four preliminary categories were identified throughout the investigation of Case Study

2 (Touch, Temperature, Light (natural and artificial) and Space (to listen, talk and debrief)).

However, it should be noted that although these additional categories were not acknowledged until the conclusion of the Case Study 2 activities, this does not mean that they did not occur within Case Study 1. To recap, the 17 preliminary categories identified from both case study investigations are shown in Table 40.

- | |
|---|
| <ul style="list-style-type: none">(1): Social (social and visual interruptions caused by space, furniture, people and layout)(2): Smell (in the studio)(3): Sound (from technology, machinery, music, people and architecture)(4): Using tools and methods (to explore sensory affect)(5): Using digital, web-based and interactive modes (in studio practice)(6): Digital and physical social network platforms(7): Space (for creativity, space for ergonomic comfort and space for storage)(8): Using artefacts (and place-making)(9): Studio environment (mess)(10): Nourishment (in the studio)(11): Community (of practice and discovery)(12): Space (for a personal zone and space within a studio-wide free zone)(13): Space (to think inside and outside of the studio)(14): Touch(15): Temperature(16): Light (natural and artificial)(17): Space (to listen, talk and debrief) |
|---|

Table 40. The 17 preliminary categories identified from both case study investigations. © L. Marshalsey, 2016.

8.4 Stage 2 analysis: Validating the preliminary categories as four descriptive codes

The second stage in the process involved the validation of the four broad colour-coded descriptive codes from the extended range of preliminary categories identified across both Case Study 1 and Case Study 2. These are as follows: (1) **Communities of Practice**; (2) **Sensory Affect**; (3) **Place / Space**; and (4) **Tools**. To reiterate, the 17 preliminary categories drawn from the Case Study 1 and 2 databases can be collapsed into the four descriptive codes as shown in Figure 101.

Narrative Inquiry analysis / Stage 2: Descriptive codes - Case Study 2

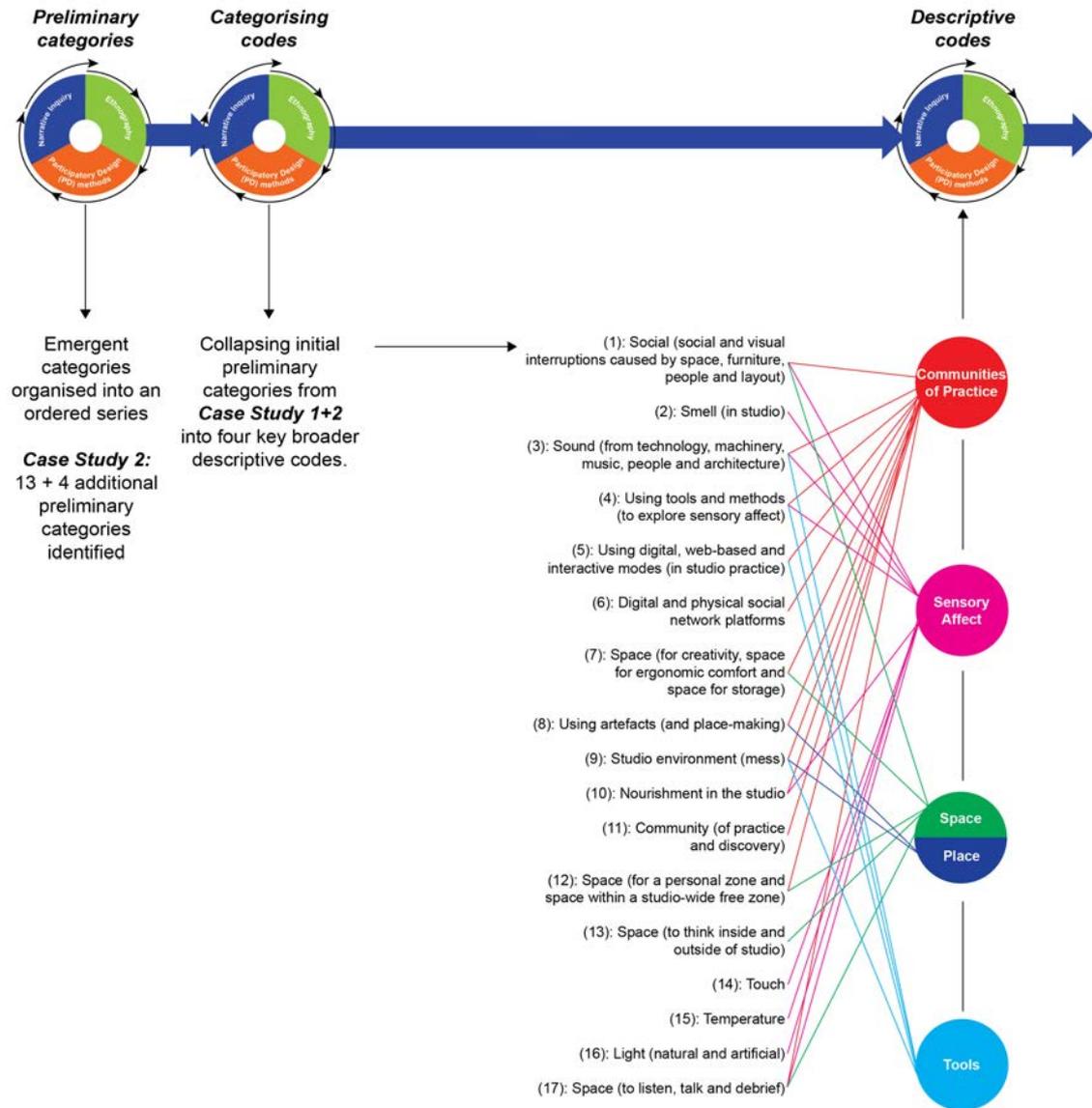


Figure 101. Stage 2 analysis: The 17 preliminary emergent categories drawn from the Case Study 1 and Case Study 2 databases are validated into four colour-coded descriptive codes. © L. Marshalsey, 2016.

8.5 Stage 3 analysis: Forming the collated concepts

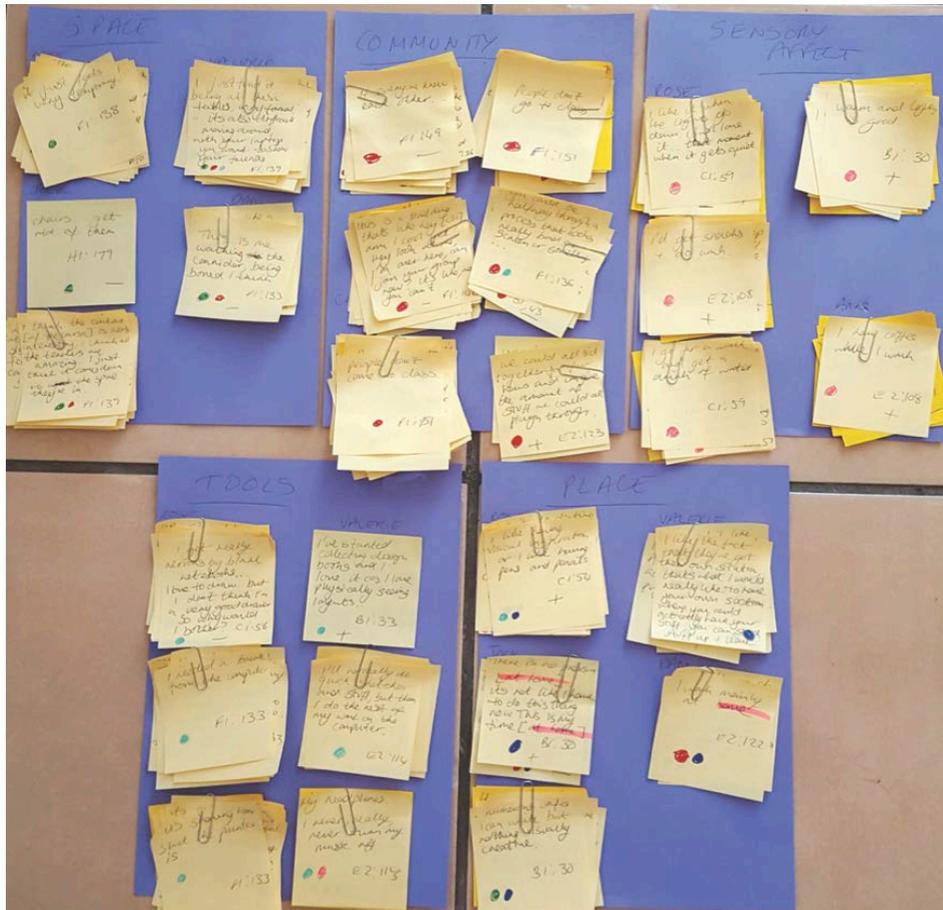


Figure 102. Post-It® notes were clustered under one of the four descriptive codes (at this point, Place and Space were separated out). © L. Marshalsey, 2016.

Clustering the data strands from the voices of the participants in Case Study 2 led to a series of collated concepts. This method of analysis follows a long table approach to data analysis as outlined by Krueger (2006) who defined this low-tech manual method as literally: “Cutting up the transcripts and sorting the responses to each question into categories” (Krueger, 2006, p.481).

I revisited the rich data set of Case Study 2 in-depth and I stripped out the key phrases and physically wrote every pertinent strand onto an individual Post-It® note. The Post-It® notes formed clusters under each of the four broader descriptive codes (at this point, **Place** and **Space** formed standalone categories, which were later connected due to the closely linked nature of their context), these were then clustered again under each of the six participant

students: Rose, Valerie, Anne, Dan, Jack, and Charlie (Figure 102). The seventh student, Saul, was not included in this process as he had remained mostly silent in the one focus group that he had attended. This process is discussed in detail in Chapter 6, section 6.5 and in Figure 77. The remainder of this chapter explicitly discusses how the assembled categories were formed from the data strands.

In the following sections, each of the four descriptive codes – (1) **Communities of Practice**, (2) **Sensory Affect**, (3) **Place / Space**, and (4) **Tools** – are mapped against the storied data in a conversational style narrative. It should be noted that the context-specific nature of this Australian case study differs in relation to the first UK case study. Between the two institutions there are variances in the use of English language, campus layout and use, cultural behaviours, and the size of the year groups. In the cultural and studio context, the Australian institution embraces an international student cohort, which welcomes a high percentage of Asian, South American, and Norwegian students. When comparing the two contexts for this investigation, the Australian year group is approximately two-and-a-half times larger than its UK counterpart. And notably, the college of art in Australia engages with a pedagogy-as-studio model rather than the student-centred studio-as-signature-pedagogy model favoured by the specialised art school in the UK (Sims and Shreeve, 2012; Crowther, 2013). The studio as a site of learning and specific cultural practices is, in itself, seen as signature pedagogy of “teaching and modes of being and acting” (Tovey, 2015, p.85). The pedagogy-as-studio model attempts to duplicate the studio ethos, for example, through an online, blended, or physically dispersed community. The differences between these two case study sites might reorder notions of risk-taking in practice, studio trends, resources, creative working, eating, and the social behaviours happening in the participants own particular learning spaces.

8.5.1 Communities of practice

Turning now to the community of practice within Case Study 2, the data indicated that the participants infrequently constructed meaning together in their community of practice and in its

place, they preferred to work alone. The most striking result to emerge from the data set is the participants' preference to work at home rather than in the university studios. Wenger (2000, p.179) discusses the three necessary criteria for modes of belonging in a community of practice as follows: engagement (negotiating meaning within interactions, relationships and practices); imagination (images of the world, possibilities, and ourselves over time); and alignment (co-ordinating our energy to fit with and contribute to broader structures). However, the method of belonging in this university-based studio community occurred in an unexpected way (Wenger, 2000, p.181). Rose, Charlie, Jack, and Dan all clearly stated that they chose to work at home on a regular basis and two of them said: "I prefer to work at home alone" (Appendix B, p.162, l.14). and "at home I can get into the zone" (Appendix B, p.162, l.15). The participants also indicated that their peers felt the same way, with Valerie and Charlie stating respectively: "people don't go to class" (Appendix B, p.266, l.173) and "they just leave because they can't work here" (Appendix B, p.196, l.84). Yet there is a willingness to attend the university rather than class, as Jack said, "I felt like going to Uni... I wouldn't get anything done" (Appendix B, p.232, l.8). Spending time in library and cafes on the university campus is less formal than attending a timetabled class. On average, the home studio environment seems to promote a sense of comfort, wellbeing, open-ended time, and therefore enabling a better engagement with the students' educational workload, as illustrated by Jack's remark: "I can spend hours on something at home" (Appendix B, p.163, l.15). This collective reflection was the single most striking observation to arise from the data of Case Study 2.

The results indicate that there are several reasons for preferred mode of working at home rather than within the university educational environments. The participants admitted to feeling self-conscious within their learning spaces. They attribute this sense of vulnerability to the fact that the year group does not know each other well – as Valerie observed: "I can't name most of the people in our year [group]" (Appendix B, p.263, l.120). It is somewhat surprising that this occurs in the third year of the students' degree, as I would have attributed this view to new and nervous first-year students. As a third-year student, Rose said, "if I was sitting next to them at a table or something, I'd feel awkward" (Appendix B, p.263, l.119). Valerie suggested that this social

ineptness may be marginally eased when sitting in smaller groups: “you’re only really talking to the three people you’re sitting with” (Appendix B, p.169, l.69). The correlation between small clusters of people and familiarity is interesting. Charlie said that within small group working, “I feel extremely welcome” (Appendix B, p.159, l.3).

Further analysis revealed the somewhat confused identity – a sense of segregation – that the design students enrolled within the parent university appear to feel. For example, Dan said: “this is a building that’s like ‘Hey, am I cool yet? Hey, look at me. I’m over here. Can I join your group now?’ It’s like, no you can’t” (Appendix B, p.252, l.325). Valerie recognised her creative collegial self-identity can be supported by participating in creative, hands-on, and physical techniques within the university: “the only time I feel like a student is when I do the screen-printing elective and I’m actually getting my hands dirty” (Appendix B, p.252, l.324).

The greater student numbers and lack of space in heavily populated studio environments also feature in the students’ perplexed sense of identity within the university. For example, Rose said: “It’s hard to be creative when you’re sitting on top of each other” (Appendix B, p.197, l.95). Valerie reiterated this notion, and said, “When there’s too many people its’ like it can get a bit chaotic” (Appendix B, p.320, l.176). Dan added: “you have more social interaction here, so there is more distractions” (Appendix B, p.173, l.133). These responses also indicate that sound is an element of a populated learning space. For example, Valerie said: “you block out everyone who’s at your table because there’s too much noise” (Appendix B, p.169, l.67). To counterbalance this, Charlie used noise-cancelling headphones and said: “I don’t want to talk to anyone” (Appendix B, p.179, l.215). Nevertheless, Dan did suggest that: “I kind of like being social” (Appendix B, p.250, l.285). Valerie thought that a less populated studio environment may promote engagement and focus, and observed: “when there are less people, it’s quieter. So, it feels more serious or something” (Appendix B, p.320, l.174).

A positive correlation was found between the feeling of vulnerability in the community and the need for the students to conceal their creative work in progress from other students in the

studio-based classrooms. Jack indicated his embarrassment at displaying his work in progress when he said, “you could be halfway through a process that looks really bad on screen or something” (Appendix B, p.241, l.157). This need to obscure work from the sight of the other students is amplified in Rose’s statement: “you have to be alert. It’s like you have to know who they [the other students] are, so you have to turn around and see them... make sure they’re not sneaking up on you” (Appendix B, p.241, l.156).

Interestingly, the participants stated that one of the main reasons they attend the university was to interact with their educators. Nevertheless, they seemed unable to motivate themselves to work in the studio while waiting to discuss work in progress with their educator. Rose said, “That’s the only reason why I would stay... I would sit there doing nothing to get to talk to you. I wouldn’t sit there working and then talk to you. Because, it’s like, I can’t” (Appendix B, p.172, l.110). Jack further reflects on this paradox as he said, “Because you are not being creative in class... then you don’t otherwise come up with the questions you want to ask at that time” (Appendix B, p.172, l.179). Dan agreed with Jack, saying, “I think I’d like to stay and definitely utilise the time that you’re there. Cos there’s a chance I’ll go home and... I’ll have forgotten something... I should have asked” (Appendix B, p.172, l.108). Anne remarked that it is stressful if she doesn’t get an opportunity to engage with an educator in the studio: “you have to wait a whole week [until the next class] until you get to see someone [an educator]” (Appendix B, p.223, l.22). In this institution, the students’ reluctance to make their work in progress visible within the studio is a problem for the educators. It becomes difficult to critique work that is not visible and to encourage development, growth, and refinement prior to the submission deadlines. For example, Dan said, “I feel I can’t stay and act. I need to go do something and I can’t do it here” (Appendix B, p.184, l.282). This concretises the participants’ view that the work they achieve at home is considered to be more tangible and not an inauthentic outcome of the time spent in the university learning spaces.

My own students often tell me that their work is ‘fine’ whenever I ask to see their process in the studio. Yet, they have not brought their work into the studio for discussion, so I cannot visually

confirm that it is indeed adequate until after the deadline. Often, the design work still needs refinement following final assessment and the students' marks and grades could have reasonably increased if the students' work had been visible throughout the semester as requested. Charlie remarked: "you do so much work. Then you hand in assignments and then they go into cyber space and you never see it again" (Appendix B, p.323, l.218). Not discussing the work with the students and their community of practice after the assessment may indeed contribute to the problem. However, contrary to this, Charlie said, "It's actually on a hard drive... I don't like seeing the physical. I like to hide it. There's some bad stuff [work] in there from a while ago and it's still hidden" (Appendix B, p.206, l.116).

As explained in Chapter 6, the following tables support the process of analysis and are a guide to draw the reader's attention to the central narratives in this investigation of Case Study 2. The following table presents the responses and key phrases from each student in Case Study 2 under the descriptive code Communities of Practice (Table 23). The frequency of the collated concepts situated in the key phrases from the participants responses are presented in Table 42. This table evidences that although the participants were willing to work in the university studio, they preferred to work at home.

Case Study 2: A University in Australia			
Descriptive code	Student	Number of identifiable responses from transcripts	Key phrases
Community of Practice	Rose	19	"It's hard to be creative when you're sitting on top of each other." "I feel as though my learning environment affects my creativity. I struggle to get inspired."
	Valerie	21	"I can't name most of the people in my year." "I was just showing how boring it is."
	Dan	19	"I think it's good to get up and interact a bit more and do something physical." "I kind of like being social." "This task will be so hard cos I do all my work at home now." "I feel like I can't stay and act. I need to go and do something."
	Jack	14	"Someone says 'hi' to you and you're like 'who are you?'" "I finally just resigned myself to the fact that yeah, I'm not going to get anything done at uni."
	Charlie	21	"I have established great friendships." "I find this pretty interesting how everyone interprets it differently." "...had nothing worth filming at uni." "I literally sit next to people and they'll leave because they can't work here."
	Anne	8	"We could all sit together for four hours and imagine the amount of stuff we could all plough through!" "I actually got interrupted a lot more than I thought I did." "You have to wait a whole week [for the next class] until you get to see someone."

Table 41. The responses and key phrases from each student in Case Study 2 under the descriptive code Community of Practice. © L. Marshalsey, 2016.

Case Study 2: A University in Australia			
Descriptive code		Collated concepts	Frequency of related language
Communities of Practice	1	Prefers to work at home rather than the university studio	37
	2	Willingness to stay in the studio and work on set tasks and with each other but did not/was not able to stay	21
	3	Struggles to focus / over-stimulation and interruption in a socially constructed, busy and visual studio	15
	4	The studio or university population creates elevated noise	15
	5	Established friendships and community / feels welcome and familiar / collaboration / thrives in social situations	13
	6	Did not attend university recently / observed others leaving studio early	11
	7	Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	9
	8	Direct social interaction as a result of physically moving around the studio, in group critiques or between rooms	8
	9	Identity issues as an art school student inside a wider university / feels excluded from the main institution / the institutional commitment to the student re: space	7
	10	Dislikes making their work-in-progress visible to other students / consciously observed by others	7
	11	Dislikes their institutional 'place' / space / little or no storage or lockers	7
	12	Attends studio only to speak to the educator	5
	13	The students value their own (and others') artwork on display	4
	14	A less populated studio environment would mean better resources and productivity	4
	15	The learning environment affects creativity	2
	16	Students in proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio	2
	17	The studio population creates mess and dirt	2
	18	People should be encouraged to produce creative 'mess'	1
	19	Stayed to work in the studio as the activities required the students to complete the task in the lesson	1
	20	Everyone owns a 'screen' or digital resource	1
	21	Struggling to become inspired, productive and enthusiastic in the studio space	1
	22	Creating assessed projects in the studio / no projects 'just for fun'	1
	23	Feels like a creative student when doing creative activities such as screen printing	1
	24	Communicates with those students in physical proximity in the studio / values privacy	1
	25	Use online social media as an inspiration resource, instead of directly from educator/peers	1

Table 42. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Communities of Practice. © L. Marshalsey, 2016.

8.5.2 Sensory affect

Turning to sensory affect theory; embodied knowing, becoming aware and enactive cognition were necessary for the students to foster a deeper understanding of sensory affect in studio learning. As the participants reflected upon sensory affect in relation to their creativity, their wellbeing and their learning, they illuminated several pertinent issues including sound, comfort and touch. The research methods aided an understanding, and capturing, of sensory affect as a means to help the participants reflect on and manage their learning.

The responses from the data identified the sounds people made within the studio and from the population into the wider building. A beeping fire alarm is a regular occurrence in the building. Interestingly, Valerie said, "Is it always this loud?" (Appendix B, p.216, l.8), yet she also said, "I hate silence" (Appendix B, p.179, l.207). Then, turning to another student, Valerie asks: "you said you like silence, don't you?" (Appendix B, p.319, l.164). Therefore, participants acknowledge that people require different sensory states for working within learning spaces.

When discussing physical and ergonomic comfort within the studio, Rose said, "It's important for me to be in a really comfy, supported chair" (Appendix B, p.174, l.141). Surprisingly, Charlie even offered to "pay another \$500 in my uni fees to sit on a comfy chair" (Appendix B, p.244, l.198). Rose also communicated the need for a comforting physical touch when working on studio projects: "I have to be in really loose, comfy clothing" (Appendix B, p.174, l.141). Charlie said he feels more professional when he is dressed smartly when designing: "I feel I produce better work" (Appendix B, p.175, l.151). This is a curious notion considering the participants' preference is to work at home in private rather than within the populated university learning spaces. As an educator, I dress smartly in an effort to be taken seriously by students and colleagues. I would feel less like an educator if I wore leisure clothing to class and this would also affect my professional behaviour; I feel I may be less articulate in the things I say or how I conduct myself overall.

The distinction between artificial and natural lighting as an experienced sensory affect is typified in Rose's numerous responses to artificial light, as she notes, "It can be too bright" (Appendix B, p.160, l.4) and "I struggle a lot with being in these rooms with this light. It really hurts my eyes" (Appendix B, p.191, l.13). When she discusses natural light, she said, "I like natural light" (Appendix B, p.191, l.13). However, she does say that artificial light can be bearable, noting that: "[when] the lights go down. I just love it... that moment when it gets quiet" (Appendix B, p.207, l.136). The poorly timed dimmer lighting circuit often plunges a working class into partial or complete darkness as the motion detector system intermittently fails. It is interesting that Rose associated a darkened room with noise reduction, and Valerie reinforces a beneficial link between temperature and lighting when she said, "warm and [natural] lighting is good" (Appendix B, p.180, l.224). The majority of participants responded that they felt temperature plays an important role in their interaction and engagement within learning spaces: "it can be uncomfortable sometimes because of how cold it can get" (Appendix B, p.160, l.5). In the association between smell and temperature, fresh air was deemed important, as Dan stated: "When it gets really hot, you can smell the air con and all the stuffiness" (Appendix B, p.166, l.27). No reaction to smell was found in the data analysis.

Food smells were not reported in the data, yet participants felt that they engaged better when they were not hungry or thirsty. Rose responded: "I drink a lot of tea... I have to get my cup of lemon green tea and then I'm ready to think" (Appendix B, p.173, l.135). Valerie said, "it does knock us off creatively, doesn't it? If we're hungry" (Appendix B, p.317, l.136). Valerie and Charlie suggested that working effectively involves making sure "that your taste and stuff is satisfied" (Appendix B, p.317, l.125) and "Don't be hungry" (Appendix B, p.318, l.139).

Few student responses referenced traditional creative materials, the conventional smell of wet-based media, such as inks, or the touch of metal type (Jury, 2011). Valerie articulated her preference for a hands-on practice-led engagement, although I suspect this normally occurs at home, since she said, "I do a lot of painting because I enjoy it and I like the tactile work. I respond better to it" (Appendix B, p.162, l.13). As an educator, I have not observed Valerie

actively working in this way within the university and how little I know of her preferred practice really surprised me. In relation to the everyday touch and smell within the studio, participants pointed out that greater student numbers mean that surfaces can feel unclean. I agree with this perception as I have come to realise that I excessively wash my hands at several intervals during and after timetabled studio classes, and as I do not want to fall sick.

The following table presents the responses and key phrases from each student in Case Study 2 under the descriptive code Sensory Affect (Table 43). The frequency of the collated concepts situated in the key phrases from the participants responses are presented in Table 44. This table evidences that although sound originating from the people within the university was dominant, the participants had implemented their own strategies for dealing with sensory affect in the studio, such as using noise-cancelling headphones while working.

Case Study 2: A University in Australia			
Descriptive code	Student	Number of identifiable responses from transcripts	Key phrases
Sensory Affect	Rose	16	"I like it when the lights go down." "I have to get my cup of tea and then I'm ready to think." "I just couldn't stand how cold it was." "I struggle a lot being in these rooms with this light as it really hurts my eyes."
	Valerie	19	"I like the tactile work. I respond better to it." "Warm and light is good." "Is it always this loud?" "It does knock us off creatively, doesn't it? If we're hungry."
	Dan	11	"I'll get snacks and do work." "I'd say the grass - sometimes I touch it and I'm like 'oohh!'" "You can smell the air con and all the stuffiness." "I don't think it [the studio] really has a smell."
	Jack	5	"Often really quiet." "It doesn't really smell of anything."
	Charlie	15	"I go for a walk and get a drink of water." "I like music... music that has peoples voices." "Don't be hungry." "I can't work with no shoes on." I just feel unprofessional. I just can't do it."
	Anne	10	'I have coffee while I work.' '...all of the creativity flowing and so, sort of like noise floating.' 'Tendency to be stuffy.' ' Lots of students so surfaces can feel grimy and dirty and you want to wash your hands a lot.'

Table 43. The responses and key phrases from each student in Case Study 2 under the descriptive code Sensory Affect. © L. Marshalsey, 2016.

Case Study 2: A University in Australia			
Descriptive code		Collated concepts	Frequency of related language
Sensory Affect	1	Sound originating from the building and people	28
	2	Strategies to overturn sensory affect i.e. 'zoning out' 'washing hands' 'using headphones' 'weekend working when it's quiet'	15
	3	Temperature	11
	4	Music to relax to, to focus, acceptable level of noise	10
	5	Touch: objects, surfaces, furnishings and furniture in the studio	10
	6	Little or no identifiable smell in studio, clean or clinical smell	10
	7	Artificial lighting and/or natural light, whiteness	9
	8	Food, water and sustenance required for creativity, food smells, taste	8
	9	Creative 'mess' and practice-led textures in the studio	8
	10	Well-being: comfortable clothing and supportive chair/furniture	7
	11	Prefers or refers to a quiet or silent studio	6
	12	Struggling to focus / over-stimulation and interruption in a socially constructed, busy and visual studio	4
	13	Prefers fresh air and nature	4
	14	Identifies mood through drawing and colour	3
	15	Dislikes silent studio	3
	16	Prefers or refers to working at night, rather than day	3
	17	Smell from the temperature - air conditioning / stuffiness	3
	18	Working inside or outside, is dependant on the weather	2
	19	Acknowledgement that people have differing sensory perspectives and needs i.e. sound preferences	2
	20	Dirt, mess and grime caused by students	2
	21	Digital practice doesn't 'feel real'	1
	22	Feeling the strain using digital resources 'eye strain'	1
	23	Physically moving around the studio or between rooms	1

Table 44. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Sensory Affect. © L. Marshalsey, 2016.

8.5.3 Place / Space

As previously discussed, the participants in Case Study 2 prefer to work at home for a variety of reasons, and home appears to act as a supportive pedagogical place, as opposed to the university learning spaces. The strength of emotion towards their university learning spaces is evident in the choice of language, when Valerie said, “you realise like ‘Oh, I actually hate this place’” (Appendix B, p.314, l.87). Charlie adds his own heightened reaction to the studio-based classroom spaces when he suggested: “well, they could just bulldozer it” rather than applying modifications to the space (Appendix B, p.316, l.116). These statements suggest that the participants think that their institution will not be inclined to change the space in which they work.

In contrast to this point, Charlie made an interesting observation in that: “A lot of people don’t actually have a place to sit out somewhere at home, and you rely on the institution you go to, to support you” (Appendix B, p.245, l.223). When he became a student, Charlie had assumed that the institution would provide a supportive learning space for design students to work effectively. However, as outlined in previous chapters, current economic and political challenges have drastically impacted on the provision of traditional, physical models of studio learning today, not least in Communication Design education. I had identified the theme of place as being of interest earlier in the investigation and it is notable that Rose described her working environment at home as a darkened room with less noise and few people inhabiting the space. She also said that a relaxed disposition within studio is critical when deadlines are due and that the home studio fulfils this need: “it’s important to be able to be casual when you are stressed” (Appendix B, p.192, l.34).

In view of this, the second-hand chairs inside studio L have some associations with home as Rose said, “I like the chairs... it reminds me of my grandparents... like that old-style pattern... just makes it a bit unique” (Appendix B, p.166, l.35,37). Dan echoed this view and suggests incorporating relaxing furniture in the university studios: “I like the couch idea, because I think it

actually makes it more casual when it comes to critiques and everyone is kind of relaxed” (Appendix B, p.192, l.33). Studio L (Figure 82) has incorporated soft living areas, and Charlie said, “that space... has more of a homey feel... and that’s kind of really inviting” (Appendix B, p.167, l.39).

In support of place-making, the participants and I had discussed the possibility of presenting and hanging their completed creative work in the university in the period following post-assessment (separate and external to this Case Study). They demonstrated an enthusiasm for the proposition of displaying their completed work to others; as Valerie said, “I thought, ‘Ah cool. They’re actually going to put some stuff up’” (Appendix B, p.324, l.232). Unfortunately, the intended visual display of project outcomes did not materialise at that time. Even as a staff member, I did not have permission to hang materials in the public corridors of the university from the campus estates management staff. Indeed, the walls of the visual arts buildings in this college of art are pre-bookable. A waiting list of staff requesting to display work removes the opportunity for spontaneous display of students’ visual work. I considered this and as I felt unable to proceed without verification or enough reserved space for eighty students, I decided to postpone the display of their finished projects. In this sense, I felt as though I had disappointed the students. Visual dissemination and verification of their practice seems to be unsupported nor valued by their own educators. Charlie remarked that displaying a finished project work within the community in which it was formed does help to support a student’s valued place within their year group: “To have the work printed and stuff on the walls... You feel like a champion and this is how you... feel valued and it works” (Appendix B, p.323, l.220).

The participants debated the merits of constructing a temporary studio place outside of both the university and home and instead, focussed on external locations, such as outdoors and in cafés. Valerie said, “if I had to work on campus (and I never do), I’d be outside rather than indoors” (Appendix B, p.188, l.337). Several of the participants vocalised the preference to work on the grassy areas of the campus although these areas are heavily populated. Café culture is popular on this campus and in the local town due to the warm, sunny climate in Australia.

Charlie voiced that he can work in “numerous cafes... I can write but [I produce] nothing visually creative” (Appendix B, p.181, l.238). The participants might gain nourishment in specific food-related places, yet there are many other sensory needs lacking in café environments, such as visual stimulation, a quiet area, and the physical touch of creative materials. However, Valerie also said that she “wouldn’t like to go to a café... I’m not going to stay there... I’ve got to leave at some point. So, I can’t settle down” as time is an issue in non-owned places (Appendix B, p.181, l.242). Charlie resolved this by stating: “there needs to be a space [within the studio] for that... an eating area” (Appendix B, p.318, l.143,145). Allowing time to work becomes a concern, and engagement can become a challenge in a temporary environment or where there are few resources. The pressure of having limited time for productivity means the students might not even attempt to form strategies to satisfy the senses and promote the necessary conditions for working in these external locations. When discussing the notion of restricted, pressured time within places to work, Jack said, “There is no [pressure] at home... It’s not like I have to do this thing now. This is my time [at home]” (Appendix B, p.180, l.228). Taking this notion further, Charlie suggested removing clocks from the university studios, as he declared: “I’ve looked at that clock actually so many times when we sat here in this room... A feeling that makes you want to leave” (Appendix B, p.324, l.240,244).

In terms of the university learning spaces and, in particular, the large classroom space of studio G (Figure 83), sound and space was found to be mutually supportive. Rose said, “I like the space when it comes to listening” (Appendix B, p.171, l.98). Nevertheless, she continued to say: “when it’s time to go and work on the things we just discussed... nothing flows” (Appendix B, p.171, l.104). Rose said, “That space... I don’t feel it inspires creativity” (Appendix B, p.171, l.96). Dan said, “It’s more like a debrief from the classroom” (Appendix B, p.184, l.280), while Charlie commented: “It’s a classroom before it’s a studio” (Appendix B, p.245, l.221). Rose and Charlie provided no reason to why this would be the case except “it all feels temporary” (Appendix B, p.160, l.7).

When considering the particular space Studio G (Figure 83), Rose said, “we’re not learning in that big room... the bottom line is that it is massive... You’re using these words like ‘creative’. I go in there and I just feel like I am studying” (Appendix B, p.183, l.274). The size and the identity of the studio environment plays a negative role in the students’ sensory wellbeing and their position within that space; as Valerie said, “[space] isolates me” (Appendix B, p.324, l.186) and “it’s just empty and there’s nothing happening” (Appendix B, p.240, l.139). Rose imitates: “I don’t feel comfortable in that area... I don’t like having my back open” (Appendix B, p.168, l.54). This response could suggest physical draughts from the air conditioning or open doors, or indeed not being able to know if students are approaching her when her back is to the rest of the room. Providing a space within which these students might be able to form a sense of place is not feasible, as Valerie acknowledged: “the university doesn’t have the space to give us our own thing. We share this with the [other] students” (Appendix B, p.245, l.227). Surprisingly, Charlie did not apportion blame for this predicament, saying, “I think the content [of the course] is really interesting. I think all the teachers are amazing... I just think it comes down to the space they’re in” (Appendix B, p.247, l.249).

The choice of layout in the studio is challenging, as Valerie said, “I just find... being at these tables very formal... It’s also difficult moving around with your laptop you want to show your friends” (Appendix B, p.247, l.242). She also said that: ‘... if the tables were just set up differently that would make a big change’ to the studio layout (Appendix B, p.246, l.233). In addition to this, Jack commented: “[the] chairs... get rid of them” (Appendix B, p.325, l.252). This echoes Charlie’s earlier statement that he would pay extra university fees if he could buy his own comfortable chair for his use in the studio space, as the existing chairs are “too low” (Appendix B, p.325, l.255). In addition to modifying the studio layout, Charlie suggested “never, ever paint a wall red! It increases your heart rate so much. No wonder everyone freaks out doing presentations” (Appendix B, p.322, l.209). Valerie also went on to say that if the studio had “like rows or something and you can just move between [them]... Whereas this is really isolated if you [need to] get up and go over to a different table or group” (Appendix B, p.321, l.190). However, despite the fact that the PC/Mac lab, known as Studio P (Figure 81) has

furniture arranged in rows, it is the space the participants previously considered as being the least popular. Having worked in this space myself, I suspect temperature and silence are the main sensory issues in this studio environment rather than the furniture arrangement.

Interestingly, cleanliness was an issue in the studio for Rose, as she said, "I can't work in an unclean room. I feel like a clean space, then a clean mind" (Appendix B, p.173, l.137,139).

Touch can also foster negative connotations via the perceived presence of dirt and grime from large numbers of transient students in the studio, and in the cultivation of their creative and non-creative mess. Nonetheless, touch can have beneficial repercussions within a studio, as Rose illuminates:

The print room... I really like that space... It has a big centre table and I feel comfortable in it. It's quite small and I feel creative there... there's just muck everywhere and pretty grotty. It's pretty grubby and lots of things are broken, but you can see creativity happening there. (Appendix B, p.188, l.342,344)

It would appear from the data that dirt and mess generated from people is acceptable as a result of creativity in the studio. In this sense, creativity seems to engender impactful experiences in terms of sensory affect, for example, through touch and smell.

The following table presents the responses and key phrases from each student in Case Study 2 under the descriptive code Place/Space (Table 45). The frequency of the collated concepts situated in the key phrases from the participants responses are presented in Table 46 and Table 47. These tables show that the participants preferred to work at home as the university studio felt claustrophobic, temporary and cramped in the classroom-based spaces, and that they could access their own creative resources at home.

Case Study 2: A University in Australia			
Descriptive code	Student	Number of identifiable responses from transcripts	Key phrases
Place	Rose	9	"I like the chairs...it reminds me of my grandparents." "I like having visual inspiration." "They all had their own spaces. I was so jealous."
	Valerie	8	"I thought: 'They're actually gonna put some stuff up'. But they didn't." "But then you realise 'Oh, I actually hate this place.'"
	Dan	7	"I like the couch idea because I think it actually makes it more casual when it comes to critiques and everyone is relaxed." "I work mainly at home." "I think I'd rather go home and work on stuff."
	Jack	6	"I wasn't at uni this week. I was working at home." "There is no pressure [at home]. Its not like I have to do this thing right now. This is my time."
	Charlie	12	"To have the work printed... on the walls, you feel like you're a champion. You feel valued." "That space has more of a homey feel and that's... really inviting."
	Anne	2	"Prefer to work at home." "I like my own space and equipment."
Space	Rose	11	"I like the space when it comes to listening." "The print room... Its pretty grubby and lots of things are broken but you can see creativity happening there."
	Valerie	12	"The university doesn't have the space to give us our own thing. We share this with other students." "If I had to work on campus (and I never do) I'd be outside rather than indoors."
	Dan	8	"That space... I feel like I'm walking into a dentist or something." "Its more like a debrief from the class room."
	Jack	5	"Chairs... get rid of them."
	Charlie	6	"Some spiteful person designed that space." "I think the content is really interesting. I think the teachers are amazing. I just think it comes down to the space they're in."
	Anne	4	"... the surrounding furniture is relaxed, inviting me in every time."

Table 45. The responses and key phrases from each student in Case Study 2 under the descriptive codes Place / Space. © L. Marshalsey, 2016.

Case Study 2: A University in Australia			
Descriptive code		Collated concepts	Frequency of related language
Place	1	Prefers to work at home rather than the university studio	37
	2	Own or readily available tools on display, accessible or nearby	20
	3	Posters, books, photographs and artefacts on display	10
	4	Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	8
	5	Prefers resources at home rather than at university	6
	6	Dislikes or embarrassed by their institutional 'place', 'I'm so messy'	5
	7	The students value their own (and others) artwork on display	5
	8	A 'homey' feel to spaces is a form of place-making, using sofas and soft furnishings, 'tucked away' in corners and walls	4
	9	Envious of other peoples' studio spaces	3
	10	A wall clock encourages students to leave the studio (as opposed to open ended time)	3
	11	Nostalgic or 'sense of place' attachment to furniture, design, people, practice and artefacts in the studio	2
	12	Works in a café rather than the university studio	2
	13	Dislikes working in a café space	1
	14	Would be encouraging to have 'paint sections' and 'wet areas' in studio space	1

Table 46. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Place. © L. Marshalsey, 2016.

Case Study 2: A University in Australia			
Descriptive code		Collated concepts	Frequency of related language
Space	1	Prefers to work at home rather than the university studio	37
	2	University studios feel temporary, cramped, claustrophobic or resemble classrooms / offices	12
	3	Suggests arranging the furniture differently or re-assigning the function of the space would make a difference to studio engagement	7
	4	Large or empty rooms and open spaces may not be conducive to creative work or focus	7
	5	Struggling to become inspired and enthusiastic in the studio space	6
	6	Formal arrangement of furniture in the space / table 'islands'	5
	7	Spaces for listening, thinking and talking help students focus, but these spaces are generally not for creative work	4
	8	Dislikes their institutional space	4
	9	Clean spaces = clear mind / organised and structured space	4
	10	A 'homey' feel to spaces is a form of place-making, using sofas and soft furnishings, 'tucked away' in corners and walls	4
	11	Spaces with 'creative mess' are more appealing and easier to work in	3
	12	Has difficulty moving around and working in the space / limitations	3
	13	Envious of other people's studio spaces	3
	14	Students in close proximity to one another in the studio / adjacent position, layout or nearby transitory routes in the studio	2
	15	More digital spaces required	2
	16	Sound originating from studio / creative space / within the university	2
	17	Would prefer to work outdoors rather than indoors	2
	18	Feels isolated in the space	2
	19	A large centre table within a smaller room feels creative	1
	20	Student does not like to have back to the rest of the room or the door	1
	21	Sharing the studio space with non-creative students	1
	22	Works in a cafe rather than the university studio	1
	23	Dislikes working in a cafe space	1
	24	Would be encouraging to have 'paint sections' and 'wet areas' in studio space	1

Table 47. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Space. © L. Marshalsey, 2016.

8.5.4 Tools

In Case Study 2, the experiential learning approach to the research methods captured what participants said about their experiences of learning, and their use of tools in the studio, in several ways. Traditionally, design students are influenced from research channelled directly from their interactions with educators. This could be via lectures, seminars, tutorials, gallery and studio visits, artefacts, and materials, such as library books. Within Case Study 2, the participants appeared to predominantly use the Internet as a primary tool for research to supplement the traditional forms of their studio learning. This is based on the premise that the students watch videos and use social media as a bridge to learn between university and home, and therefore rely less on direct interaction with educators (Van Sickle, 2016). Within the studio-based classroom, Dan said that he “found more artists on Instagram® and followed them, stalked them... and then started drawing what was on my mind” (Appendix B, p.209, l.153). Certainly, from my everyday verbal conversations with students, I have gathered that finding inspirational sources via social media is standard practice among them, with Instagram® and Snapchat® being the most popular platforms. Nevertheless, the participants may actually prefer non-digital research avenues, as Dan said, “You find your research online” (Appendix B, p.187, l.324) and Charlie commented, “It doesn’t feel as real” (Appendix B, p.187, l.326).

Despite the popularity of online and digital tools, Rose confessed: “I struggle to see it [the work] on the computer and then actually how it’s going to translate in real life... I guess the great thing about digital is, it’s endless... the possibilities are so endless” (Appendix B, p.187, l.329). However, she did say that: “I don’t turn my computer on until I have a piece of paper in front of me” (Appendix B, p.173, l.135). Jack also agreed with this, saying, “I love to draw really bad, quick sketches of ideas, then bring it into the computer” (Appendix B, p.162, l.13). Charlie identified his practice as equivalent to the other students and said: “I use temporary paper. I usually throw out stuff and then digitise it” (Appendix B, p.202, l.61). These responses indicate that drawing and note taking on paper precede digital creation. Rose continued to say: “I’m really trying my hardest to get away from technology at the moment because... when I was

younger, I went to a school that didn't have technology and I was so creative" (Appendix B, p.186, l.312). A realisation may exist among the participants that digital tools only partially foster the sensory engagement required for optimal creativity, as Dan acknowledged, "I needed a break from the computer" (Appendix B, p.237, l.89). He continued to explain his view of the negative associations between digital practice and wellbeing: "People are feeling the strain of screens... And everyone's got a screen in front of them... I appreciate print a lot" (Appendix B, p.187, l.320). The notion of supportive physical touch and visual interaction also exists in Valerie's response: "I've started collecting design books and I love it cos I love physically seeing layouts" (Appendix B, p.187, l.327).

Further analysis revealed that the participants had issues with the scarce availability of resources within the university and, in particular, the lack of access to a printer within their learning spaces. This may also be a reason as to why the participants struggle to visualise the end result of a digital product: "I'll turn on my computer and then it goes to the printer. So... the printer takes forever, man" (Dan, Appendix B, p.237, l.84). Charlie also echoed this sentiment stating: "how shit the printer is" (Appendix B, p.237, l.83). In relation to the cost and availability of resources at the university, Dan also said, "you don't have [the resources] ... I couldn't drag my sewing machine to the college" (Appendix B, p.197, l.87). Certainly, within the institution in Case Study 2, the participants took part in an annual induction with an extensive health and safety certification process before they could access the resources they need. They are refused access to the workshops and photographic studios without this verification, which means they often do not attempt to access resources in a short, pressed timeframe leading to a project deadline. I have observed this to be a rigid state of affairs, with little room for negotiation with the technical staff in this university. It deters the students and me from using these resources in the future, which is troubling when the parent university needs justification as to why expensive resources are not being utilised in a time of economic and political upheaval. The high cost of printing on campus also acts as a deterrent to producing physical work and I often offer to print on a student's behalf to save them money.

Despite the participants eagerness to use fewer digital resources, it is interesting to note their lack of confidence in their ability to use sketchbooks as a tool. Rose said, “I get really nervous by blank notebooks... I love to draw, but I don’t think I’m a very good drawer. So why would I bother?” (Appendix B, p.202, l.51). In agreement, Charlie said, “I’ve bought new ones that I’ve drawn on the first five pages [then] ripped them out. Because I didn’t want people seeing that I’ve ripped pages out of a [sketch]book” (Appendix B, p.202, l.57). This also resonates with an earlier discussion that revealed the participants do not comprehend the value of making their work visible to others for peer review.

Participants appeared to be willing to engage with the university learning spaces more, especially if the tools provide a unique hands-on experience. Rose reminisced on previous hands-on activities and said, “We stayed longer because we had activities that we actually had to complete on the spot” (Appendix B, p.185, l.294). Dan clarified this further and said, “in that space, we actually had... huge piece of paper, a hundred pins, and just spent all lesson... drawing. Doing logo designs and stuff like that. I liked doing that. That was fun” (Appendix B, p.184, l.278). Interestingly, Jack observed: “It’d be so much more encouraging to... go up to the paint sections... art like brushes and paints and stuff. Where are they located?” (Appendix B, p.327, l.282) even though an art materials trolley is freely provided and is often wheeled into class, as shown in Figure 103. Charlie suggested that to encourage creative mess, there should be “little bins on each table, just so people feel like they can make a mess” (Appendix B, p.327, l.288). He also recommended that the students working within the studio should draw “instant sketches to find out what mood you’re in” (Appendix B, p.315, l.94) and as a means to manage levels of sensory affect effectively. Jack also proposed that if the university studios managed to supply digital resources catering for smaller numbers of students, this would work better: “more computers... if you’ve got less people, it’d be more manageable” (Appendix B, p.326, l.269).



Figure 103. An art materials trolley used in timetabled classes. © L. Marshalsey, 2016.

Noise cancelling headphones appear to be the most powerful tool to overcome negative sensory affect, with Charlie stating, “they’ve been the biggest game changer. They’re so good” (Appendix B, p.204, l.89). Rose agreed: “They help me to focus, so these come with me everywhere that I need to work cos I can’t do work here [without them]” (Appendix B, p.199, l.8). Rose continued to say: “I don’t enjoy listening to music while I work, but when I need to focus, I use my headphones and listen to music” (Appendix B, p.199, l.8). Remarkably, Charlie answered: “[headphones] put me in the zone... even if the music is not playing” (Appendix B, p.205, l.91).

The following table presents the responses and key phrases from each student in Case Study 2 under the descriptive code Tools (Table 48). The frequency of the collated concepts situated in the key phrases from the participants responses are presented in Table 49. This table confirms that having readily available tools and resources nearby was important to the participants, and that using their own strategies and tools to work more effectively with sensory affect in the studio was common.

Case Study 2: A University in Australia			
Descriptive code	Student	Number of identifiable responses from transcripts	Key phrases
Tools	Rose	9	"I get really nervous by blank notebooks." "I'm really trying my hardest to get away from technology at the moment." "I don't think I'm very good at drawing, so why would I bother?"
	Valerie	2	"I've started collecting design books and I love it. I love physically seeing the layouts."
	Dan	11	"... spend the lesson drawing, doing logo designs and stuff like that. I liked doing that. That was fun." "You find your research online. It doesn't feel as real." "I've never had a laptop. I've always just had a computer at home."
	Jack	7	"I'll normally do quick sketches and stuff, but then I do the rest of my work on the computer." "I brought headphones as I always have them on."
	Charlie	15	"[Headphones] they've been the biggest game-changer. They're so good." "... how shit the printer is." "I use temporary paper. I usually throw out stuff [the paper] and then digitise it."
	Anne	5	"I just drew the first thing that jumped into my head." "My headphones. I never, really, never turn my music off."

Table 48. The responses and key phrases from each student in Case Study 2 under the descriptive code Tools. © L. Marshalsey, 2016.

Case Study 2: A University in Australia			
Descriptive code		Collated concepts	Frequency of related language
Tools	1	Own or readily available tools are on display, accessible, or nearby	20
	2	Using tools to overcome sensory affect such as 'noise-cancelling headphones'	12
	3	Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes	9
	4	Does not like or cannot bring resources and tools to university	8
	5	Colourful posters, books, photographs and artefacts on display	7
	6	Evolves initial paper sketches into digital practice	7
	7	Prefers resources at home rather than at university	6
	8	Digital resources not working effectively or not accessible for all students	5
	9	Feels like a creative student when doing creative activities such as screen printing	4
	10	Intimidated by blank sketchbooks and paper, rips pages out that are not good enough	4
	11	Not confident at drawing or using analogue tools	3
	12	Takes regular breaks from the computer	2
	13	Everyone owns a 'screen' or digital resource	2
	14	Uses digital practice and the Internet as a resource	2
	15	Wet materials and resources not working effectively or not accessible for all students	2
	16	Would be encouraging to have 'paint sections' and 'wet areas' in studio	2
	17	Has difficulty translating digital work into a tangible, real outcome	2
	18	Requires more suitable resources to be able to work effectively or focus	2
	19	Would be encouraging to have small table bins for creative 'mess'	1
	20	Digital practice and online resources don't 'feel real'	1
	21	Trying to limit digital production in the student's own practice or disregarded digital practice	1

Table 49. The frequency of the collated concepts appearing in Case Study 2 under the descriptive code Tools. © L. Marshalsey, 2016.

8.6 Stage 4 analysis: Key themes

The final stage of the analysis of Case Study 2 has contributed to the formation of **key themes** drawn from the collated concepts, as shown in Figure 104. As outlined in Case Study 1, this formation of collated concepts into larger units of abstraction enables the data from Case Study 2 to be understood in an identical way (Saldaña, 2016). The following key themes interpret and summarise the diverse perspectives expressed by the participants and me within the context of the learning spaces in a college of art within Australia (Table 50).

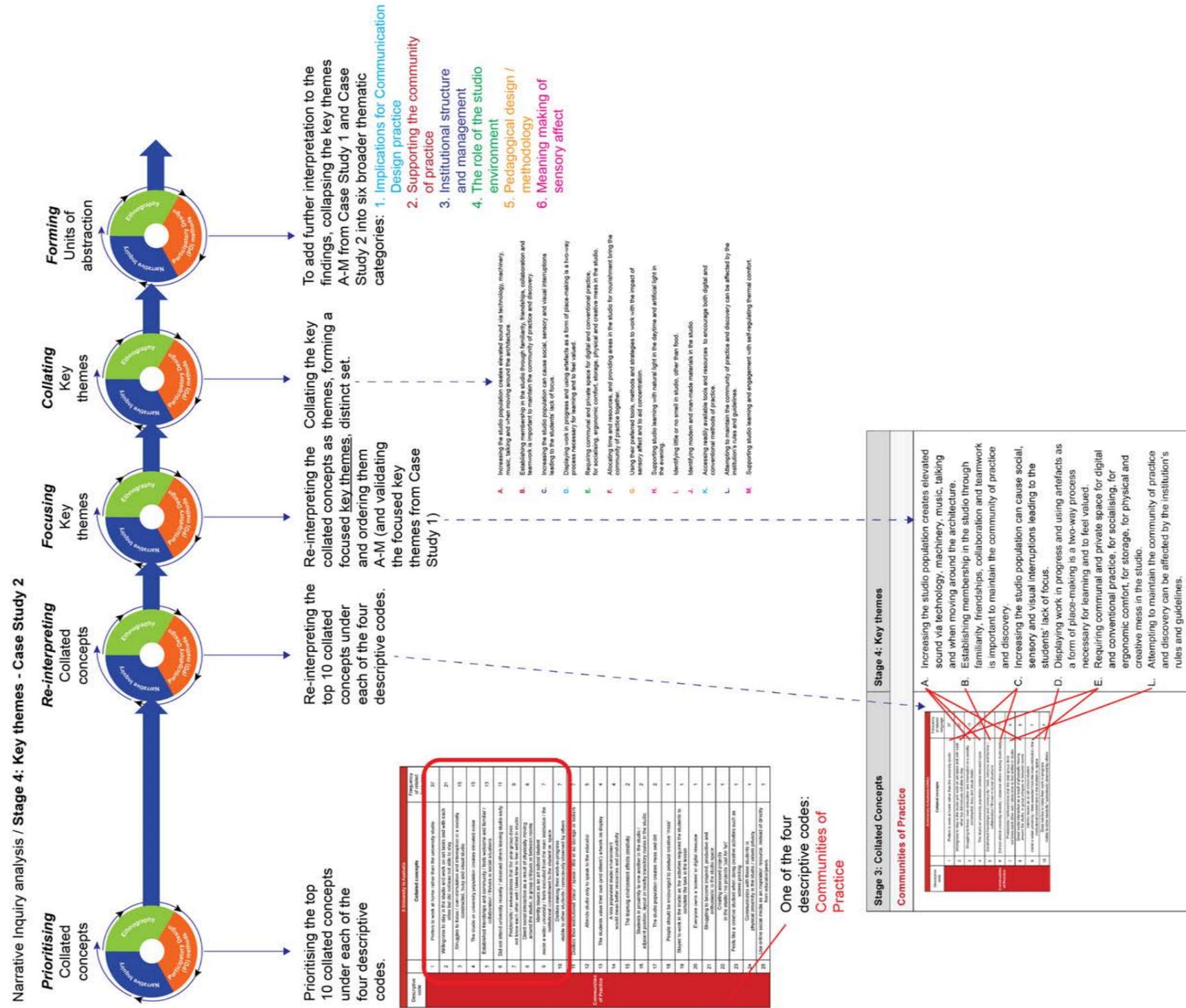


Figure 104. The process of narrative inquiry Stage 4 analysis: prioritising and re-interpreting the collated concepts to form key themes. © L. Marshalsey, 2016.

Stage 3: Collated Concepts	Stage 4: Key themes																																				
<p>Communities of Practice</p> <table border="1" data-bbox="295 474 710 761"> <thead> <tr> <th colspan="3">A University in Australia (CAAs)</th> </tr> <tr> <th>Descriptive code</th> <th>Collated concepts</th> <th>Frequency of related language</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Prefers to work at home rather than the university studio</td> <td>37</td> </tr> <tr> <td>2</td> <td>Willingness to stay in the studio and work on set tasks and with each other but did not always stay</td> <td>21</td> </tr> <tr> <td>3</td> <td>Struggling to focus / over-stimulation and interaction in a socially constructed, busy and visual studio</td> <td>15</td> </tr> <tr> <td>4</td> <td>The studio or university population creates elevated noise</td> <td>15</td> </tr> <tr> <td>5</td> <td>Established friendships and community / feels welcome and familiar / collaboration / thrives in social situations</td> <td>13</td> </tr> <tr> <td>6</td> <td>Did not attend university recently / observed others leaving studio early</td> <td>11</td> </tr> <tr> <td>7</td> <td>Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio</td> <td>9</td> </tr> <tr> <td>8</td> <td>Direct social interaction as a result of physically moving around the studio, in group critiques or between rooms</td> <td>8</td> </tr> <tr> <td>9</td> <td>Identify issues as an art school student inside a wider university / feels excluded from the main institution / the institutional commitment to the student re. space</td> <td>7</td> </tr> <tr> <td>10</td> <td>Does not like to make their work-in-progress visible to other students / consciously observed by others</td> <td>7</td> </tr> </tbody> </table>	A University in Australia (CAAs)			Descriptive code	Collated concepts	Frequency of related language	1	Prefers to work at home rather than the university studio	37	2	Willingness to stay in the studio and work on set tasks and with each other but did not always stay	21	3	Struggling to focus / over-stimulation and interaction in a socially constructed, busy and visual studio	15	4	The studio or university population creates elevated noise	15	5	Established friendships and community / feels welcome and familiar / collaboration / thrives in social situations	13	6	Did not attend university recently / observed others leaving studio early	11	7	Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	9	8	Direct social interaction as a result of physically moving around the studio, in group critiques or between rooms	8	9	Identify issues as an art school student inside a wider university / feels excluded from the main institution / the institutional commitment to the student re. space	7	10	Does not like to make their work-in-progress visible to other students / consciously observed by others	7	<ul style="list-style-type: none"> A. Increasing the studio population creates elevated sound via technology, machinery, music, talking and when moving around the architecture. B. Establishing membership in the studio through familiarity, friendships, collaboration and teamwork is important to maintain the community of practice and discovery. C. Increasing the studio population can cause social, sensory and visual interruptions leading to the students' lack of focus. D. Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued. E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio. L. Attempting to maintain the community of practice and discovery can be affected by the institution's rules and guidelines.
A University in Australia (CAAs)																																					
Descriptive code	Collated concepts	Frequency of related language																																			
1	Prefers to work at home rather than the university studio	37																																			
2	Willingness to stay in the studio and work on set tasks and with each other but did not always stay	21																																			
3	Struggling to focus / over-stimulation and interaction in a socially constructed, busy and visual studio	15																																			
4	The studio or university population creates elevated noise	15																																			
5	Established friendships and community / feels welcome and familiar / collaboration / thrives in social situations	13																																			
6	Did not attend university recently / observed others leaving studio early	11																																			
7	Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	9																																			
8	Direct social interaction as a result of physically moving around the studio, in group critiques or between rooms	8																																			
9	Identify issues as an art school student inside a wider university / feels excluded from the main institution / the institutional commitment to the student re. space	7																																			
10	Does not like to make their work-in-progress visible to other students / consciously observed by others	7																																			
<p>Sensory Affect</p> <table border="1" data-bbox="287 1176 718 1467"> <thead> <tr> <th colspan="3">A University in Australia (CAAs)</th> </tr> <tr> <th>Descriptive code</th> <th>Collated concepts</th> <th>Frequency of related language</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Sound originating from the building and people</td> <td>28</td> </tr> <tr> <td>2</td> <td>Strategies to overcome sensory affect i.e. 'zoning out' 'washing hands' 'using headphones' 'weekend working when it's quiet'</td> <td>15</td> </tr> <tr> <td>3</td> <td>Temperature</td> <td>11</td> </tr> <tr> <td>4</td> <td>Music to relax to, to focus, acceptable level of noise</td> <td>10</td> </tr> <tr> <td>5</td> <td>Touch: objects, surfaces, furnishings and furniture in the studio</td> <td>10</td> </tr> <tr> <td>6</td> <td>Little or no identifiable smell in studio, clean or clinical smell</td> <td>10</td> </tr> <tr> <td>7</td> <td>Artificial lighting and/or natural light, whiteness</td> <td>9</td> </tr> <tr> <td>8</td> <td>Food, water and sustenance required for creativity, food smells, taste</td> <td>8</td> </tr> <tr> <td>9</td> <td>Creative 'mess' and practice-led textures in the studio</td> <td>8</td> </tr> <tr> <td>10</td> <td>Well-being: comfortable clothing and supportive chair/furniture</td> <td>7</td> </tr> </tbody> </table>	A University in Australia (CAAs)			Descriptive code	Collated concepts	Frequency of related language	1	Sound originating from the building and people	28	2	Strategies to overcome sensory affect i.e. 'zoning out' 'washing hands' 'using headphones' 'weekend working when it's quiet'	15	3	Temperature	11	4	Music to relax to, to focus, acceptable level of noise	10	5	Touch: objects, surfaces, furnishings and furniture in the studio	10	6	Little or no identifiable smell in studio, clean or clinical smell	10	7	Artificial lighting and/or natural light, whiteness	9	8	Food, water and sustenance required for creativity, food smells, taste	8	9	Creative 'mess' and practice-led textures in the studio	8	10	Well-being: comfortable clothing and supportive chair/furniture	7	<ul style="list-style-type: none"> A. Increasing the studio population creates elevated sound via technology, machinery, music, talking and when moving around the architecture. E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio. F. Allocating time and resources, and providing areas in the studio for nourishment bring the community of practice together. G. Using their preferred tools, methods and strategies to work with the impact of sensory affect and to aid concentration. H. Supporting studio learning with natural light in the daytime and artificial light in the evening. I. Identifying little or no smell in studio, other than food. J. Identifying modern and man-made materials in the studio. M. Supporting studio learning and engagement with self-regulating thermal comfort.
A University in Australia (CAAs)																																					
Descriptive code	Collated concepts	Frequency of related language																																			
1	Sound originating from the building and people	28																																			
2	Strategies to overcome sensory affect i.e. 'zoning out' 'washing hands' 'using headphones' 'weekend working when it's quiet'	15																																			
3	Temperature	11																																			
4	Music to relax to, to focus, acceptable level of noise	10																																			
5	Touch: objects, surfaces, furnishings and furniture in the studio	10																																			
6	Little or no identifiable smell in studio, clean or clinical smell	10																																			
7	Artificial lighting and/or natural light, whiteness	9																																			
8	Food, water and sustenance required for creativity, food smells, taste	8																																			
9	Creative 'mess' and practice-led textures in the studio	8																																			
10	Well-being: comfortable clothing and supportive chair/furniture	7																																			

Place / Space																																				
<table border="1"> <thead> <tr> <th colspan="3">A University in Australia (CAAU)</th> </tr> <tr> <th>Descriptive code</th> <th>Collated concepts</th> <th>Frequency of related language</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Place</td> <td>1 Prefers to work at home rather than the university studio</td> <td>37</td> </tr> <tr> <td>2 Own or readily available tools on display, accessible or nearby</td> <td>20</td> </tr> <tr> <td>3 Posters, books, photographs and artefacts on display</td> <td>10</td> </tr> <tr> <td>4 Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio</td> <td>6</td> </tr> <tr> <td>5 Prefers resources at home rather than at university</td> <td>6</td> </tr> <tr> <td rowspan="5">Space</td> <td>1 Prefers to work at home rather than the university studio</td> <td>37</td> </tr> <tr> <td>2 University studios feel temporary, cramped, claustrophobic or resemble classrooms / offices</td> <td>12</td> </tr> <tr> <td>3 Suggests arranging the furniture differently or re-assigning the function of the space would make a difference to studio engagement</td> <td>7</td> </tr> <tr> <td>4 Large or empty rooms and open spaces may not be conducive to creative work or focus</td> <td>7</td> </tr> <tr> <td>5 Struggling to become inspired and enthusiastic in the studio space</td> <td>6</td> </tr> </tbody> </table>			A University in Australia (CAAU)			Descriptive code	Collated concepts	Frequency of related language	Place	1 Prefers to work at home rather than the university studio	37	2 Own or readily available tools on display, accessible or nearby	20	3 Posters, books, photographs and artefacts on display	10	4 Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	6	5 Prefers resources at home rather than at university	6	Space	1 Prefers to work at home rather than the university studio	37	2 University studios feel temporary, cramped, claustrophobic or resemble classrooms / offices	12	3 Suggests arranging the furniture differently or re-assigning the function of the space would make a difference to studio engagement	7	4 Large or empty rooms and open spaces may not be conducive to creative work or focus	7	5 Struggling to become inspired and enthusiastic in the studio space	6	<p>B. Establishing membership in the studio through familiarity, friendships, collaboration and teamwork is important to maintain the community of practice and discovery.</p> <p>C. Increasing the studio population can cause social, sensory and visual interruptions leading to the students' lack of focus.</p> <p>D. Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.</p> <p>E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio.</p> <p>K. Accessing readily available tools and resources to encourage both digital and conventional methods of practice.</p>					
A University in Australia (CAAU)																																				
Descriptive code	Collated concepts	Frequency of related language																																		
Place	1 Prefers to work at home rather than the university studio	37																																		
	2 Own or readily available tools on display, accessible or nearby	20																																		
	3 Posters, books, photographs and artefacts on display	10																																		
	4 Problematic / awkwardness that the year group does not know each other well / takes time to feel settled in studio	6																																		
	5 Prefers resources at home rather than at university	6																																		
Space	1 Prefers to work at home rather than the university studio	37																																		
	2 University studios feel temporary, cramped, claustrophobic or resemble classrooms / offices	12																																		
	3 Suggests arranging the furniture differently or re-assigning the function of the space would make a difference to studio engagement	7																																		
	4 Large or empty rooms and open spaces may not be conducive to creative work or focus	7																																		
	5 Struggling to become inspired and enthusiastic in the studio space	6																																		
<table border="1"> <thead> <tr> <th colspan="3">Tools</th> </tr> </thead> <tbody> <tr> <td colspan="3"> <table border="1"> <thead> <tr> <th colspan="3">A University in Australia (CAAU)</th> </tr> <tr> <th>Descriptive code</th> <th>Collated concepts</th> <th>Frequency of related language</th> </tr> </thead> <tbody> <tr> <td rowspan="10">Tools</td> <td>1 Own or readily available tools on display, accessible or nearby</td> <td>20</td> </tr> <tr> <td>2 Using tools to overcome sensory affect such as 'noise-cancelling headphones'</td> <td>12</td> </tr> <tr> <td>3 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes</td> <td>9</td> </tr> <tr> <td>4 Does not like or cannot bring resources and tools to university</td> <td>8</td> </tr> <tr> <td>5 Colourful posters, books, photographs and artefacts on display</td> <td>7</td> </tr> <tr> <td>6 Evolves initial paper sketches into digital practice</td> <td>7</td> </tr> <tr> <td>7 Prefers resources at home rather than at university</td> <td>6</td> </tr> <tr> <td>8 Digital resources not working effectively or not accessible for all students</td> <td>5</td> </tr> <tr> <td>9 Feels like a creative student when doing creative activities such as screen printing</td> <td>4</td> </tr> <tr> <td>10 Intimidated by blank sketchbooks and paper, rps pages out that are not good enough</td> <td>4</td> </tr> </tbody> </table> </td> <td> <p>D. Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.</p> <p>E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio.</p> <p>G. Using their preferred tools, methods and strategies to work with the impact of sensory affect and to aid concentration.</p> <p>K. Accessing readily available tools and resources to encourage both digital and conventional methods of practice.</p> </td> </tr> </tbody> </table>			Tools			<table border="1"> <thead> <tr> <th colspan="3">A University in Australia (CAAU)</th> </tr> <tr> <th>Descriptive code</th> <th>Collated concepts</th> <th>Frequency of related language</th> </tr> </thead> <tbody> <tr> <td rowspan="10">Tools</td> <td>1 Own or readily available tools on display, accessible or nearby</td> <td>20</td> </tr> <tr> <td>2 Using tools to overcome sensory affect such as 'noise-cancelling headphones'</td> <td>12</td> </tr> <tr> <td>3 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes</td> <td>9</td> </tr> <tr> <td>4 Does not like or cannot bring resources and tools to university</td> <td>8</td> </tr> <tr> <td>5 Colourful posters, books, photographs and artefacts on display</td> <td>7</td> </tr> <tr> <td>6 Evolves initial paper sketches into digital practice</td> <td>7</td> </tr> <tr> <td>7 Prefers resources at home rather than at university</td> <td>6</td> </tr> <tr> <td>8 Digital resources not working effectively or not accessible for all students</td> <td>5</td> </tr> <tr> <td>9 Feels like a creative student when doing creative activities such as screen printing</td> <td>4</td> </tr> <tr> <td>10 Intimidated by blank sketchbooks and paper, rps pages out that are not good enough</td> <td>4</td> </tr> </tbody> </table>			A University in Australia (CAAU)			Descriptive code	Collated concepts	Frequency of related language	Tools	1 Own or readily available tools on display, accessible or nearby	20	2 Using tools to overcome sensory affect such as 'noise-cancelling headphones'	12	3 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes	9	4 Does not like or cannot bring resources and tools to university	8	5 Colourful posters, books, photographs and artefacts on display	7	6 Evolves initial paper sketches into digital practice	7	7 Prefers resources at home rather than at university	6	8 Digital resources not working effectively or not accessible for all students	5	9 Feels like a creative student when doing creative activities such as screen printing	4	10 Intimidated by blank sketchbooks and paper, rps pages out that are not good enough	4	<p>D. Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.</p> <p>E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio.</p> <p>G. Using their preferred tools, methods and strategies to work with the impact of sensory affect and to aid concentration.</p> <p>K. Accessing readily available tools and resources to encourage both digital and conventional methods of practice.</p>
Tools																																				
<table border="1"> <thead> <tr> <th colspan="3">A University in Australia (CAAU)</th> </tr> <tr> <th>Descriptive code</th> <th>Collated concepts</th> <th>Frequency of related language</th> </tr> </thead> <tbody> <tr> <td rowspan="10">Tools</td> <td>1 Own or readily available tools on display, accessible or nearby</td> <td>20</td> </tr> <tr> <td>2 Using tools to overcome sensory affect such as 'noise-cancelling headphones'</td> <td>12</td> </tr> <tr> <td>3 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes</td> <td>9</td> </tr> <tr> <td>4 Does not like or cannot bring resources and tools to university</td> <td>8</td> </tr> <tr> <td>5 Colourful posters, books, photographs and artefacts on display</td> <td>7</td> </tr> <tr> <td>6 Evolves initial paper sketches into digital practice</td> <td>7</td> </tr> <tr> <td>7 Prefers resources at home rather than at university</td> <td>6</td> </tr> <tr> <td>8 Digital resources not working effectively or not accessible for all students</td> <td>5</td> </tr> <tr> <td>9 Feels like a creative student when doing creative activities such as screen printing</td> <td>4</td> </tr> <tr> <td>10 Intimidated by blank sketchbooks and paper, rps pages out that are not good enough</td> <td>4</td> </tr> </tbody> </table>			A University in Australia (CAAU)			Descriptive code	Collated concepts	Frequency of related language	Tools	1 Own or readily available tools on display, accessible or nearby	20	2 Using tools to overcome sensory affect such as 'noise-cancelling headphones'	12	3 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes		9	4 Does not like or cannot bring resources and tools to university	8	5 Colourful posters, books, photographs and artefacts on display	7	6 Evolves initial paper sketches into digital practice	7	7 Prefers resources at home rather than at university	6	8 Digital resources not working effectively or not accessible for all students	5	9 Feels like a creative student when doing creative activities such as screen printing	4	10 Intimidated by blank sketchbooks and paper, rps pages out that are not good enough	4	<p>D. Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.</p> <p>E. Requiring communal and private space for digital and conventional practice, for socialising, for ergonomic comfort, for storage, for physical and creative mess in the studio.</p> <p>G. Using their preferred tools, methods and strategies to work with the impact of sensory affect and to aid concentration.</p> <p>K. Accessing readily available tools and resources to encourage both digital and conventional methods of practice.</p>					
A University in Australia (CAAU)																																				
Descriptive code	Collated concepts	Frequency of related language																																		
Tools	1 Own or readily available tools on display, accessible or nearby	20																																		
	2 Using tools to overcome sensory affect such as 'noise-cancelling headphones'	12																																		
	3 Enjoys or refers to drawing, paper and tactile tools, 'hands-on' processes	9																																		
	4 Does not like or cannot bring resources and tools to university	8																																		
	5 Colourful posters, books, photographs and artefacts on display	7																																		
	6 Evolves initial paper sketches into digital practice	7																																		
	7 Prefers resources at home rather than at university	6																																		
	8 Digital resources not working effectively or not accessible for all students	5																																		
	9 Feels like a creative student when doing creative activities such as screen printing	4																																		
	10 Intimidated by blank sketchbooks and paper, rps pages out that are not good enough	4																																		

Table 50. The top 10 collated concepts from each descriptive code table have been collapsed into a set of identifiable key themes A – M. © L. Marshalsey, 2016.

8.7 Summary

Through Chapters 5, 6, 7, and 8, I have provided the detailed settings and a critical analysis of the data emerging from both case studies. Making assertions from the data is the last step in the analysis before proceeding to a discussion of the findings of both case studies: the art school in the UK and the college of art in Australia. The subjective data expressed the interpreted collective personal views from the participants and me across both sites. Interpretation represents the concluding phase of abstracting out beyond the development of

the **preliminary categories** (Stage 1). The stages of analysis move from the four wider, **descriptive codes** (Stage 2) to the larger meaning of the data via **collated concepts** (Stage 3) to form the final **key themes** (Stage 4), which are examined as findings more fully in the next chapter (Creswell, 2013). One additional key theme has been identified from Case Study 2 as shown in Table 51.

A.	Increasing the studio population creates elevated sound via technology, machinery, music, talking and when moving around the architecture.
B.	Establishing membership in the studio through familiarity, friendships, collaboration and teamwork is important to maintain the community of practice and discovery.
C.	Increasing the studio population can cause social, sensory and visual interruptions leading to the students' lack of focus.
D.	Displaying work in progress and using artefacts as a form of place-making is a two-way process necessary for learning and to feel valued.
E.	Requiring communal and private space for digital and conventional practice, for socialising, ergonomic comfort, storage, physical and creative mess in the studio.
F.	Allocating time and resources, and providing areas in the studio for nourishment bring the community of practice together.
G.	Using their preferred tools, methods and strategies to work with the impact of sensory affect and to aid concentration.
H.	Supporting studio learning with natural light in the daytime and artificial light in the evening.
I.	Identifying little or no smell in studio, other than food.
J.	Identifying modern and man-made materials in the studio.
K.	Accessing readily available tools and resources to encourage both digital and conventional methods of practice.
L.	Attempting to maintain the community of practice and discovery can be affected by the institution's rules and guidelines.
M.	Supporting studio learning and engagement with self-regulating thermal comfort.

Table 51. The key themes (A-M) from Case Study 2. © L. Marshalsey, 2016.

In summary, the interpreted outcomes provide important insights into Case Study 2. The participants preference to work at home appears in several of the key themes. At home, they displayed work to feel valued (D), organised a private space to work creatively (E), could adjust

the lighting or work freely in the daytime or evening (H), had tools and resources to hand (K), and could maintain their own level of thermal comfort (M). Specifically, they were not able to action these aspects in the university studio-based classroom environments. Taken together with Case Study 1, these results suggest that there are both overlapping and divergent findings appearing between the two differing institutions. Therefore, the next chapter, moves on to critically discuss a detailed comparison of the two case studies and examines the implications of the findings.

9 DISCUSSION OF FINDINGS

9.1 Restatement of research aims

The purpose of this thesis is to investigate the central relationship between sensory affect and learning in contemporary Communication Design studio education so as to understand how better to improve student engagement. In recent years, Communication Design pedagogy has faced changes to the formal and informal division of its learning spaces. As a specialised discipline, it has seen the reduction of appropriate formal design studio space. This is coupled with the changing nature of its physical and digital practice, as networked learning has begun to dominate education. Economic and political agendas in higher education have also encouraged wider participation and greater student numbers in learning. This has instigated the shift towards a diverse repertoire of different institutional spaces and curriculums now delivering studio and studio-based education. I argue that problems occur at the intersection of this diversity of provision and students' needs. The consequential supportive and disruptive sensory affect they encounter impact upon students' learning. This affects their wellbeing, social, practice-led, and educational needs. The research had three aims;

- To explore the different ways in which students qualitatively interpret a range of sensory experiences within the shifting boundaries of virtual, technology-rich, and physical (studio and studio-based) learning spaces;
- To develop Participatory Design (PD) research methods that can be used to capture what students say about their lived experiences of their studio environment; and
- To consider how Communication Design studio pedagogy can be adapted in order to take account of and work with sensory affect more explicitly using PD methods.

This study set out with the aim of developing a greater understanding of the complexities and dynamics of sensory affect as it occurs on the ground within studio and studio-based learning spaces. This investigation has attempted to develop a rigorous exploration of the role of the senses in studio learning and goes much further than a consideration of feelings, thinking and engagement in learning spaces (Hawkins, 2010). The following sections consider how the experiential learning by doing participatory research methods might enable the development of new insights relating to Communication Design studio pedagogy. An individual's experiential, environmental, and functional working relationship with Communication Design pedagogy, practice and their place in the studio community needs conscious consideration by researchers and educators in studio education today.

In this chapter, I critically reflect on the action research approach and the development of the Participatory Design (PD) methods in this study. The adaptation of the tools and techniques occurred as the participatory process progressed. The PD methods were not specifically co-created with the participants, since I crafted the methods that were then collectively explored and developed during the activities. Following this, I compare this research investigation with previous studies in this field. I then summarise the set of key themes emerging from the analysis of the two case studies and the six broader thematic categories derived from these key themes. I review and discuss the implications of the main findings and their practical significance in the current management, and future development, of studio learning environments. To aid the understanding of this, I am calling this approach a Methods Process Model (MPM) (Figure 106) and the thinking of it, as a transferable methodological framework. The MPM attempts to fill the gaps outlined in the literature review in the sense that knowledge begins with experience and experiential learning aids socially constructed meaning. The MPM also attempts to form a system of meaning between the students, their peers, and their educators who explore experience through collaborative participation in their community of practice. To conclude this chapter, I consider the limitations of the study.

9.2 Reflecting on the Participatory Action Research (PAR) and the Participatory Design (PD) approach

9.2.1 Adapting tools and techniques

The iterative, Participatory Action Research (PAR) process facilitated the development of the Participatory Design (PD) tools and techniques. The tools implemented in this investigation were formed in line with the cyclical plan – act – observe – reflect approach rather than from a recognised, pre-determined set of research tools. The findings at each stage of the case study process fed directly into the development of the next iteration of research methods. The insights drawn from the participants' feedback arose from the application of the tools and techniques in the group workshop activities. Insights were also drawn from individual accounts and the participants' positive, negative, and indifferent responses to sensory affect in their studio and studio-based classroom learning. This navigation aided the adaptation of the selected range of PD methods, and also enabled a robust development process from which to draw out the rich experiential and narrative data. The intention was to create an innovative PD methodological framework to investigate the central relationship between sensory affect and learning in contemporary Communication Design studio education. This transferable methodological framework (MPM) can now be used by other educators and adapted as necessary (Figures 107, 108, 109, 110, 111, 112), depending on the formal or informal educational environment, to establish the most effective methods for differing studio circumstances. The varying degrees of detail and complexity of each method can be adjusted more or less, depending on the variables present in the studio community, environment, and organisational structure.

9.2.2 Reflecting on the research approach

The research design allowed a holistic analysis of the relationships, practices, and processes occurring in the natural social setting of the studio environment. This investigation used an explorative yet flexible PAR case study approach, combined with narrative inquiry and an ethnographic methodology and methods, and subsequent phenomenographic analysis. The

reflective PD workshops and reflexive activities provided rounded, detailed illustrations of the experiential phenomena across two case study sites, with a balance of theoretical and empirical qualitative data.

In particular, the workshop format evolved and developed across the eight-week case study schedule and I now consider what could have been done differently and for greater benefit. Initially, I envisaged running controlled workshops in formats similar to my regular, everyday educational design workshops. I had not comprehended how much open-ended control of the workshops should be given to the student participants. This dawning realisation meant that the participants in the two case studies functioned differently, as I gave the Case Study 1 participants more control, and the Case Study 2 participants less control of the developing research process. I assumed the role of researcher more easily with Case Study 1, who kept pace with the progressing participatory activities, which meant I could transfer the development of the PD methods to them. The participants in Case Study 2 appeared to be less enthusiastic in their participation, and I sought to retain control of the developing PD methods. From my part, this approach was not intentional but rather unconscious. My subjective, ontological position as a Design educator and the lead researcher (as both an outsider-turned-insider and insider) meant that I had distinctly different expectations of how each set of participants from the two case studies would take control of the research activities. In hindsight, there may be a better way to engage with the students as co-researchers. This was the singular difficulty in the approach to this study as I subconsciously wrestled with the practicality of this notion of educator/researcher control. My future research studies may investigate and address the relational ethics between the participants and me more thoroughly beyond the limited time available in this study. This would address and support the continued development and evaluation of the methodological approach of this research investigation.

9.2.3 Comparing this research investigation with previous studies in the field

Since the time when the literature review was originally undertaken, a number of researchers have undertaken similar investigations related to studio-based learning. Wilson and Zamberlan (2017) examine the challenges facing design education today and discuss the implications of this on the practice, development, and assessment of creativity in the design studio. White and Lorenzi (2016) examined the development of a model of creative space and its potential to be transferred from non-formal to formal education. Their model comprises three distinct yet interrelated dimensions of a creative space: physical, social-emotional, and critical space. Indeed, there are many commonalities and differences between my thesis and similar studies in this field. The majority of studies also acknowledge that political and economic agendas have driven the change in higher design education today to a business-like structure. In addition, both studies mentioned above – including many similar investigations – examine creativity as the key ‘element’ that is influenced by these challenges. In this thesis, sensory affect was used as the lens through which it was possible to develop an in-depth understanding of the relationship between sensory affect and its impact on learning, and creative practice in Communication Design education. It illuminated the inextricable relationship between community, space/place, tools, and creative practice; user, environment, tool and task. The approach taken in this investigation is important to fully understand how the complex studio fabric functions in education today, in order to develop awareness of how to work more explicitly with the senses in Communication Design education.

To reiterate, the literature review presented in Chapter 3 established that many studies examine how and in what ways global economic and political challenges manifest in contemporary education, including the mobility of students internationally and the establishment of a system of transfer credits increasing student numbers (Voegtler and Macmillan, 2014). Yet, to my knowledge, no studies exist that examine these pressures specifically within Communication Design studio education. The first contribution of this thesis is to establish how these demands are evident in this field. Furthermore, in the following sections I will show that these pressures

have had an impact on the participants' engagement and perceived membership within the studio community of practice and the values placed on studio learning and engagement today. This study has established differing results between the two case study institutions and curriculums.

9.3 The six broader thematic categories derived from the key themes

To add further interpretation to the findings, this section collapses the key themes A-M (Table 51) into six broader thematic categories (Figure 105). I then refocus the lens of this discussion to scrutinise the relationships between these six broader categories and the main findings in the subsequent sections. The six broader categories are drawn from the key themes, as shown in Figure 105 and can be identified as:

1. Implications for Communication Design practice
2. Supporting the community of practice
3. Institutional structure and management
4. The role of the studio environment
5. Pedagogical design / methodology
6. Meaning making of sensory affect

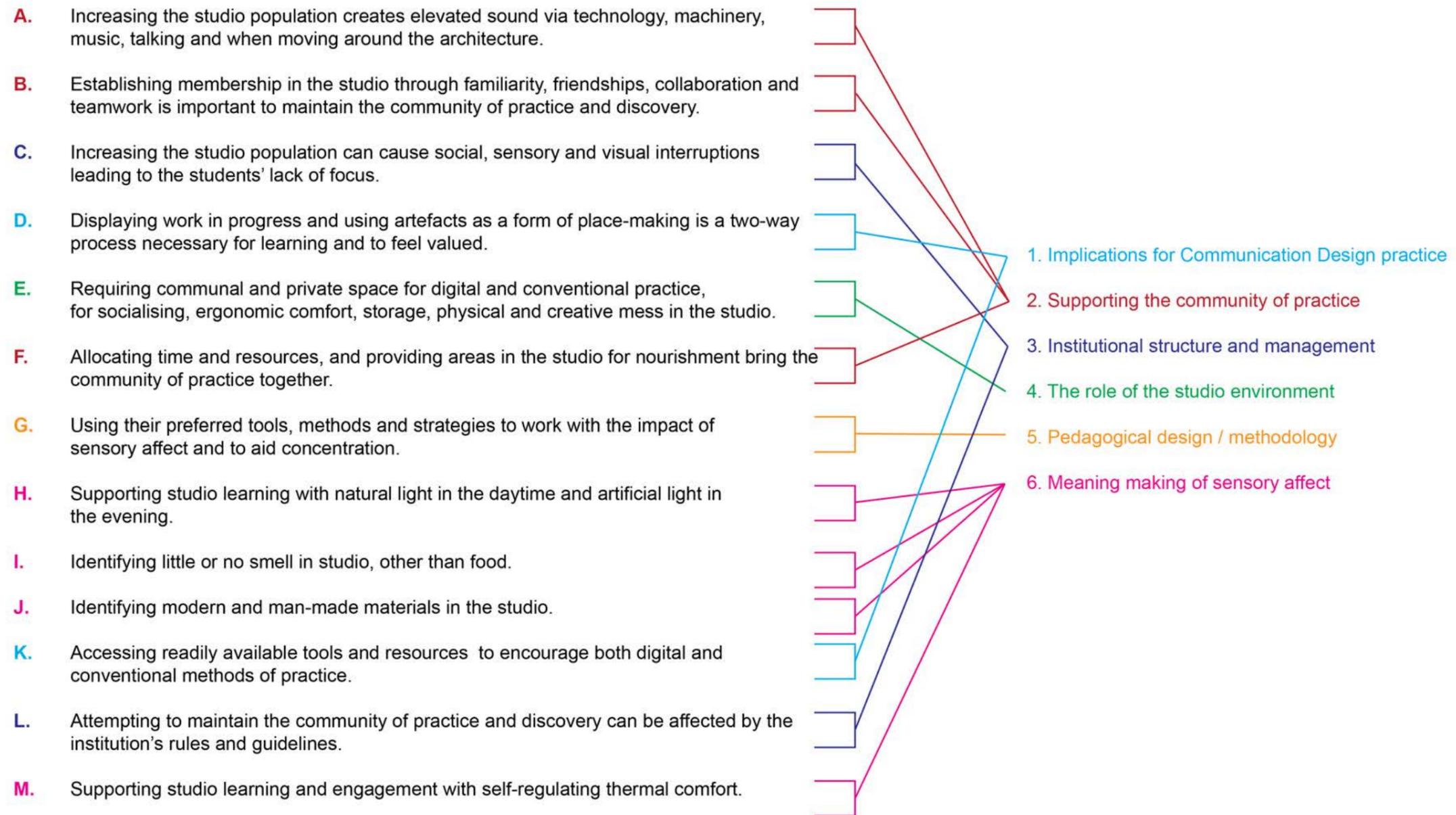


Figure 105. Collapsing the key themes A – M into six broader thematic categories.
© L. Marshalsey, 2017.

9.4 Review and implications of the main findings, and their practical significance

In the review of the main findings delivered over Chapters 5 to 8, I systematically investigated the ways in which contemporary Communication Design studio education was delivered within two case studies over an eight-week period at each institution in order to investigate the research aims of this thesis and address the associated research questions. In Case Study 1, I conducted research involving three participants enrolled in the third year of an undergraduate Communication Design major degree in an art school in the UK. I continued the investigation in Case Study 2 with seven participants enrolled in the third year of an undergraduate Digital Media degree, majoring in Graphic Design, in a college of art in Australia. The central research question guided the exploration of each case study:

1. What is the relationship between sensory affect and learning?

Through a process of critical thinking, collaboration in the student community, and reflective evaluation of the research activities in each case study, I sought to develop an explicit exploration of the role of the senses in the studio and studio-based learning spaces of Communication Design within an art school in the UK and the college of art in Australia. This research study has focused on the following:

- Students' meaning making in relation to the developing awareness of their senses in the creative design process;
- The value judgements they placed on these newly acquired insights;
- Their evaluation of the impact of sensory affect on their current present practice; and
- Evidence that this new knowledge had/has in terms of the future development of their own creative practice studio learning.

To remind the reader, the full range of key themes arising from the two case studies and emerging from my interpreted analysis of the data described in Chapters 5, 6, 7, and 8 are shown in Figure 105.

9.4.1 The Methods Process Model (MPM)

It is useful at this point to state the set of ethnographic participatory methods I have identified as examples of methodological best practice based on this investigation. The systematic investigation produced evidence, which informed this practice over time.

1. The **questionnaire** is universally accepted as an effective method to establish a baseline of issues for exploration at the initiation of any case study investigation. The key themes A - M (as shown in Figure 105) have been used to guide the content of a revised questionnaire, which forms the first step in each of the new MPM iterations;
2. The **focus groups** were most constructive in three semblances: when combined with (1) **informal, relaxed discussions** similar to the focus group that occurred in week three of Case Study 1 examining the participants' own artefacts as place-making tools; (2) **physically active and practical group workshops** with simultaneous focus group dialogue among the participants. Examples of this are the iPad® drawing activity in Week 2, the logo workshop in Week 4 of Case Study 1 and the analogue sound drawing workshop in Week 4 of Case Study 2; and as (3) **cross-case reflective discussion** across each set of participants in the two case studies.
3. The **sonic-mapping activity** in Week 5 of Case Study 1 was used to map and interpret the sound phenomenon affecting studio and studio-based classroom learning using practice-led processes, and to focus specifically on sensory affect in the immediate environment.
4. The **GoPro® filming** activity in Week 6 of Case Study 1 was employed to draw out empirical evidence of the learning spaces and as a means to clearly reflect the value of the community of practice back to the participants and to their peers, and to focus on the social interactions within studio and studio-based classroom environments.
5. The social media platform **Snapchat®** was also useful at drawing out the significance of the social community in the learning spaces in the data emerging throughout both case studies.

6. As a reflective tool, the **research rug** from Case Study 1 visualised the data in the environment in which it was created and enabled the participants to make stronger connections between the empirical evidence of their sensory experiences and their developing insight. The **manifesto activity** could be combined with this task to strengthen the participants' emerging reflective thinking and awareness.
7. The reflective **individual interviews** in the concluding week of the case study schedule (and post-case study) were a method of critical event recall (De Laat and Lally, 2004).

The Methods Process Model (MPM) shown in Figure 106 demonstrates the chronology of methods that may be used when investigating the experiential impact of sensory affect in contemporary Communication Design studio and studio-based education. The overall purpose of the MPM is to provide a transferable framework of methods, from which to explore various iterations of studio learning via its implementation and to survey the results of its application as a flexible model in differing studio contexts. However, to date, the MPM has not been tested as a whole (Figure 106) or as an adaptable model (Figures 107, 108, 109, 110, 111, 112). In future studies, iterations of the model will be tested in Higher Education (HE) institutions delivering studio learning. In this investigation, the MPM is a model of best practice participatory methods, which is based on the findings of the research from each of the two case studies and the limited number of participants.

The two parallel methodological streams – **A** (beginning with the Questionnaire) and **B** (Snapchat®) – may be used simultaneously or independently for best effect. Utilising the research methods in this order facilitates the participants being able to qualitatively interpret a range of sensory experiences within the shifting boundaries of their virtual, technology-rich, and physical learning spaces. This model is designed to embrace changes to the methodologies and the nature of the activities depending on the variable factors affecting the stakeholders' available time, repertoire of spaces, curriculum model, and institution. This methodological process has been carefully scaffolded (from the range of methods used in the two case studies in this investigation) to capture the participants' cognisance as they make meaning in relation to their developing awareness of their senses in the process. The MPM draws out the value judgments the participants place on their newly acquired insights and their evaluation of the impact of sensory affect on their present practice. As a research

design template, this provides a methodological framework that educators may adapt in order to explore, take account of, and work with sensory affect more explicitly in design education.

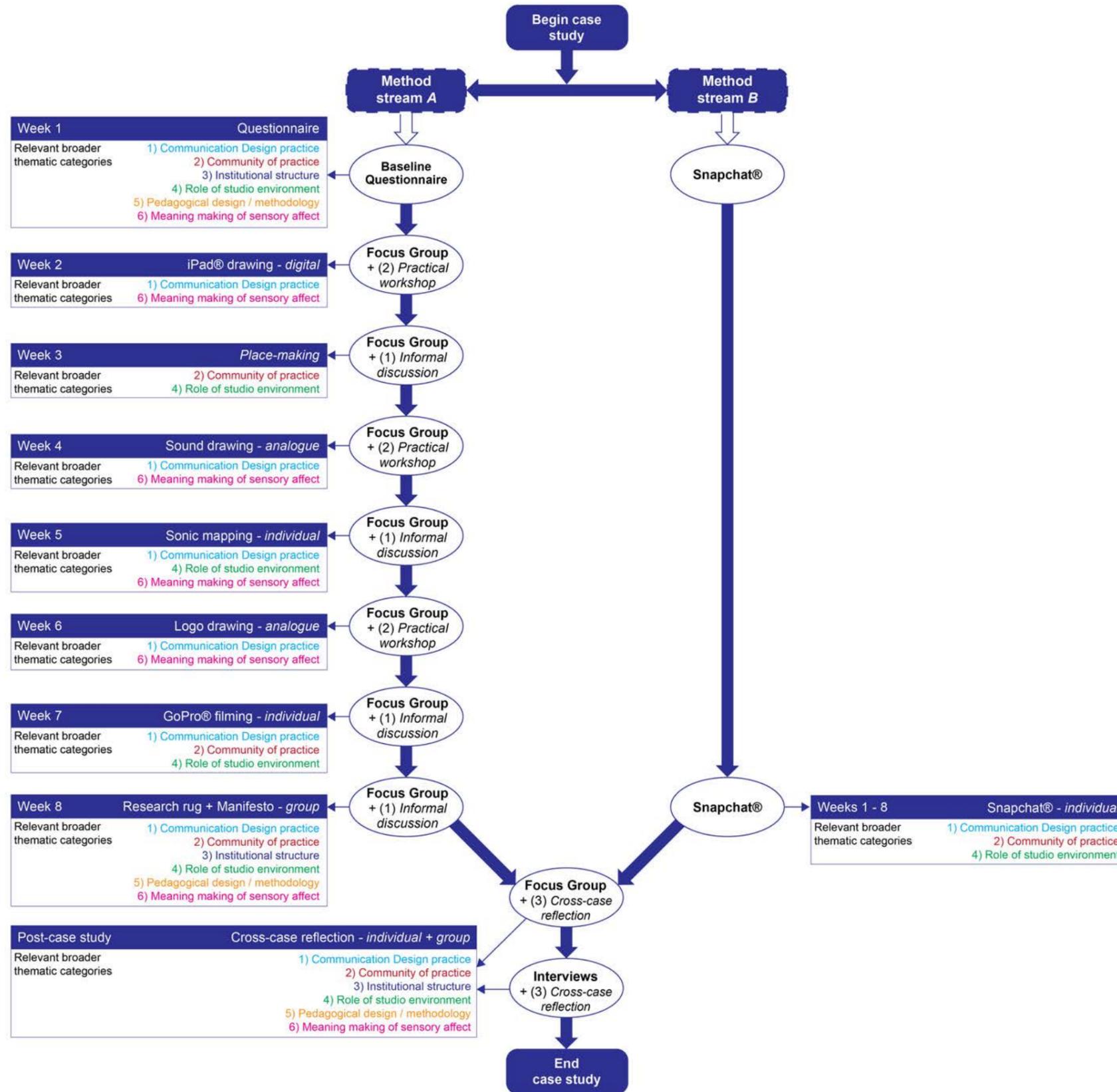


Figure 106. As a research design template, the Methods Process Model (MPM) provides two methodological streams – A and B. © L. Marshalsey, 2017.

9.4.2 Implications for Communication Design practice

The remainder of this chapter reviews and discusses the implications of the main findings from the two case studies against each of the six broader thematic categories. I then outline the practical significance of these findings for students, and in relation to the current management, and future development, of studio learning environments by educators and institutions. This is achieved by employing iterations of the Methods Process Model (MPM) (shown in this section as Figure 107) alongside a set of practical recommendations specifically for each thematic category. The following sections frame a range of future recommendations for Communication Design studio and studio-based classroom learning and summarise why is it important that the discipline looks to challenge its educative process – in terms of thinking, creativity, practice, environment, community and education.

Broader thematic category	Case Study 1: An art school in the UK	Case Study 2: A university in Australia
<p>1. Implications for Communication Design practice</p>	<ul style="list-style-type: none"> • Dominance of digital practice • Had confidence in their work 	<ul style="list-style-type: none"> • Case Study 2 had greater student numbers in their year group than Case Study 1 • Dominance of digital practice • Reliance on digital practice meant that it was easy for the participants to obscure their work from the view of others on a laptop • Lack of confidence in their work. Evidenced by their need to hide their creative work in progress. They saw little value in their creative practice, even to the point of avoiding sketchbooks

Table 52. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 1. Implications for Communication Design practice. © L. Marshalsey, 2017.

When reviewing the implications for Communication Design practice, it was evident that Case Study 2 had greater student numbers than Case Study 1. This meant that the available tools and resources

for practice were spread amongst a larger year group in Case Study 2. In addition to this, Case Study 2 had timetabled curriculum restrictions, which meant less time to be creative in the short 2-hour tutorial classes with the available resources. Case Study 1 had better access to conventional Communication Design processes, such as letterpress and over longer periods of time. In evidence of this, and towards the end of this research thesis, I witnessed the official opening of the newly refurbished multi-discipline studios within the college of art in Case Study 2. The new studios are designed to house 3D and product design technology within carpeted, digitally enabled classrooms. It now seems uncommon to find adequate facilities specifically for letterpress, screen-printing, or other conventional forms of Communication Design practice in the provision of studio education in higher education today. A review of the relevant literature initially highlighted the evolution of the studio and evidenced that the shift from formal workshops to informal, classroom, and blended environments continues to affect studio practice.

Studio practice now mainly assumes a portable, technological, and digital “studio of the mind” as technologies converge into one small space and allows students to migrate between home and university with ease (Amirsadeghi and Eisler, 2012, p.6). Yet, this encourages a reliance on digital tools and the dominance of digital practice was unmistakable in the practice of the participants within both case studies (Table 52). Additionally, as digital literacy is at the forefront of practice and social collaboration in design education then experiential and collaborative learning today is often realised through the use of social media, virtual and blended learning.

Two divergent and contradictory actions emerged from the two case studies: Case Study 1 participants were happy to demonstrate and verbally reflect upon their work within their community as this practice was a fundamental part of studio learning to them, while the Case Study 2 participants universally sought to hide their work as they saw little value in what they produced within the studio-based classrooms until completion (Table 52). The participants in Case Study 1 had confidence in their work and in their approach towards producing, experimenting, developing, openly displaying and critiquing their practice-led processes in their community. The Case Study 2 participants exhibited a distinct lack of confidence; their work appeared to be less valued within the community because their working processes were not visibly shared in the learning spaces every day. The dominance of digital

practice meant that it was easy for the Case Study 2 participants to obscure their work (via personal laptops) from the view of others – peers and educators alike – during the timetabled studio critiques, unassigned studio time, and informal one-on-one consultation sessions with the educator. Several students avoided using sketchbooks altogether and supported their heavily digital practice by drawing on disposable scraps of paper instead. A record of their creative process was captured digitally and then hidden in a filing structure on their hard drives. However, even though the participants perceived digitised practice as having endless possibilities, they also said that hands-on engagement with traditional materials fosters enhanced creativity and was of more value to them than digital practice. Also, openly sharing work triggered stressful responses from the Case Study 2 participants, as they associated sharing with assessment points. Furthermore, the lack of assigned personal desks also reduced opportunities for participants in Case Study 2 to display physical copies of work in progress, in contrast to the participants in the Case Study 1 who openly displayed printed iterations of work in progress on desks and walls as part of normal everyday practice.

The Methods Process Model (MPM) has advocated Dewey's progressive, student-centred approach and experiential learning through the affective processes of play, thinking and problem-solving. Throughout the research activities, I trialled discipline-specific, analogue and digital practice-led methods. This approach was also influenced by the experimental, preliminary courses noted in the Bauhaus and Black Mountain College curricula, although it should be acknowledged that these institutions did not have digital technologies at their disposal. Furthermore, the participants in this study developed confidence across both case studies as they incorporated play in the practice-led methods to escalate their awareness of their learning. For participants, the practice-led methods provided a bridge between reflective thinking and action, and as a means to actively engage in creative practice while investigating their studio learning via the lens of sensory affect. The MPM was adjusted to investigate the implications for Communication Design practice within studio learning as shown in Figure 107. The practice-led tools and methods outlined in this version of the MPM can help and support the participants to learn in the environments in which they are situated, and since individual learning is revealed in the collective process. Participants can make meta-cognitive connections – learning how to learn in studio education – as they engage in the step-by-step, scaffolded process of the MPM specifically modified for Communication Design practice. In

combination with this iteration of the MPM (Figure 107), a range of future recommendations for Communication Design practice within studio and studio-based classroom learning are shown below:

- Readily available tools and resources should be accessible in the studio and for longer periods of open-ended time;
- Encourage both digital and conventional methods of practice;
- Display work in progress openly and use physical, printed, 2-D and 3-D artefacts as a form of place-making and as a two-way process necessary for learning;
- Encourage the benefits of peer feedback on students' creative practice, as building and being part of a community of practice;
- Display student work, to the smaller peer group in the brief period following assessment, and to the college of art community or the wider university population on a broader collective basis, and as necessary to feel valued;

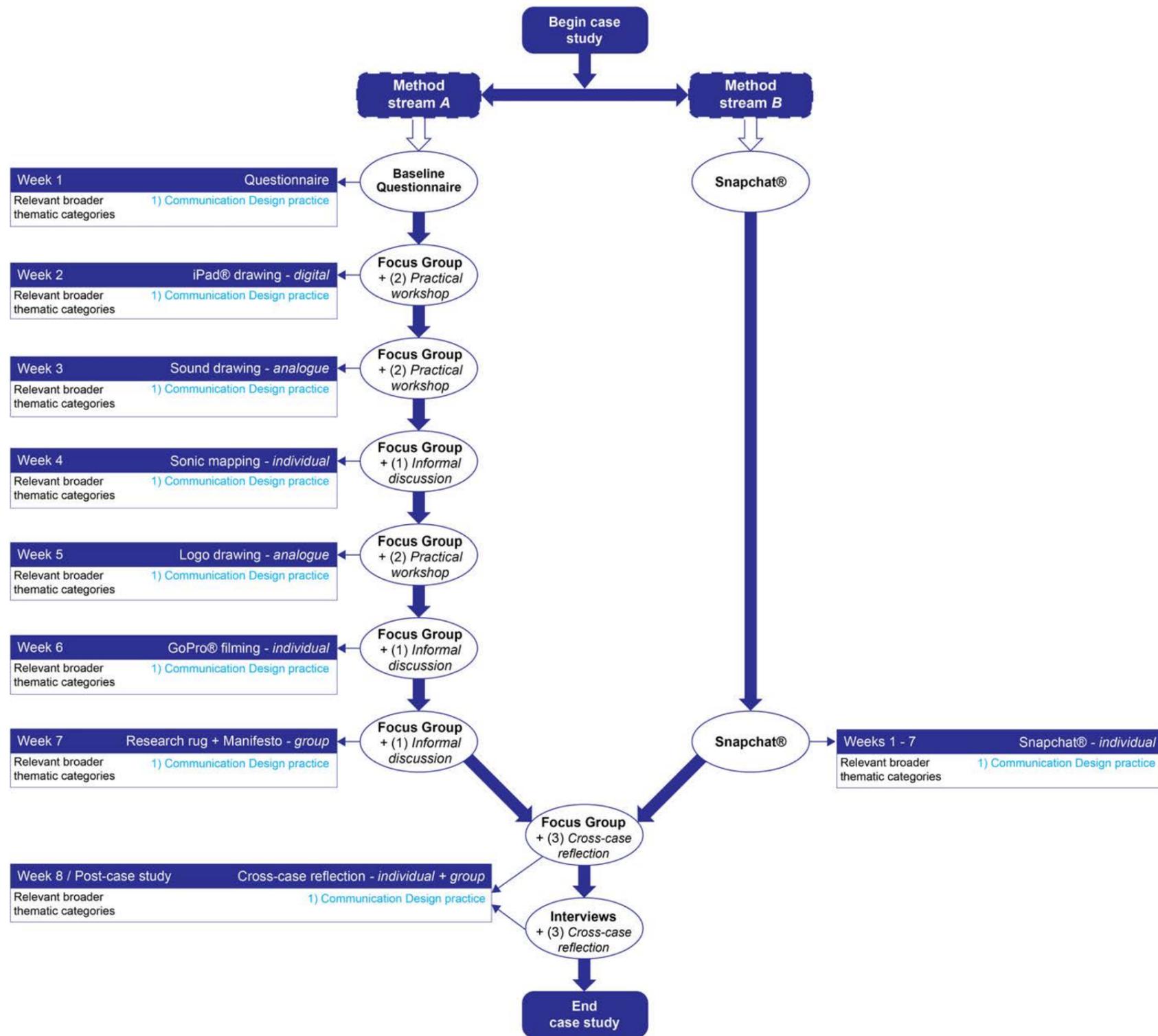


Figure 107. The Methods Process Model (MPM) adjusted to investigate the implications for Communication Design practice within studio learning. © L. Marshalsey, 2017.

9.4.3 Supporting the community of practice

This section outlines an iteration of the Methods Process Model (MPM) for supporting the community of practice (shown in Figure 108) together with a set of recommendations to investigate participants' experiences of social interaction and community within the studio.

Broader thematic category	Case Study 1: An art school in the UK	Case Study 2: A university in Australia
<p>2. Supporting the community of practice</p>	<ul style="list-style-type: none"> • Friendly, informal, day-to-day social interactions with peers and staff • Allocated, high density desk spaces fostered a closeness in community • Happy to demonstrate and visually/verbally reflect their work to their community 	<ul style="list-style-type: none"> • No dedicated physical studio or personal workstation - Strength of emotion around this and in the strong language they used. They felt that the university hadn't held up their end of the bargain to provide creative learning spaces for engagement • Created their own offline and online community, outside of the boundaries of their studio-based classrooms, mainly in cafes, at home and via social media • Did not feel a sense of belonging in their community

Table 53. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 2. Supporting the community of practice. © L. Marshalsey, 2017.

I had expected the communities of practice to be markedly different yet have some commonalities across the institutions, as the provision of studio and associated curricula function differently across the two sites (Table 53). However, I was not prepared for the disparity between the two case studies and in each set of participants' observations of and existence within their day-to-day studio community. Their individual accounts in Case Study 2 showed the participants' preference to work at home had impacted on their community and experience of studio learning. The studio as a valued physical site for learning seemed irrelevant to them. They did not appear to have a conception of studio and judged its current state as uninspiring or ineffective. Instead, social media channels offered

these participants a sense of belonging in their dispersed community. They had found other strategies to manage their learning within their own context – their community existed in small pockets of friends who socialised online or in person outside of the class or campus. This notion of a dispersed community was further evidenced by a lack of familiarity between members of the group in Case Study 2. There was a sense that the students experienced little reward from a physical educational environment as their learning spaces were impermanent and overpopulated. In contrast, the Case Study 1 participants had more positive community experiences. They were able to form a stronger peer group structure in their community despite the studio population creating elevated sound via technology, machinery, music, talking, and when moving around the architecture. Participants also understood what it meant to care for and nurture their community. Evidence of this can be seen in their endeavours to keep the studio tidy, make cups of tea for each other and actively seek feedback from their peers.

These findings suggest that the participants from both case studies had a tendency to unconsciously partially disengage with their dedicated studio environment (Case Study 1) or wholly disengage with their studio-based classroom environments (Case Study 2). The participants either attempted to work with unsuitable sensory conditions or to recreate a studio environment elsewhere (for example, at home). I also found that having or lacking an institutionally assigned desk space appeared to influence participants' sense of place and belonging in a studio environment and influenced their perceived value of their community of practice. The participants in Case Study 2 had no dedicated physical studio or personal workstation and they vocalised a strength of emotion around this in the strong language they used. They felt that the university hadn't held up their end of the bargain to provide creative learning spaces for engagement. In contrast, the allocated, high density desk spaces within Case Study 1 fostered a closeness in the community.

However, the participants from both case studies indicated a clear preference for wanting to engage with their community even if they weren't able to. The findings suggest that lived, embodied experiences of a bonded community are a strong motivational factor for successfully maintaining a presence in the studio and studio-based classroom environments and also in terms of actively engaging learners in their learning. Events, such as having lunch together, reflecting work in progress

to others, working nearby for spontaneous debate (participation connected via projects), and having informal, relaxed educator-led group critiques can foster this. The findings clearly evidence that constructing a multi-membership, participation framework allows time and resources for practice-led interaction, and that providing communal informal areas in the studio for rest, nourishment, and critiques brings the community together.

Therefore, a key finding is the central role that the community plays in both supporting and helping to drive learning individually and collectively. From an educator perspective, it is important to explicitly support the maintenance of the community via educational interventions that help to scaffold the process of developing community among its members. The importance of community and its relationship to learning is evidenced in both of my case studies where close friendships, collaboration and teamwork were central to the creative process. Experiential learning and collaborative practice leading to socially constructed meaning was more evident in Case Study 1 in the UK as everyday group work (formal and informal), and much less so in Case Study 2 in Australia. The participants from Case Study 1 benefitted much more from their friendly, informal, day-to-day social interactions with peers and staff than the participants of Case Study 2. However, it is important to bear in mind the possible bias in the responses from the participants and me in the Case Study 2 community, as I am closely linked with this institution as a Design educator. I may unconsciously empathise with their views.

Wenger's (2000) community of practice theory supports the idea of developing a shared repertoire of experience where practice and community become inter-connected as experienced by participants in the two case study domains. This study acknowledges the crucial role that teachers and peers can play in the community of practice, and in the course of this investigation, the participants were encouraged to actively explore what this meant to them using the Participatory Design (PD) methods. These PD methods created a context in which awareness, insight, and interventions could take place across their community. When considering community, the Methods Process Model (MPM) can be adjusted to support the community of practice within studio learning as shown in Figure 108. The range of future recommendations include:

- Allocate formal, communal creative learning spaces and individual desk spaces to foster a closeness in community;
- Allocate informal, non-creative areas within the studio for lunch, rest, spontaneous debate/critiques and allow the community to take ownership/make use of the space themselves;
- Foster friendly, informal, day-to-day social interactions with peers and staff;
- Foster multi-memberships in the community across offline and online participation platforms;
- Foster a sense of belonging in the studio community via collaborative group projects;
- Demonstrate and visually/verbally reflect the students' practice-led work back into their community to feel valued;

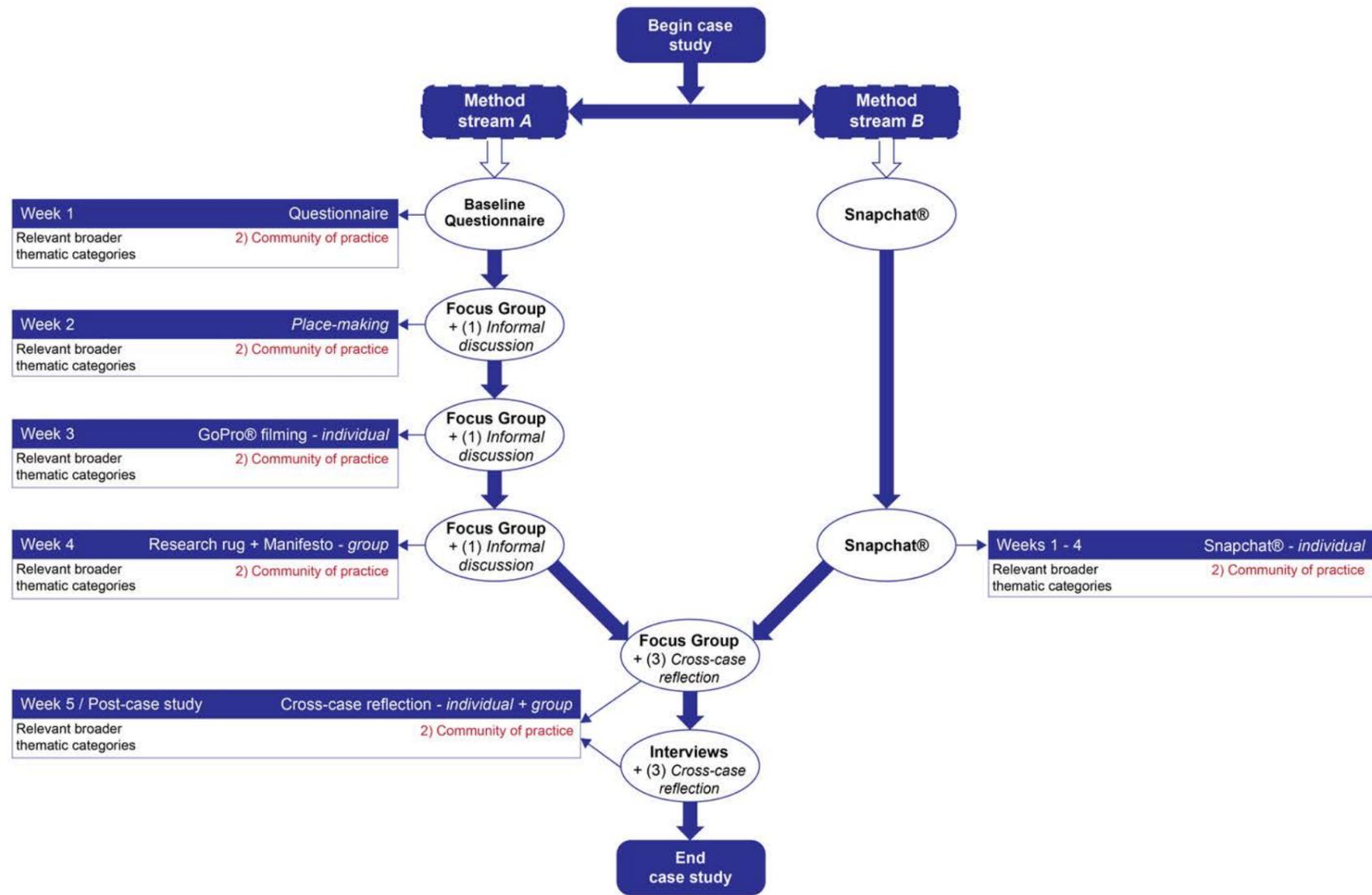


Figure 108. The Methods Process Model (MPM) adjusted to support the community of practice within studio learning. © L. Marshalsey, 2017.

9.4.4 Institutional structure and management

The following section proposes a further version of the Methods Process Model (MPM) (shown in Figure 109) together with a set of recommendations to investigate the effect of institutional structure and management on studio learning.

Broader thematic category	Case Study 1: An art school in the UK	Case Study 2: A university in Australia
3. Institutional structure and management	<ul style="list-style-type: none"> Confidence in their identity as Design students 	<ul style="list-style-type: none"> The formal timetable fostered feelings of vulnerability Confusion in their identity as Design students

Table 54. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 3. Institutional structure and management. © L. Marshalsey, 2017.

Within Case Study 2, the relationship between the smaller college of art and the mainstream parent university in Australia led to the participants feeling less supported by the governing institution and with less of an identity in the university community (Table 54). Valerie said, “we’re [college of art] students and we’re [parent university] students, and I don’t know who to identify with because I don’t identify as like, a [college of art] student.” (Appendix B, p.251, l.309). When I asked Valerie if she had felt this way during part or all of her degree, she replied: “Oh, I’ve felt it the whole time” (Appendix B, p.251, l.311). She continued to say, “when people say where do you [come from?], I say, ‘[parent university]’ but then you don’t... Because you don’t say [college of art], and they go, ‘Like, where’s that?’” (Appendix B, p.252, l.313). This confused sense of identity in the Case Study 2 community was also examined in section 8.5.1. The Case Study 2 participants seemed ambivalent towards their institution; they showed little pride towards it and, did not defend it. By comparison, the Case Study 1 participants would support their specialised art school. Robyn from Case Study 1 stated: “if someone else badmouthed it, I would defend it. Yeah” (Appendix B, p.92, l.58). It is clear that the confusion caused by the institution’s projected identity – are we an art school or a university? – extended to the insecure identities the design students felt within Case Study 2, and in their wider university curriculum and campus in Australia.

Also, the Australian institution and students both considered studio education to be synonymous with classroom learning. Participants expressed little hope that the university would supply dedicated design studios solely for Communications Designers in the future. Increasing the university population results in the need to accommodate more students studying differing design and non-design disciplines in the same space. This can also cause social, sensory, and visual impediments, which can affect focus. Rules and guidelines set by the institution can often interfere when attempts are made to maintain the community. For example, the institutional structures of both case studies do not wholly allow the students to take control of their learning within a supported, open-ended framework. Spontaneous events were more likely to occur in Case Study 1 and highly unlikely in Case Study 2. The latter's curriculum was (and still is) locked into a rigid timetable, which created pressure because students need to assemble their belongings quickly in order to go to their next classes.

Dewey noted that educators should guide the students, yet in these institutions, priority was given to the management of space to fit within governed and/or modular structures. As an example, in both case studies institutional rules and estates management restrict or prohibit the use of walls for adhering work to. In Case Study 1, the data clearly indicates the irritation the participants felt at not being able to display work in specific parts of the building; "I think the students are starting to get a little bit angry at the fact we can't use the studio in the way we want to use the studio" (Robyn, Appendix B, p.121, l. 114). The Case Study 1 participants were restricted to their desk space or allocated wall space for display only. This coveted wall space in the studio was only given to fourth-year students in Case Study 1, whereas the participants in Case Study 2 had no space at all to display their work in the tutorial classrooms. In Case Study 2, even corridor wall space had to be booked several weeks in advance for exhibiting finished artwork and certainly not for presenting work in progress. Furthermore, the restrictive procedures or lack of opportunity to access technical training, complicated induction systems, the annual population of health-and-safety documentation, and risk-assessment procedures restricted spontaneous creativity at times.

When considering institutional structure and management, the Methods Process Model (MPM) can be adjusted to support studio learning as shown in Figure 109 and the future recommendations include:

- Governing institutions should provide greater support and a stronger sense of identity to Design students within mainstream university structures for the duration of their degree;
- Governing institutions should foster and support a stronger identity to Design departments, art schools and colleges of art, especially when situated within mainstream universities;
- Governing institutions should provide specialised and dedicated Communication Design studio learning spaces, which are distinct from generic classroom learning environments;
- Institutional management should adjust university-wide rules and guidelines to support creative and practice-led studio learning;
- Institutional management should provide open-ended curriculum frameworks and timetabling for Communication Design studio learning;

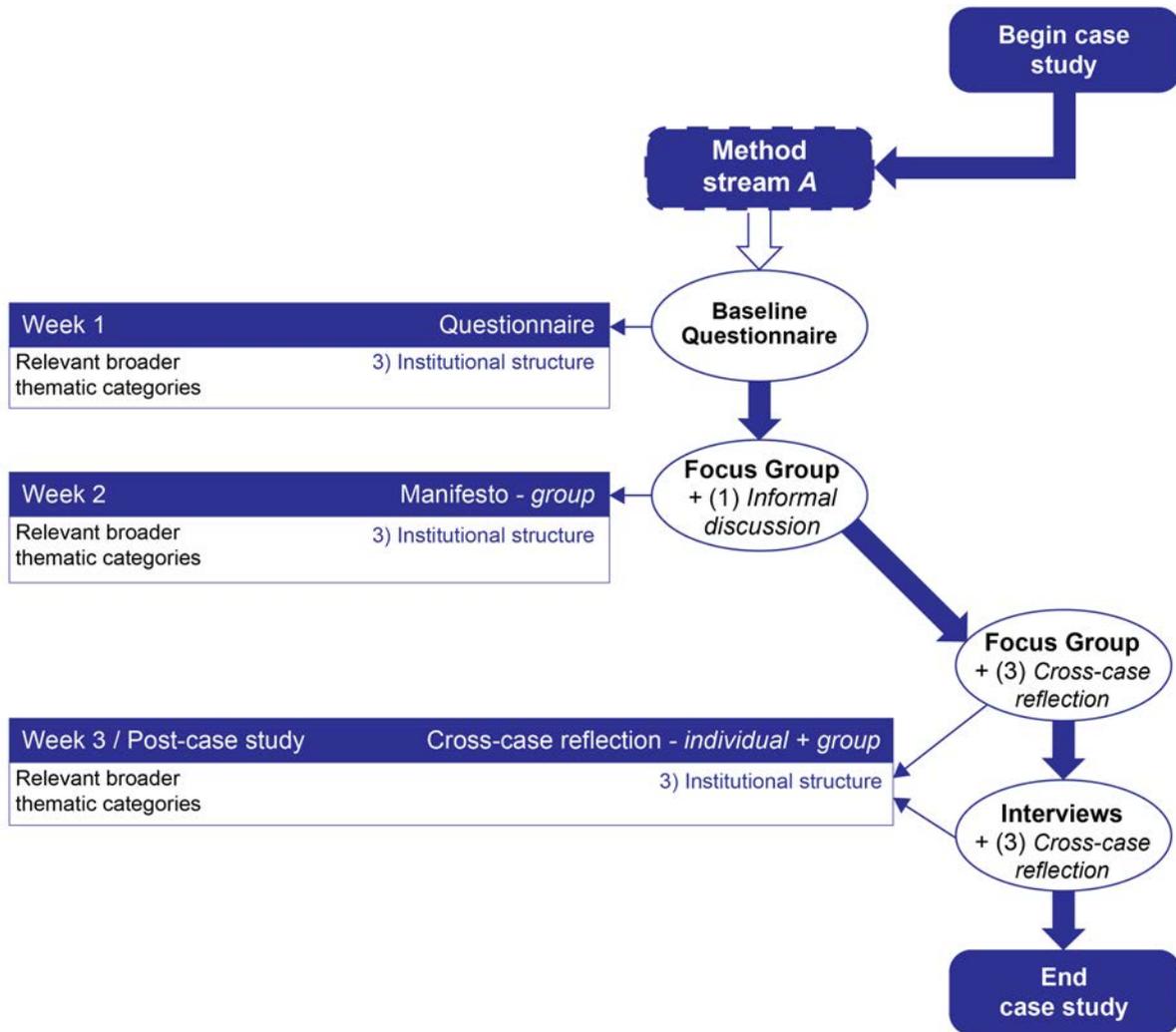


Figure 109. The Methods Process Model (MPM) adjusted to investigate the institutional structure and management within studio learning. © L. Marshalsey, 2017.

9.4.5 The role of the studio environment

In this section, a further version of the Methods Process Model (MPM) is presented (shown in Figure 110) and aligned with a set of recommendations to support the role of the studio environment within studio learning.

Broader thematic category	Case Study 1: An art school in the UK	Case Study 2: A university in Australia
4. The role of the studio environment	<ul style="list-style-type: none"> Conventional studio environment 	<ul style="list-style-type: none"> Studio-based classrooms with no-desking culture Chose to work informally from home and not in the university

Table 55. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 4. The role of the studio environment. © L. Marshalsey, 2017.

Notably, the participants who occupied a regular, personal desk space within the conventional studio environment, such as those within Case Study 1 were more likely to implement cognitive strategies and methodologies to engage with learning as a result of the Participatory Design (PD) research activities (Table 55). In contrast, the Case Study 2 participants were less likely to apply their own developed strategies in the university learning spaces and chose to work at home. Situated within a mainstream higher educational no-desking culture, I found it incredibly challenging to convey the values and experiences I assigned to studio learning to the Case Study 2 participants. I could not transfer the fuller embodied experience of a physical studio model to the Australian participants through images alone. Furthermore, my values and judgments of studio learning from an educator's perspective changed when exposed to the new educational environments over time in Case Study 2. I realised studio learning may function in different ways, for example, in friendship groups that meet outside of class and within social media platforms.

In Case Study 1, a lack of space in the studio environment contributed to the participants' discomfort and they all equipped themselves with personal tools, such as noise-cancelling headphones to block sound out. Yet, when smaller working studio groups were established, the sense of social

connectedness, interactivity, and collegiality improved, fostering beneficial relationships and promoting positive community experiences. In Case Study 2, large, empty studio-based classrooms engendered feelings of separation between the groups of creative and non-creative and culturally diverse students, rather than mixing the community together. Generally, business students do not mix with design students in the same class and international students sit beside those from their home country. Those decisions regarding whom to sit next to either through the choice of long-term personal desk allocation (Case Study 1) or via temporary groups of students gathering at an independent table formation in a tutorial class (Case Study 2) may have consolidated and strengthened the community of practice in each case study in different ways.

Despite their temporary space provision, the Australian participants did appreciate the value in working more explicitly with the Participatory Design (PD) methods to improve their engagement and this may be a consequence of experiencing different traditions and practices to the UK participants. The Australian campus and climate generally fosters the use of the outdoor space to work and play, and café meetings for both staff and students. My previous experiences and expectations of design education were markedly different to those of the Australian participants as I expected attendance in the physical studio location as the central meeting point of the community. This has taken some adjustment on the part of the students and me, not only as participants of this study but also in the longitudinal delivery of my design pedagogy in this country and culture, as I work around expectations decidedly different from my UK ones.

In summary, the students require formal and informal learning spaces for the practice of Communication Design. Each case study community also needed communal and private space for digital and conventional practice, for ergonomic comfort, for storage, for physical and creative mess in the studio. As described earlier, the participants in Case Study 1 had the advantage of still being able to immerse themselves in a physical studio model of sorts with allocated desk spaces. However, the participants of Case Study 2 had no desk place provision within the modular delivery of Communication Design in contemporary classrooms. This severely impacted upon their experiences of the studio, the values that physical studio-based classroom learning can convey to students, and the degree to which learners are embedded within the community of practice as existential insiders.

Dewey advocated that student interactions within a supportive environment means they can accumulate, reflect, reorganise, and reinterpret their experiences of learning. In Case Study 2, these shared domains of the physical studio community of practice barely existed. Therefore, these participants purposely adjusted their learning strategies and educative environments as they worked from home and socialised online.

When reflecting on the role of the studio environment in the current management and future development of creative learning spaces, the Methods Process Model (MPM) can be adjusted as shown in Figure 110 and the future recommendations made include:

- Assigning a personal desk space to Design students means that they are more likely to implement strategies to engage with studio learning;
- The modular delivery of a hot-desking and no-desking culture should be avoided;
- Studio learning can function in a variety of spaces, internal and external to the physical studio environment;
- Design students require formal and informal studio learning spaces that provide:
 - Communal and private space
 - Digital and conventional processes
 - Ergonomic comfort
 - Storage
 - Opportunities for creative mess

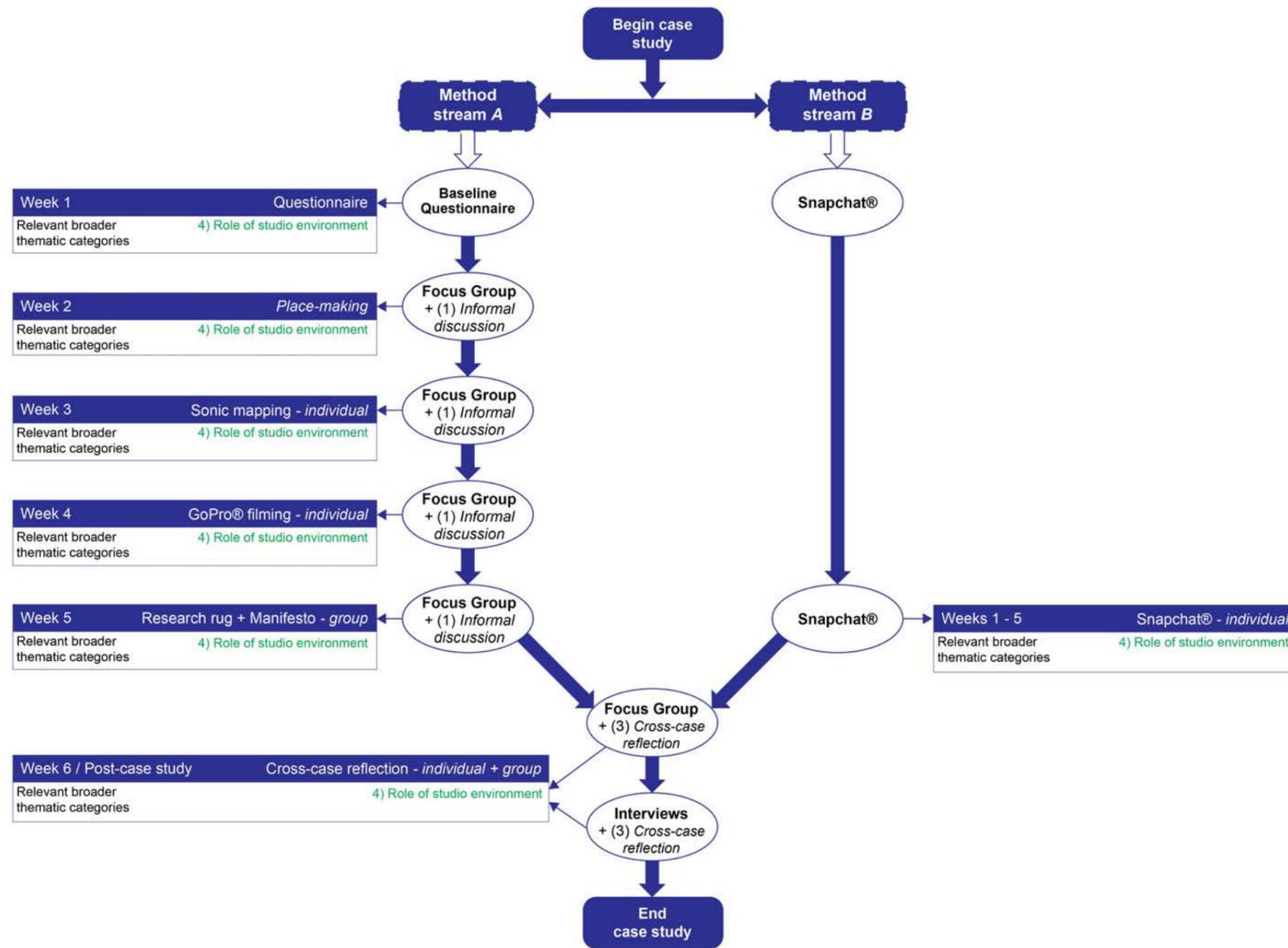


Figure 110. The Methods Process Model (MPM) adjusted to investigate the role of the studio environment within studio learning. © L. Marshalsey, 2017.

9.4.6 Pedagogical design / methodology

Broader thematic category	Case Study 1: An art school in the UK	Case Study 2: A university in Australia
5. Pedagogical design / methodology	<ul style="list-style-type: none"> Motivated and willing to engage in studio 	<ul style="list-style-type: none"> Willingness to engage in studio-based classrooms but not able to Self-consciousness, and felt time pressure Less contact with educators on a day-to-day basis

Table 56. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 5. Pedagogical design / methodology. © L. Marshalsey, 2017.

The two case study institutions have two distinctive Communication Design curriculum models in place and studio education is delivered within differing cultural contexts (as mentioned previously in section 2.1.4). In the art school in the UK (Case Study 1), the participants are located within one large open-plan, physical studio environment and its ‘studio’ refers to active, experiential pedagogy. This curriculum supports a more flexible use of space within formal and informal group and individual learning activities. Students attend this studio space full-time and the curriculum fosters an awareness of the value of studio. The students have no medium-specific briefs and instead, they are defined by their creative interpretations and articulation of the project briefs delivered to them. Diverse interests are apparent and sub-communities bring students with common interests together. This art school facilitates and encourages a pedagogical approach that supports the students to explore studio learning openly and freely. The findings evidence that the participants are motivated, engaged and willing learners in this studio environment.

The college of art in Australia (Case Study 2) is more formal in its approach to a Communication Design curriculum with short, fixed timetabled tutorials and studio-based classroom spaces. Students participate in the hot-desking or no-desking culture as this curriculum encourages a fixed use of formal space within studio learning. The students do engage with activities

constituting studio practice, such as working together in groups on centralised, medium-specific project briefs. Overlapping interests, sub-communities, and activities bring students with commonalities together mainly outside the studio environment and via online platforms. Contact with educators on a day-to-day basis is less common. The findings suggest that the participants were willing to engage in the timetabled studio-based classrooms but not able to. Indeed, this curriculum fostered feelings of self-consciousness in the students, and they felt time-pressured to complete tasks.

When investigating their experiences within the design curriculum of each case study, it was clear that the participants from Case Study 1 were more supported in their studio learning and practice than those in Case Study 2. The Participatory Action Research (PAR) approach and Participatory Design (PD) methods helped the participants and me to understand, to reflect on and manage studio and studio-based classroom learning. Developed from this, the variation of the MPM methodology shown in Figure 111 can become the mechanism through which I, as an educator and researcher, could support participants to explore their perceptions of pedagogy within their studio learning. This can be easily transferred to other educators and researchers to serve the same purpose (Figure 111). This framework facilitates direct engagement with the stakeholders in Communication Design studio education from a ground-up perspective. Educators and students may learn together as they engage with sensory affect as the lens through which to investigate the complex spatial and social processes in their studio education. This study's methodological approach draws upon Wenger's notion of reification (Wenger, 2000). The creation and use of artefacts from the methods, such as the physical Manifesto, can foster and guide reflection and affection. The group Manifesto method provides a balance between reification (meaning making into a concrete artefact) and participation. The cross-case reflection activities as individuals and as a wider group facilitates continual change and mutual adjustment of the participants thinking processes. This duality is key to capture the tensions emerging from the two differing pedagogical approaches to Communication Design studio education in the case studies. This methodological approach to reflection, in and on action, provides a framework of contemplative thinking. The participants reflected to understand their

studio processes and experiences and took into account their new perspectives of their developing feelings, confidence and actions towards these (Schön, 1984; 1990). The MPM can be adapted to explore participants perceptions of pedagogy at a deeper level within their studio learning, as shown in Figure 111, to improve student engagement guided directly by their voices and the recommendations summarised below:

- Facilitate active, experiential pedagogy;
- Facilitate an open-ended fluid curriculum;
- Facilitate the flexible use of formal and informal, group and individual activities;
- Set non-medium specific briefs that are open to the student's interpretation and creativity;
- Encourage diverse and overlapping interests, supported by events and sub-communities;
- Facilitate more contact between students and educators, formally and informally;
- Educators and institutions should support students to explore their perceptions of studio pedagogy, to adjust and learn together;

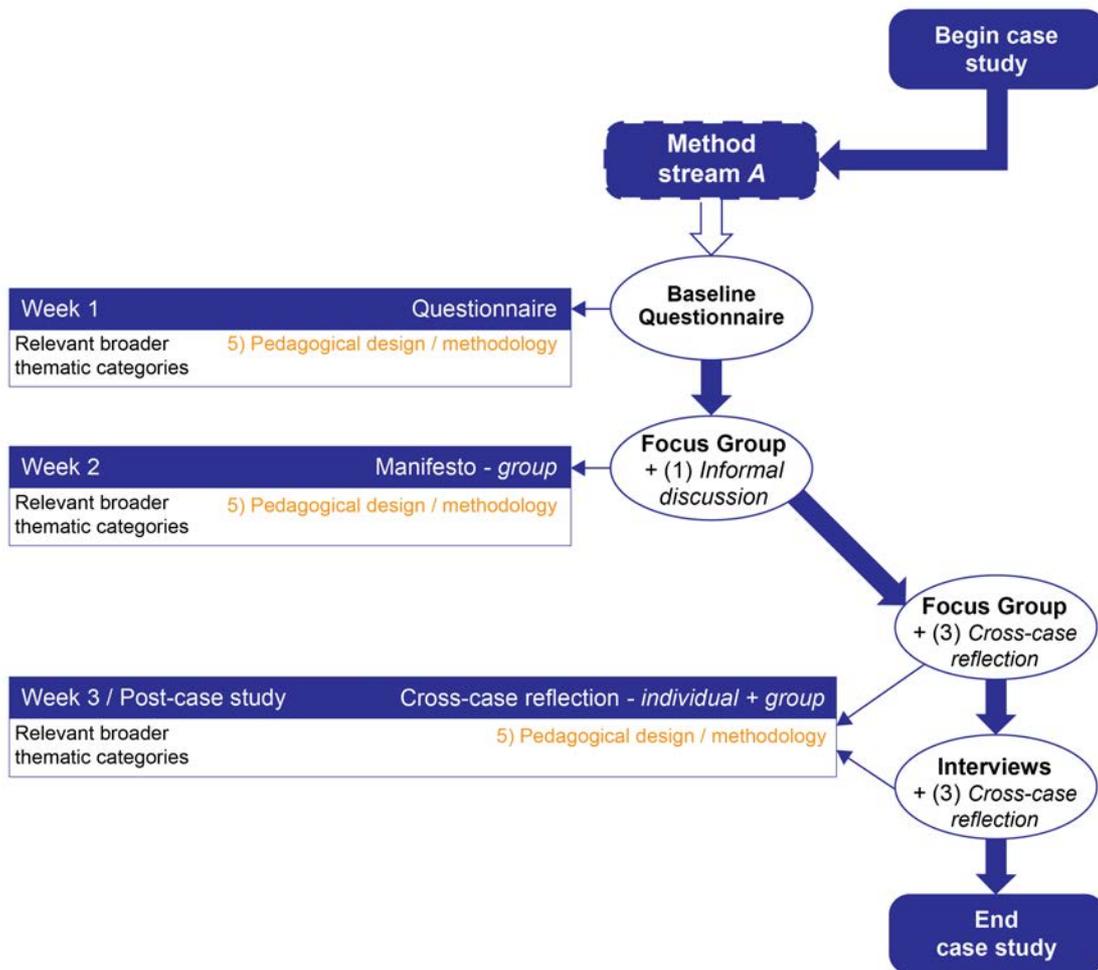


Figure 111. The Methods Process Model (MPM) adjusted to investigate pedagogical design and methodologies used within studio learning. © L. Marshalsey, 2017.

9.4.7 Meaning making through sensory affect

Broader thematic category	Case Study 1: An art school in the UK	Case Study 2: A university in Australia
6. Meaning making of sensory affect	<ul style="list-style-type: none"> • Visual distractions were reduced by the use of desk dividers • Noise from the open-plan studio environment • Natural light was abundant 	<ul style="list-style-type: none"> • Artificial light was abundant and classrooms cold

Table 57. The main findings from Case Study 1 and Case Study 2, under the broader thematic category 6. Meaning making of sensory affect. © L. Marshalsey, 2017.

The original intention of this study was to orientate the two case study investigations around sensory affect as the central issue within studio learning. Instead, sensory affect has become the lens through which to investigate and explore the community of practice and the crucial role that Participatory Design (PD) plays in creating a context in which awareness, insight, and interventions can take place in shared studio education. For the student, educator and institution, this means to become aware of the effects of the multiple environmental, practice-led, and community factors happening around them and the experiential impact of these ‘things’ on the students’ senses as work within the educational studio environment. This could include the students’ immediate surroundings, such as the mess on a personal workstation, and having creative tools and resources within touching distance. This could also manifest in the wider studio environment, as the smell of refuse bins, in the noise generated from the community, or from the chill in the air. There could also be more subtle, subconscious factors at play, such as being seated at uncomfortable desk locations within the studio and having their back to a heavily used door. The factors that may disrupt studio learning, such as noise, light, the presence of the community, the resources, the space, the storage, and so on, need to be brought forward into consciousness. Being mindful of the effects of these factors and how they affect student engagement, means that students, educators and institutions can implement strategies to work with them better. This study aids the current management of existing studio,

pedagogical and practice-led conditions and of the future development of new creative learning spaces.

In Case Study 1 in the UK, the findings evidence that the open-plan studio had many visual distractions, and that these were reduced by the use of personal desk dividers (Table 57). Noise from the community situated within the open-plan studio environment was dominant and the students equipped themselves with personal tools, such as noise-cancelling headphones to block sound out. On a positive note, natural light was abundant from the large windows which was deemed beneficial for practice. In contrast, the Case Study 2 participants experienced artificial light and the studio-based classrooms were distinctly cold from the inflexible air conditioning system. The participants deemed that there was little further sensory affect evident in their learning spaces and they said there was no real recognition of smell, “It doesn’t really smell of anything – maybe carpet?” and “Just smells like a room” (Appendix B, p.161, l.8). Grime and dirt were perceived sensory affects from a high turnover of students using the studio-based classroom environments. Despite their temporary space provision, the Australian participants did appreciate the value in working more explicitly with sensory affect to improve their engagement and this may be a consequence of experiencing different traditions and practices to the UK participants. The Australian campus and climate generally fosters the use of the outdoor space to work and play, and informal café meetings for both staff and students, which produces a different range of sensory experiences.

The participants across both case studies have developed their awareness, insight, and evaluation as they make meaning of sensory affect via mainly practical workshops. Therefore, the modified Methods Process Model (MPM), shown in Figure 112, emphasises the importance of co-creating a repertoire of artefacts, tools, and practice-led techniques with the participants to support the externalisation of meaning of sensory affect. This investigation attempts to argue for sensory affect to be taken into consideration in contemporary Communication Design studio education, and is attempting to enable new ways of thinking about the studio as a site for learning through the body. The impact of sensory affect contributed to the participants ease or

unease within learning spaces as noise levels rose; visual interruptions occurred, thermal comfort maintained warmth, or natural lighting flooded the studio. This investigation specifies the importance of reflecting on the senses as the participants physically move around the studio spaces via a continuous cycle of formation, transformation, and dissolution. A set of recommendations for meaning making of sensory affect within studio learning include:

- Reduce visual interruptions; incorporate dividers and partitions to reduce ocular distractions;
- Provide natural lighting;
- Manage sound levels; incorporate temporary and permanent sound-proofing or sound-reducing measures and strategies, depending on the learning environment and number of student's present;
- Facilitate communal spaces for eating and have access to food and drink outlets;
- Maintain a level of pleasant smell; reduce the odours from refuse bins, smoking shelters and nearby cafes;
- Allow space for creative mess on personal workstations and communal work areas; students should be encouraged to take responsibility for these areas;
- Have creative tools and resources readily accessible;
- Maintain a level of thermal comfort;
- Reduce grime and dirt;

In conclusion, students, educators and institutions can support and develop Communication Design studio education in several ways. Firstly, educators and institutions should facilitate a Communication Design pedagogy that embraces a progressive, student-centred approach to the discipline-specific, digital and analogue, offline and online tools and methods in an experiential and experimental way. This will lead to participants developing confidence, agency, and an increasingly reflective awareness in studio and studio-based classroom learning spaces. The Participatory Design (PD) tools used in several iterations of the Methods Process Model (MPM) support these practice-led processes and offer opportunities for meta-cognitive learning strategies to develop through the Participatory Action Research (PAR) approach. For example,

the participants altered their practice as they reflected upon the digital element of it. In Case Study 1, Toby said, "I felt it was wrong to make something on the computer. I had to have more than one voice" (Appendix B, p.126, l.44). The group also reorganised their studio layout in Case Study 1 and changed their environment to embrace working on wall space more often, and in Case Study 2 the participants considered different places to work and strategies to maintain their community better. The transferable and flexible nature of the MPM allows other Communication Design educators and institutions to work with students to develop their experiential, environmental, and functional working relationships with Communication Design pedagogy, practice and their place in the community in studio education today.

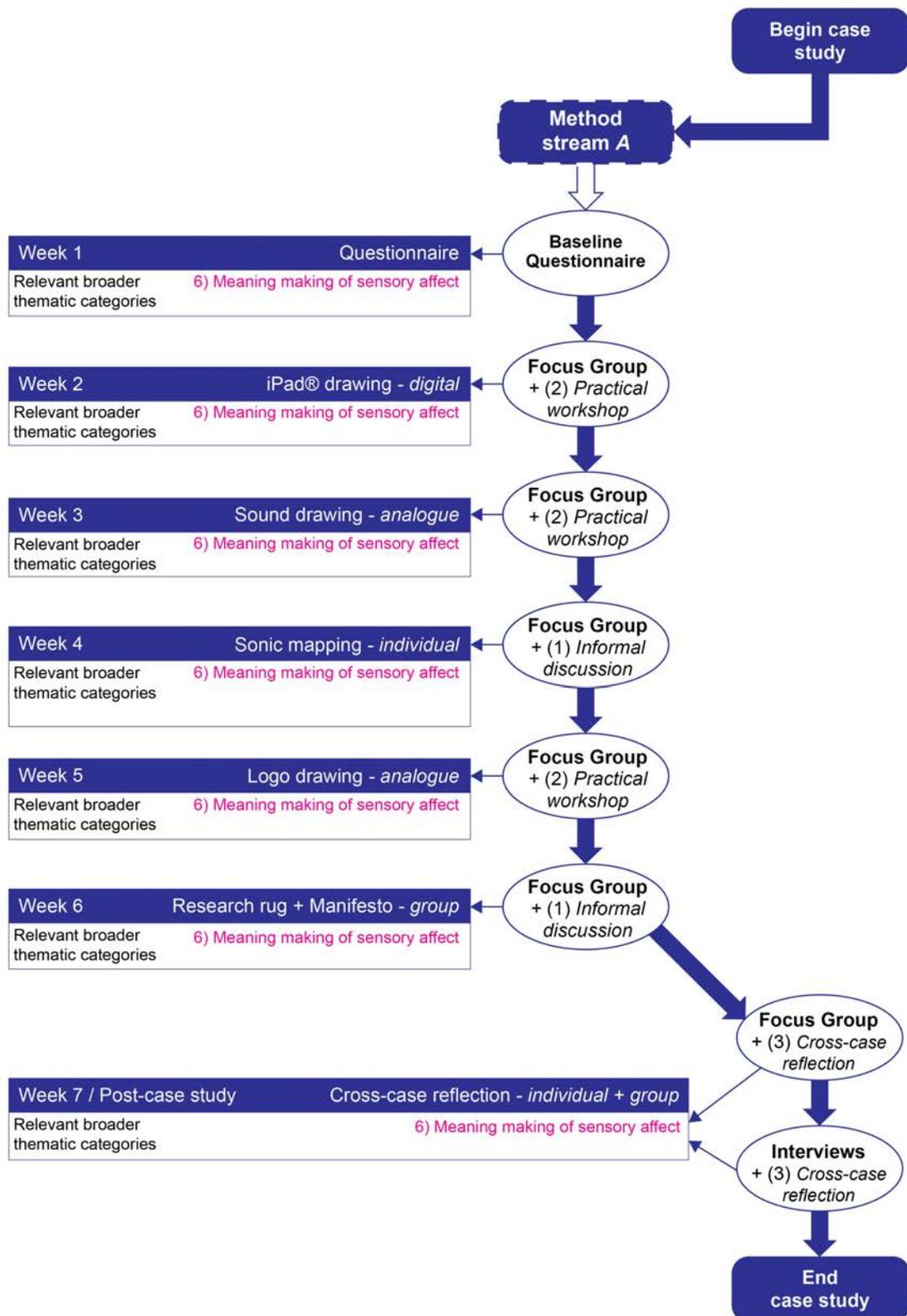


Figure 112. The Methods Process Model (MPM) adjusted to investigate meaning making of sensory affect within studio learning. © L. Marshalsey, 2017.

9.5 Limitations of the study

This study has a number of limitations. I should stress that this study has been primarily concerned with the impact of sensory affect within Communication Design studio learning and the subsequent analysis has accordingly concentrated on a distinct specialist community of practice. I accept the findings of my study are limited, as this investigation focused on two particular sites: one in the UK (Case Study 1) and the other in Australia (Case Study 2). Additionally, the limitations of the small case study cohort size in each institution should be acknowledged. Case Study 1 had recruited three participants and Case Study 2 seven participants. This means that the findings should not be taken as typical across all design education, learning spaces, and educational contexts. There is obvious variability in spaces and sites, governance, student culture, graphic and Communication Design disciplines, and institutional provision in each of the settings. Also, my observations are not entirely objective as my interpretation of the data emerges from my insider viewpoint as an educator. My bias as a Design educator mainly exists amid the close professional association I have with the participants and institution in Case Study 2. Therefore, there should be a cautious interpretation of the research scope of this investigation.

On reflection, there may be limitations of the actual research methods used in this thesis. The multi-modal approach used in Case Study 1 involved a broad array of methods, often with several activities scheduled for one session. These methods were refined and reduced for Case Study 2. In future investigations, further methods may be formed from a succinct set of the most successful activities arising from the action research and case study approach as shown in the Methods Process Model (MPM) in Figure 106. Particular workshops and activities were omitted from this MPM, as they proved only marginally successful, for example, the workshop focusing on smell and taste in Case Study 2 was limited in its capacity to obtain rich narrative data. In addition, reflective accounts of those experiences already experienced by the participants prior to this investigation (and recalled from the participants' cognisance using the methods used to draw out those experiences) were more valuable in obtaining fuller accounts than new managed experiences. That is, attempting to replicate assumed experiences of studio learning was not

the objective but rather a narrative approach to critical event recall of prior experiences was (De Laat and Lally, 2004).

The case study approach meant I could use a variety of methods, allowing me to explore the subtleties and intricacies of studio learning in the data. Yet, in my observational studies, there is a potential for bias as I was aware that observing the participants could make the natural behaviours of real life studio education unnatural. To remedy this, the action research approach was beneficial in the sense that it directly addressed issues in practice, with participants themselves becoming the observers. However, the participants and I (as researchers) are still likely to be attached and partial to a degree. Nevertheless, the qualitative research was rigorous and grounded in reality rather than speculation or assumption, and it was flexible enough to accommodate changes of directions with the methodologies. The sensory and visual ethnographic methods provided multiple perspectives and extensive explanations via empirical evidence of the people and places of studio. I was able to access the view held by the members of the studio culture and the developing self-awareness regarding their role, and maintenance thereof, within the natural studio setting.

9.5.1 Problems arising in the investigation

There were very few problems arising in the investigation itself. However, manually transcribing the Case Study 1 data in contrast to the professionally transcribed Case Study 2 data, meant I did not familiarise with the data as quickly or in as much depth in Case Study 2. I took a longer period of time to revisit the data from Case Study 2 to understand it better. Consequently, it took more effort to comprehend the data in this way as opposed to manually transcribing them and concurrently absorbing the data in the process. This may be the reasoning as to why I decided early in the investigation that I would not use qualitative data software. I did not want to risk a reductive approach to the data. Instead, I chose to manually cluster the data by hand via the low-tech manual method of Post-It® notes as a means to further aid this process of

dissemination (Krueger, 2006). I needed to know the data intimately and to comprehend it across a visible landscape before proceeding further with analysis.

9.6 Summary

This chapter has reflected on the aims of the study and the development of the Methods Process Model (MPM) as best methodological practice for Participatory Design (PD) in seeking to understand studio and studio-based classroom learning today. The six broader thematic categories were clearly defined, and the main findings reviewed and discussed. The implications of the main findings and their practical significance in the current management and future development of studio learning environments was explored via the six adapted iterations of the MPM framework, together with a set of recommendations for each of the broader thematic categories. The limitations of the investigation were also considered. The final chapter concludes this thesis with a summarised review of the thesis and with recommendations for future research in this field. Following this, the novel contribution to knowledge arising from this investigation is outlined. I conclude this study with reflections upon my autobiographical journey throughout the investigation and make closing comments to the thesis.

10 SUMMARY AND CONCLUSION

This final chapter brings together the strands of the thesis. In this concluding chapter, the first section provides a complete review of the thesis chapters. In the second section I revisit and draw out the main contributions to knowledge, which are grounded in the findings and I also take the opportunity to reconsider the claims to knowledge that are less well evidenced. The third section discusses these contributions as hypothesis and makes recommendations for future post-doctoral research in this field. Finally, I offer a brief reflection on my position in this research before making my concluding remarks.

10.1 Summary of this thesis

In the introduction chapter, the argument was made for the need to investigate the central relationship between sensory affect and learning in contemporary Communication Design studio education. Communication Design is the focus of this study because it is located in my own practice. Design education today, more generally, is facing a number of major challenges arising from political and economic agendas that are impacting on informal and formal space provision. The review of the literature has shown that current specialist Design studio learning spaces have evolved beyond their original purpose and the findings have revealed that they appear to intermittently meet the needs of today's learners. In recent years, Communication Design's specialised pedagogy has changed dramatically in view of the wide repertoire of spaces, institutions, and curricula now delivering studio education. What was not yet clear in the literature, was the impact of these changes on student engagement in current studio and studio-based learning spaces in this field of study. This acknowledged the need for my study to investigate a sense of place using embodied knowing and reflective thinking through the body, in these educational environments. The gap that was identified argued for the need to explore contemporary Communication Design studio education today. This is in terms of investigating the practice-led processes, the community, the diverse curriculums and pedagogical approaches, and how they impact on student engagement within a variety of studio

environments and in studio-based classroom spaces - formal to informal. This gap highlighted the importance of multi-sensory research methods in drawing out relationships between place, lived experience, and community.

Experiential learning theory (Dewey, 1936) and Wenger's community of practice (2000) provided the theoretical framework, through which the research study was conducted. Experiential learning theory provided the flexible and progressive student-centred approach towards the methodologies. The Participatory Action Research (PAR) approach and the Participatory Design (PD) methods sought to draw out the students' real-life experiences with equal, iterative and social participation (yet this was not forced) and guided by me, as the lead researcher. There was also a degree of experimentation when using the practice-led materials and processes in the methods, and as the participants built upon prior experiences and knowledge through constant reflection, reorganisation and reinterpretation. Community of practice theory provided the participation framework which shaped the research design and formed the methodological approach towards the domain (the shared studio), the community (the multi-memberships present within studio learning), and the practice (the activities and critiques which shape studio learning). Communication Design was the common interest between the two case studies. In particular, Wenger's notion of reification and the creation and use of artefacts via the methods, guided the participants' reflection and affection in each case study as they continually worked to change their mutual explicit and tacit thinking processes. This duality was key to drawing out the tensions in each institution and to examine the forces that had created and sustained the two divergent communities that emerged from each of the two case studies, amid their differing approaches to Communication Design education. The two diverse dialogues emerging from each case study – learning as belonging (in the community), learning as doing (in practice), learning as becoming (in their identities) and learning as experience (in meaning making) – became clearly evident in the findings discussed in Chapter 9.

10.1.1 Summary of the main findings

To summarise, this research investigation has focused on exploring students' experiences in virtual, technological, and physical educational environments, and how Participatory Design (PD) methods can be employed to capture, understand, and adapt Communication Design pedagogy to improve student engagement. This is with the intention of developing the participants' own self-awareness, confidence, and agency through studio learning activities. In this way, enactive cognition becomes the dynamic interaction between the person and the environment. For example, the participants from both case studies made meaning in relation to sound in their studio environments via the sonic mapping and sound drawing workshops. These methods highlighted intrusive sound from the open-plan environment of Case Study 1 and, in Case Study 2, from the large numbers of students attending a single tutorial. Furthermore, the value of the studio community in Case Study 1 was drawn out from the GoPro® filming method, and as participants identified the unmistakable signs of mutual membership and joint enterprise in their shared practices and rituals within the physical studio. In Case Study 2, the participants identified their dispersed community and as they examined their strategies to create a sense of community online as an alternative to the difficult management of a much larger physical community.

The Case Study 1 participants in the UK responded that their friendly, informal, day-to-day social interactions with peers and staff in their situated studio community, are integral to their collective and individual learning and practice. Their personally allocated, high density desk spaces fostered a closeness among the students and encouraged them to break down formal barriers and feel at ease in their studio community. Visual distractions were reduced by the use of desk dividers, which also differentiated the space in which the participants' personal artifacts, creative mess, and work in progress were contained. Noise from the open-plan studio environment was anticipated and managed by the participants. Natural light was abundant.

The Case Study 2 participants created their own offline and online community outside of the boundaries of their learning spaces, mainly in cafes and via social media. They did not have access to a dedicated physical studio or personal workstation. The participants mainly chose to work informally from home as, to a degree, they did not feel a sense of belonging in their community: via engagement, imagination or alignment. Greater student numbers in their year group, hot-desking and the formal timetable fostered feelings of vulnerability, a lack of confidence and identity, self-consciousness, and time pressure in their studio learning. Artificial light was abundant and the tutorial classrooms cold. There was less contact with educators on a day-to-day basis and a reliance on digital practice.

The participants in both case studies valued their membership within their community of practice and their specialised design education. Yet, the Australian experience cannot be described or pitched as 'studio' learning, despite best intentions from the institution to replicate a conventional studio model. These two differing case studies affected my role as a researcher and educator, and how I interacted with each site as an outsider who quickly became an insider (in Case Study 1 in the UK) and as an insider who struggled to separate my researcher and educator roles (in Case Study 2 in Australia). My autobiographical reflections of my role are discussed in section 10.5.

10.1.2 Sensory affect as a lens to focus the research

This study did not set out to prove or test a pre-determined hypothesis from the onset of the study. Instead, in order to investigate the research aims, the central research question set out to explore the relationship between sensory affect and learning. However, as the study progressed, sensory affect acted as a lens through which to focus this research investigation and to interpret the process of constructing meaning from the lived experiences of studio learning. Sensory affect moved from being the central emphasis of the study to being the conduit through which to investigate aspects of learning experience within the two case studies in different shared domains. Sensory affect was effectively employed via the range of practice-

led methods, such as the GoPro® filming activity and sound drawing, to understand the component parts of studio learning. This was also due, in part, to the role of and the importance of community as a theme, which emerged early in the data.

Participatory Action Research (PAR) was used to study, identify and understand the impact of a range of challenges that affect student engagement within contemporary Communication Design studio education through the use of ethnographic PD methods. The findings of this study evidence that the participants experienced and manage their studio learning in different ways. This interdisciplinary thesis links the spaces for dialogue between higher education, studio learning, Communication Design and sensory affect.

To summarise, the six broader thematic categories were identified from a complex and innovative process of analysis (the analytical procedures of each case study were described fully in Chapters 6 and 8):

1. Implications for Communication Design practice
2. Supporting the community of practice
3. Institutional structure and management
4. The role of the studio environment
5. Pedagogical design / methodology
6. Meaning making of sensory affect

The implications and the practical significance of the main findings from the two case studies were mapped against each of these six broader thematic categories, and alongside a set of recommendations specifically for each thematic category. A subsequent Methods Process Model (MPM) was also presented (Figure 106), which outlined an approach for investigating the impact of diverse forms of Communication Design studio learning upon student engagement today. It should be noted that there is no direct, single solution to work with the continuum of studio and studio-based classroom learning spaces, curricula, and institutions delivering

contemporary Communication Design studio education today. Rather, I have constructed a flexible methodology consisting of a range of context-specific adaptable methods, that staff and students can use to form their own strategic interventions in order to work more effectively within the spaces they know best to improve their own engagement. Currently, six versions of the MPM can be employed to examine potentially problematic areas within studio learning; in practice, in the community, in the institutional management, in the role of the studio, in the pedagogical approach and lastly, when meaning making of sensory affect (Figures 107, 108, 109, 110, 111, 112). This MPM must also be flexible in order to accommodate future learning environments that are constantly changing alongside a shifting and fluctuating practice-led discipline and its associated pedagogy. This is especially pertinent as technological concerns cross-cut and impact upon studio education today. The current management, and future development, of studio learning environments by educators and institutions can be achieved by employing iterations of these recommendations and versions of the Methods Process Model (MPM) together as discussed in Chapter 9.

10.2 Novel contributions of the study

This thesis proposes that the current role of the studio in Communication Design education, and the subsequent relationship with and engagement of its users, is an unreconciled one. However, this research investigation travels a substantial distance towards a form of reconciliation and understanding of contemporary Communication Design learning spaces to support student engagement. As articulated throughout this thesis, this is largely a methodological investigation, which employs sensory affect as a lens via the practice-led and research methods. The use of a practitioner-based Participatory Action Research (PAR) framework to understand contemporary Communication Design studio and studio-based classroom education has enabled the identification of multiple perspectives drawn from the analysis and interpretation of the data. The study was guided by the theoretical framework to make studio learning more explicit and address the absence of empirical evidence to investigate and theorise the relationship between sensory affect and learning in contemporary

Communication Design studio education. For the Design student undertaking a studio education, the evidence suggests that they may be sensitive to the impact of several areas of concern, which were identified by the research. The factors that might disrupt studio learning need to be brought forward into a students' consciousness via the MPM, guided by educators, researchers and institutions. Being mindful of these issues might mean that students and educators can implement strategies to work better within studio. This study is not specifically concerned with the architectural design of new learning spaces, but instead the MPM aims to facilitate and affect better student engagement within existing and future studio and studio-based educational environments. Therefore, the main contribution to knowledge of this thesis, and grounded in the findings, is the support of students as they explore and engage with contemporary Communication Design studio education. The suggestion is that when employing the MPM (or elements thereof) then the student's individual and collective relationship with learning is supported in relation to practice, community, governance, the role of the studio, pedagogy and curriculum, and sensory affect. The students' wellbeing, social, practice-led, and educational needs are foregrounded.

In addition, a secondary contribution can be made to an established investigative field examining complex thinking through the body, embodied knowing, the dynamic interaction between person and environment, and the range of behaviours and reactions that can be drawn out from affective processes incorporating the senses. Sensory affect, when interwoven with practice-led research methods, can make explicit the influence of experience detected through the body and evidence the students' actual relationship to studio learning. Sensory affect directly relates to sensation and the subsequent evaluation of sensation to measure, analyse, and interpret a range of experiences. The body can act as a sensory compass to guide and draw out an individuals' perceptions of community, practice, pedagogy and space in contemporary Communication Design studio learning. Participants can analyse and interpret the impact of the community and environment around them, as suggested by the empirical findings in this study and discussed in Chapter 9. The findings enhance the exploration of, and an understanding of, the importance of social interaction, multi-memberships and a sense of place

within a community, and an understanding of the role of the studio as a key environment in Design education today.

The Participatory Design (PD) approach supports the students as they engage in their studio learning in this study and a contribution is made to existing knowledge of reflective practice and thinking through the body using PD methods. Since reflective understanding may be difficult to grasp for some learners, the key points at which reflection occurred during the participatory research activities were carefully planned with this in mind. Towards the end of Case Study 1 reflective activities occurred in Week 7 (the 'research rug') and Week 8 (closing interviews). The 'research rug' acted as a visual timeline of the research activities to date, and using this artefact to prompt discussion the students reflected upon and compared the evidential data as a whole. The participants clearly reflected on the value of the community bond they shared with others through formal and informal group interactions in the studio (Figure 45). In addition, the participants themselves began to value their studio environment and culture, even with its challenges to space and noise. In Case Study 1 Jill said, "I've become more aware of the studio space and what we have. What I like about it and what I don't like about it. I've adapted it a bit more to make myself more comfortable" (Appendix B, p.102, l.72). Cross-case reflection points occurred in Weeks 3 and 6 within Case Study 2, and in the manifesto task in Week 8. As the participants from Case Study 2 collectively viewed the Case Study 1 GoPro® data in Week 6, Valerie observed, "So much laughing. Like they're all friends in that room, I'm jealous" (Appendix B, p.260, l.62). The participants in Case Study 2 had recognised and vocalised that they are members of a decidedly different community of practice than Case Study 1. This data evidenced a developing awareness of what it means to reflect, and how to connect reflection and self-guided analysis. This study supported the stakeholders' own voices (individually and collectively) as they made meaning of their experiences in studio learning and from a ground-up perspective as participants were given a platform from which to contribute directly. The activities and methods enabled participants to critically recall their experiences and to share these subjective reflections and responses within their community at regular points throughout the project. Therefore, the research has successfully achieved a greater self-awareness of the

personal and collective strategies that learners and educators alike can adopt in order to more effectively manage learning in the environments in which they are located and how this influences their learning within specialist studio environments (Case Study 1) and the more common studio-based classrooms (Case Study 2).

Furthermore, research into Communication Design education is still a relatively young field of study and the related literature is still limited; therefore, this study actively supports an understanding of Communication Design, its project-based studio discipline and its complex community of practice. This thesis also builds on the work of others who have set the groundwork to investigating learning spaces (Scott-Webber, 2004; Temple, 2008; Boys, 2010; Boddington and Boys, 2011; Temple, 2014; Scott-Webber, et al., 2014; Ellis and Goodyear, 2016), the studio as a site for learning (Salama and Wilkinson, 2007; Cennamo and Brandt, 2012; Saghafi, et al., 2012; Pektas, 2012; Vyas, et al., 2013; Boling, et al., 2016), and the phenomena of sensory research and affect (Pink, 2006; Pink, 2009; Pallasmaa, 2012a; Fors, et al., 2013; Pink, 2014).

10.3 Recommendations for future research in this field

This research has illuminated many questions in need of further investigation that were not possible to address within the scope of this study, yet there may be future opportunities to investigate and develop potential parts of this field of study further to continue its momentum and deliver additional results sparked by this investigation. The recommendations for future research in this field include a number of possible avenues embedded within the six broader thematic categories noted above and a small number of these are suggested below.

10.3.1 Investigating studio learning within other contemporary Design disciplines

To begin, this investigation may be applied to other studio-based design disciplines in addition to Communication Design, such as Product, Interior, Fashion, Interaction or Industrial Design.

Considerably more work will need to be done and bringing together the analysis of multiple studies across a range of Design subjects in education, might better determine how the relationship with learning is supported in relation to practice, community, governance, studio environments, pedagogy, and sensory affect. Another possible area of future research would be to specifically investigate the community of practice in Design education, using sensory affect as the lens. This approach may illuminate and identify part, all, or none of the broader themes arising from this specific study of Communication Design studio learning or, indeed, emerge in entirely new ways in other studio-based creative fields. It would also be interesting to assess student engagement and learning within non-design disciplines and learning spaces in fields, such as education and business, as these fields may hold commonalities in their educational delivery methods. In particular, business is often paired with creative design in double degree frameworks in Australian higher education.

10.3.2 The role of Design educators as insider researchers

From a pedagogical design perspective, it may be necessary to expand the notion of insider research to identify how big a role the Design educator plays in working with the experiential impact of studio learning today. For example, a future study might investigate and analyse reflective practice from educators' perspectives in depth, in order to respond to the challenges imposed on studio learning within a diverse range of educational environments using the methodological framework. It may also be beneficial to work with other Design educators in this way to transfer and expand the versions of the Methods Process Model (MPM) used in this study for the benefit of design students in other institutions and disciplines, who may participate in studio learning. This would investigate and further support stakeholders' voices in Design higher education. In future studies, it may also be advantageous to investigate the perceptions of experienced Design educators and how different people behave when inhabiting unfamiliar, temporary, or new learning spaces, and in differing studio circumstances and contexts.

10.3.3 Investigating the transition of design students out of studio education into industry

There are, of course, opportunities to expand this study into a longitudinal investigation of students transitioning out of studio education into industry as professional designers. The aim would be to follow them as they create their own studio spaces as design professionals and move forward the investigation of creative practice, the community of practice, management and governance, the role of studio, industry-led methodologies and systems, and sensory affect in these environments. When design graduates establish their own studios, to what extent do they lean on their experiences of previous educational environments? More research is required to investigate the development of strategies for practice in industry environments. This would support professional development in the studio and facilitate students' individual versatility and confidence as future creative practitioners in industry and making them capable of evolving beyond the boundaries of studio learning, post-education.

10.3.4 Investigating sensory affect and learning within non-studio environments

More research is required to determine the specific issues arising in this study from the link between sensory affect and learning. It is recommended that further research be undertaken investigating where the students prefer to learn and why, within a range of non-studio environments. Further research might explore iterations of sensory affect, such as sounds in open-plan learning spaces, and in non-owned spaces used for learning (such as the outdoors, cafés and museums). It would be interesting to assess the effects of sensory affect more specifically upon virtual and online communities in design education. Other related directions include the possible broader implications of following this study into additional learning spaces, such as libraries, and naturally, industry more generally.

Without further research of students' experiences of studio and studio-based classroom learning, not only in specialised Communication Design education but also in wider design and educational learning spaces, it will not be possible to slow the transition towards challenging

and impersonal educational environments. Future studies must scrutinise learning spaces across design education and to continue to develop an understanding of the crucial relationship between these environments and students' engagement. Design education will evolve into an unrecognisable form if there is no consideration of the experiential impact of the changes in the design of a range of educational environments, particularly in the face of challenging economic and political pressures today. Sensory affect is the lens to understand educational environments today (via the intervention-focused Methods Process Model (MPM)), and as a means of speculating the form that studio learning might resemble in the future.

10.4 Autobiographical reflection

My subjective, ontological position as a Design educator and the lead researcher of this study meant I had a distinct immersed understanding of how 'flow' can be interrupted in studio learning (Csikszentmihalyi, 1998; 2008). This research has required me to scrutinise in-depth my pre-conceived principles, my pedagogical delivery, and my embedded perspectives of studio learning – of what I had known of this field of study beforehand, of what I had reflexively known of Communication Design studio learning during the project, and what I have reflected upon overall since its conclusion. Undoubtedly, this journey has been an incredibly difficult, invaluable, and challenging experience for me. The conflict and balance of power as both an outsider-turned-insider researcher and insider researcher-educator repeatedly forced me to question the ways in which I, as a Communication Design educator, can support and develop an explicit exploration of the role of the senses in learning through the development of my personal design pedagogy. This was not an easy task. Contradictions are, by nature, contained within an individual's accounts of events, and I was incredibly self-aware of my considered differences of opinion and contradicting experiences of the two different case study sites. I was also aware of the bias I might bring towards a conventional art school model of studio learning and as I may have different experiences of education as a British national residing in Australia.

This study has helped participants to develop metacognitive strategies for studio learning through their active participation in action research. This investigation has also formed and

guided new strategies in my practitioner-led research and pedagogy. The research has brought about changes in my beliefs and attitudes towards studio learning and, in particular, my approach to design pedagogy in these spaces. The iterative, cyclical, and sometimes messy research was incredibly rewarding and provided me with key ideas to take forward into teaching. Specifically, I now adopt many of the creative research methods with my design students to enable them to understand their own community of practice. Indeed, I have recently designed, planned, and implemented a new first-year assessable curriculum course that requires the students to action the ethnographic methods. The students use the Snapchat®, focus group, and sonic-mapping methods as a means to identify gaps for design to fill, in their own chosen learning spaces. Data from two student surveys in different campuses has ascertained these have been well-received. I have also begun to question how my colleagues and I might support the students' experiences of studio learning better. In recent research grant applications, I question if we can do more to support the students educational journey across these spaces and throughout the stages of their degree, and how we might pay more attention to their voices.

10.5 Concluding remarks

This study set out to develop a greater understanding of the complexities and dynamics of sensory affect as it occurs on the ground within contemporary Communication Design studio education. Instead, sensory affect moved from being the central emphasis of the study to acting as a lens through which to focus this research investigation via the range of practice-led methods. This was achieved in the systematic examination of two case study investigations: an art school in the UK and a College of Art contained within a parent university in Australia. This thesis has explored students' conceptions of the shifting boundaries of studio and studio-based classroom learning today and it has sought to understand and reflect upon the relationship between the senses and learning within these spaces. This was with the intention of using Participatory Design research methods within a Participatory Action Research approach to enable students to reflect upon the factors (embedded in their practice, community, environment

and curriculum) that influence their own learning and to consider how Communication Design studio pedagogy can be adapted to work with issues more explicitly, using sensory affect.

Unfortunately, the spaces experienced by the participants in Case Study 2 in Australia are not representative of the values of a conventional, physical studio model, which are still seen in the art school in Case Study 1 in the UK. This made their everyday experiences of Communication Design education much more challenging for the group of participants in Case Study 2. Even though the institution and educators are hopeful that they are delivering a studio-based model, it is decidedly different from the physical studio model delivered in Case Study 1. My practice-led background in Communication Design meant that I had first-hand prior experience and an understanding of how a physical studio environment might operate. In particular, I wanted to convey these experiential aspects to the Case Study 2 participants, so that they might achieve an understanding of how physical studio learning might benefit their learning. However, I realised it was not possible to convey the values of the studio model to them and to expect these to work in this institution as the students and staff had little prior knowledge of studio. I then adapted my expectations to create a different kind of learning environment, which could take account of the management structures, practicalities, and real-world context of Case Study 2. Furthermore, the definition and role of studio will continue to change and evolve just as workshops and ateliers of the past have assumed different iterations over time. Indeed, it may be that an entirely new form of studio-based learning will emerge to supersede the current provision.

This thesis is intended as a means for students and educators to mediate their experiences in the landscape of contemporary Communication Design studio learning. Learning space design is a continuum largely influenced and driven by various political and social agendas in contemporary design education today, which continues to function under pressure. It is proposed that students and staff affected by detrimental and supportive experiences in learning spaces embrace and modify the methodology explicated in this research study. Therefore, it is hoped that the intended transferable Method Process Model (MPM) developed within this thesis

can be used to capture, take account of, understand, and work with disruptive influences more explicitly in studio learning so as to improve student engagement.

11 REFERENCES

- Ackerman, D., 1992. *A natural history of the senses*. New York: Vintage Books.
- Adams, M., Bruce, N., Davies, W., Cain, R., 2008. Soundwalking as methodology for understanding soundscape, IOA summer conference. *Reading*, 30(2), pp.552-558.
- Adelman, C., 1993. Kurt Lewin and the origins of action research. *Educational Action Research*, 1(1), pp.7-24.
- AIGA (American Institute of Graphic Arts), 2013. The resurgence of hand lettering: panel discussion. *AIGA Boston* [online]. Available at: <<https://boston.aiga.org/event/hand-lettering/>> [Accessed 18 September 2016].
- Åkerlind, G.S., 2008. A phenomenographic approach to developing academics' understanding of the nature of teaching and learning. *Teaching in Higher Education*, 13(6), pp.633-644.
- Alexenberg, M., 2009. *Educating artists for the future: learning at the intersections of art, science, technology and culture*. Bristol: Intellect.
- Amirsadeghi, H. and Eisler, M. eds., 2012. *Sanctuary: Britain's artists and their studios*. London: Thames and Hudson Ltd.
- Aravat, I. and Neuman, E., 2010. *Invitation to ArchiPhen: some approaches and interpretations of phenomenology in architecture*. Bucharest: Zeta Books.
- Aristides, J., 2006. *Classical drawing atelier: a contemporary guide to traditional studio practice*. New York: Watson-Guption Publications.
- Arjun Harrison-Mann, 2016. Worth Pop-Up. *Cargo Collective* [online]. Available at: <<http://cargocollective.com/arjunharrisonmann/Worth-Pop-Up>> [Accessed 11 September 2016].
- Armstrong, H., 2009. *Graphic design theory: readings from the field*. New York: Princeton Architectural Press.
- Ascott, R., 2008. Pixels and particles: the path to syncretism. In: M. Alexenberg, ed. 2008. *Educating artists for the future. learning at the intersections of art, science, technology and culture*. Bristol: Intellect. pp.47-60.
- Augé, M., 2008. *Non-places*. London: Verso.
- Austerlitz, N., 2008. *Unspoken interactions: exploring the unspoken dimension of learning and teaching in creative subjects*. The Centre for Learning and Teaching in Art and Design: University of the Arts, London.
- Bachelard, G., 1994. *The poetics of space*. Boston: Beacon Press.
- Bain, A.L., 2004. Female artistic identity in place: the studio. *Social and Cultural Geography*, 5(2), pp.171-193.
- Barker, O., 2006. Experimentation, not replication. *Bauhaus magazine*, [online] 1. Available at: <<http://www.bauhaus-dessau.de/experimentation-not-replication.html>> [Accessed 30 July 2014].
- Barker, T. and Hall, A., 2010. Design collectives in education: evaluating the atelier format and the use of teaching narrative for collective cultural and creative learning, and the subsequent

- impact. *Alternative Practices in Design: The Collective-Past*, 1 (1), pp.1–11.
- Bayer, H., Gropius, W. and Gropius, I., 1938. *Bauhaus, 1919-28*. New York: Museum of Modern Art.
- Baynes, K. and Norman, E., 2013. *Design education: a vision for the future*. Loughborough: Loughborough Design Press Ltd.
- Beard, C., 2009. Transforming the student learning experience : a pedagogic model for everyday practice. *The Higher Education Academy: Hospitality, Leisure, Sport and Tourism Network*, July (Enhancing Series: Student Centred Learning), pp.1-17.
- Beard, C. and Wilson, J.P., 2013. *Experiential learning: a handbook for education, training and coaching*. London: Kogan Page.
- Beck, C. and Kosnik, C., 2006. *Innovations in teacher education: a social constructivist approach*. Albany, New York: State University of New York Press.
- Beetham, H., 2013. *Rethinking pedagogy for a digital age: designing for 21st century learning*. New York: Routledge.
- Bellugi, D.Z., 2016. Constructions of roles in studio teaching and learning. *International Journal of Art and Design Education*, 35(1), pp.21-35.
- Biddick, N., 2014. Working in open plan learning spaces. *Teacher Learning Network*, 21(1), pp.23-25.
- Birch, L.J., 2011. *Telling stories: a thematic narrative analysis of eight women's PhD experiences*. PhD Thesis. Melbourne: Victoria University.
- Blauvelt, A., 2008. Towards relational design. *Design Observer* [online] 11 March. Available at: <<http://designobserver.com/feature/towards-relational-design/7557/>>.
- Blazwick, I., 2012. The studio - an A to Z. In: H. Amirsadeghi and M. Eisler, ed. *Sanctuary: Britain's artists and their studios*. London: Thames and Hudson. pp.19-25.
- Bloomer, K.C. and Moore, C.W., 1978. *Body, memory and architecture*. New Haven: Yale University Press.
- Boddington, A. and Boys, J. eds., 2011. *Re-shaping learning: a critical reader - the future of learning spaces in post-compulsory education*. Rotterdam: Sense Publishers.
- Boling, E., Siegel, M.A., Smith, K.M., Parrish, P., 2013. Student goes on a journey; stranger rides into the classroom: narratives and the instructor in the design studio. *Art, Design and Communication in Higher Education*, 12(2), pp.179-194.
- Boling, E., Schwier, R.A., Gray, C.A., Smith, K.M., Campbell, K., 2016. *Studio teaching in higher education*. New York: Routledge.
- Bolkan, S., 2015. Students affective learning as affective experience: significance, reconceptualization, and future directions. *Communication Education*, 64(4), pp.502-505.
- Bolton, G., 2009. Write to learn: reflective practice writing. *InnovAiT*, 2(12), pp.752-754.
- Bolton, G., 2014. Reflection practice: an introduction. In: *Reflective Practice: Writing and Professional Development*. London: SAGE Publications Ltd. pp.1-24.
- Borchardt-Hume, A. ed., 2006. *Albers and Moholy-Nagy: From the Bauhaus to the New World*. New Haven, CT: Yale University Press.
- Bosler, D., 2015. The explosive hand lettering rebellion. *Print Magazine* [online] 21 February. Available at: <<http://www.printmag.com/featured/hand-lettering-flexible-adaptable-typographic->

- art/> [Accessed 18 September 2016].
- Boys, J., 2008. Beyond the beanbag? Towards new ways of thinking about learning spaces. *Art Design Media Subject Centre Resources* [online]. Available at: <http://www.adm.heacademy.ac.uk/resources/features/beyond-the-beanbag-towards-new-ways-of-thinking-about-learning-spaces/> [Accessed 20 February 2014].
- Boys, J., 2010. *Towards creative learning spaces: re-thinking the architecture of post-compulsory education*. Abingdon, UK: Routledge.
- Boys, J., 2014. Learning as process. *Towards creative learning spaces*, [blog] 23 February. Available at: <http://www.spacesforlearning.blogspot.co.uk/> [Accessed 20 March 2014].
- Boys, J., Melhuish, C. and Wilson, A., 2014. *Developing research methods for analyzing learning spaces that can inform institutional missions of learning and engagement: report from the recipients of the 2013-2014 Perry Chapman Prize*. Ann Arbor, Michigan: Society for College and University Planning.
- Boys, J., 2015. *Building better universities. Strategies, spaces, technologies*. New York: Routledge.
- Bradley, D. and Australia. Dept. of Education, Employment and Workplace Relations, 2008. *Review of Australian higher education: final report*. Canberra, A.C.T.: Dept. of Education, Employment and Workplace Relations.
- Brandt, D., 2014. Photovoice. In: D. Coghlan and M. Brydon-Miller, eds. *The SAGE encyclopedia of action research*. London: SAGE Publications Ltd. pp.621-624.
- Brandt, S. and Bachmann, G., 2016. On the way to the campus of tomorrow. *New Library World*, 117(1/2), pp.4-21.
- Breen, R.L., 2006. A practical guide to focus-group research. *Journal of Geography in Higher Education*, 30(3), pp.463-475.
- Brewster, D. and Hamilton, T., 2008. Creativity in technology rich, flexible learning spaces. *The Higher Education Academy: ESCalate*, 10 (Spring), p.3.
- British Council, 2012. *The shape of things to come: higher education global trends and emerging opportunities to 2020*, [online]. Available at: <http://hdl.voced.edu.au/10707/252974%5Cnwww.britishcouncil.org/higher-education> [Accessed 27 April 2014].
- Brody, N., 2014. Head of Programme | Royal College of Art. *Royal College of Art*, [online]. Available at: http://www.rca.ac.uk/schools/school-of-communication/visual_communication/head-of-programme/ [Accessed 27 April 2014].
- Brookfield, S., 1995. *Becoming a critically reflective teacher*, San Francisco: Jossey-Bass. Available at: <http://www.mendeley.com/research/becoming-a-critically-reflective-teacher-3/>.
- Brooks, J.G. and Brooks, M.G., 1993. *In search of understanding: the case for constructivist classrooms*. Virginia: The Association for Supervision and Curriculum Development.
- Brophy, K., 2009. *Patterns of creativity (consciousness, literature and the arts)*. Amsterdam: Rodopi.
- Browne, J., Barber, M., Coyle, D., Eastwood, D., King, J., Naik, R., Sands, P., 2010. *Securing a Sustainable Future for Higher Education: An Independent Review of Higher Education Funding and Student Finance*, London: Department for Business, Innovation and Skills (BIS).

- Bryant, A. and Charmaz, K., 2007. *The SAGE handbook of grounded theory*. Los Angeles, California: SAGE Publications Ltd.
- Bryant, P., Durrant, A. and Akinleye, A., 2013. Educating the early career networked arts professional using a hybrid model of work based learning. *Higher Education Skills and Work Based Learning*, 3(1), pp.17-29.
- Buss, D., 2002. Benchmarking art and design. *International Journal of Art and Design Education*, 21(2), pp.173–179.
- Cai, H. and Khan, S., 2010. The common first year studio in a hot-desking age: an explorative study on the studio environment and learning. *Journal for Education in the Built Environment*, 5(2), pp.39-64.
- Cain, P., 2013. *Drawing: the enactive evolution of the practitioner*. Bristol: Intellect.
- Carvalho, L., Goodyear, P. and Laat, M. de, 2016. *Place-based spaces for networked learning*. New York: Routledge.
- Cavendish, L.M., 2011. *Stories of international teachers: a narrative inquiry about culturally responsive teaching*. PhD Thesis. University of Iowa.
- Cennamo, K. and Brandt, C., 2012. The “right kind of telling”: knowledge building in the academic design studio. *Educational Technology Research and Development*, 60(5), pp.839-858.
- Central St Martins College of Art and Design, 2014. *Worth - The world's most expensive pop-up shop*, [online]. Available at: <<http://www.worthpopup.co.uk/>> [Accessed 30 July 2014].
- Central St Martins College of Art and Design, 2016. *Graphic Communication Design Programme*, [online]. Available at: <<http://www.arts.ac.uk/csm/courses/our-programmes/graphic-communication-design-programme/>> [Accessed 28 June 2016].
- Corbone, D.R., 2006. *Understanding phenomenology*. Chesham, UK: Acumen Publishing Ltd.
- Chetty, S., 1996. The case study method for research in small-and medium-sized firms. *International Small Business Journal*, 15(1), pp.73-85.
- Chevalier, J.M. and Buckles, D.J., 2013. *Participatory action research: theory and methods for engaged inquiry*. Abingdon, UK: Routledge.
- Chung, J., 2016. Swarm. Available at: <https://www.joomichung.net/swarm> [Accessed June 4, 2017].
- Clandinin, D.J. and Connelly, F.M., 2000. Narrative inquiry: experience and story in qualitative research. *Narrative Inquiry*, 2, p.211.
- Clandinin, D.J., 2007. *Handbook of narrative inquiry: mapping a methodology*. Thousand Oaks, California: SAGE Publications Ltd.
- Clandinin, D.J., 2013. *Engaging in narrative inquiry*. Walnut Creek, California: Left Coast Press, Inc.
- Clark, F., Parham, L.D. and Mailloux, Z., 1996. Sensory Integration and Children with Learning Disabilities. In P. N. Pratt and A. S. Allen, eds. *Occupational Therapy in Children*. St. Louis: Mosby, pp.307–355.
- Classen, C., 1993. *Worlds of sense: exploring the senses in history and across cultures*. London: Routledge.
- Coffield, F. and Williamson, B., 2011. *From exam factories to communities of discovery: the democratic route*. London: Institute of Education, University of London.
- Coghlan, D. and Brannick, T., 2010. *Doing action research in your own organization*. London: SAGE

- Publications Ltd.
- Cohen, L., Manion, L. and Morrison, K., 2011. *Research methods in education*. Abingdon: Routledge.
- Cole, D.R., 2011. The actions of affect in Deleuze: others using language and the language that we make ... *Educational Philosophy and Theory*, 43(6), pp.549-561.
- Collini, S., 2012. *What are universities for?* London: Penguin.
- Collins, H., 2010. *Creative research: the theory and practice of research for the creative industries*. Lausanne: AVA Publishing.
- Connelly, F.M. and Clandinin, D.J., 1990. Stories of experience and narrative inquiry. *Educational Researcher*, 19(5), pp.2-14.
- Cooper, A., Gridneff, R. and Haslam, A., 2013. Letterpress: looking backward to look forward. In: *AIGA Blunt: Explicit and Graphic Design Criticism Now*. Norfolk, Virginia. pp.1-11.
- Corey, S.M., 1949. Curriculum development through action research. *Educational Leadership*, 47(5), pp.147-154.
- Cowan, J., 2006. *On becoming an innovative university teacher: reflection in action*, Maidenhead, UK: Open University Press.
- Crane, P. and O'Regan, M., 2010. *On PAR: Using Participatory Action Research to Improve Early Intervention*, Department of Families, Housing, Community Services and Indigenous Affairs, Australian Government, Canberra.
- Creative Review, 2013. EBacc threat to design removed in Gove U-turn. *Creative Review* [blog] 7 February. Available at: <<http://www.creativereview.co.uk/cr-blog/2013/february/ebacc-threat-removed-in-government-u-turn>> [Accessed 22 August 2014].
- Creswell, J.W., 2003. *Research design: qualitative, quantitative, and mixed methods approaches*. London: SAGE Publications Ltd.
- Creswell, J.W., 2013. *Qualitative inquiry and research design: choosing among five approaches*. Thousand Oaks, California: SAGE Publications Ltd.
- Creswell, J.W., 2014. *Research design: qualitative, quantitative, and mixed methods approaches*. Thousand Oaks: SAGE Publications Ltd.
- Crowther, P., 2013. Understanding the signature pedagogy of the design studio and the opportunities for its technological enhancement. *Journal of Learning Design*, 6(3), pp.18-28.
- Cseh, G.M., Phillips, L.H. and Pearson, D.G., 2014. Flow, affect and visual creativity. *Cognition and Emotion*, (March), pp.1-11.
- Cseh, G.M., Phillips, L.H. and Pearson, D.G., 2015. Flow, affect and visual creativity. *Cognition and Emotion*, 29(2), pp.281-291.
- Csikszentmihalyi, M., 1975. *Beyond boredom and anxiety: the experience of play in work and games*. London: Jossey-Bass.
- Csikszentmihalyi, M., 1992. *Optimal experience. Psychological studies of flow in consciousness*. Cambridge: Cambridge University Press.
- Csikszentmihalyi, M., 1998. *Finding flow: the psychology of engagement with everyday life*. New York: Basic Books.
- Csikszentmihalyi, M., 2002. *Flow: the psychology of happiness: the classic work on how to achieve*

- happiness*. London: Rider.
- Csikszentmihalyi, M., 2008. *Flow: the psychology of optimal experience*. New York: Harper Perennial Modern Classics.
- Csikszentmihalyi, M., 2013. *Creativity: flow and the psychology of discovery and invention*. New York: Harper Perennial.
- Dall'Alba, G., 2009. *Exploring Education Through Phenomenology: Diverse Approaches*. Chichester, UK: Wiley-Blackwell.
- Daniels, H., 2001. *Vygotsky and pedagogy*. London: Routledge/Falmer.
- Davidts, W. and Paice, K., 2009. *The fall of the studio: artists at work*. Amsterdam: Valiz.
- Davies, E., 2015. Meanings and mess in collaborative participatory research. *Literacy*, 49(1), pp.28-36.
- Dawkins, J.S., 1987. *Higher education: a policy discussion paper*. Canberra.
- Dearing, R. and National Committee of Inquiry into Higher Education (NCIHE), 1997. *Higher education in the learning society: summary report*, London: H.M.S.O.
- Dearstyne, H., 1986. *Inside the Bauhaus*. New York: Rizzoli Intl Pubns.
- Deci, E.L. and Ryan, R.M. eds., 2013. *Handbook of self-determination research*. Rochester, UK: University Rochester Press.
- De Groot, E., Endedijk, M., Jaarsma, D., van Beukelen, P., Simons, R.-J., 2013. Development of critically reflective dialogues in communities of health professionals. *Advances in Health Sciences Education: Theory and Practice*, 18(4), p.627.
- De Laat, M. and Lally, V., 2004. It's not so easy: researching the complexity of emergent participant roles and awareness in asynchronous networked learning discussions. *Journal of Computer Assisted Learning*, 20(3), pp.165–171.
- Deleuze, G. and Guattari, F., 1994. *What is philosophy?* New York: Verso.
- Delgado, M., 2015. *Urban youth and photovoice: visual ethnography in action*. Oxford: Oxford University Press.
- van Dellen, T. and Cohen-Scali, V., 2015. The transformative potential of workplace learning: Construction of identity in learning spaces. *International Review of Education*, 61(6), pp.725-734.
- Denscombe, M., 1998. *The good research guide: for small-scale social research projects*. Buckingham, UK: Open University Press.
- Denzin, N.K., 1997. *Interpretive ethnography: ethnographic practices for the 21st century*. London: SAGE Publications Ltd.
- Depraz, N., Varela, F.J. and Vermersch, P., 2003. *On becoming aware: a pragmatics of experiencing*. Amsterdam: John Benjamins Publishing Company.
- Dewey, J., 1936. *Experience and education*. New York: Macmillan.
- Dewey, J., 2009. *Art as experience*. New York: Perigee Books.
- Dick, B., 2007. What can grounded theorists and action researchers learn from each other? In: *The SAGE Handbook of Grounded Theory*. London: SAGE Publications Ltd. pp.370-388.
- Dick, B., Stringer, E. and Huxham, C., 2009. Theory in action research. *Action Research*, 7, pp.5-12.
- Drew, L., 2004. The experience of teaching creative practices: conceptions and approaches to

- teaching in the community of practice dimension. In: A. Davies, ed. 2004, *2nd CLTAD international conference, enhancing curricula: the scholarship of learning and teaching in art, design and communication in higher education*. London: CLTAD, pp.1-15.
- Droste, M., 2006. *Bauhaus: 1919-1933*. London: Taschen; Taschen 25th anniversary edition.
- Drozдова, E. and Gaubatz, K.T., 2016. *Quantifying the qualitative: information theory for comparative case analysis*. Thousand Oaks, California: SAGE Publications Ltd.
- Duarte, E.M., 2012. *Being and Learning: A poetic phenomenology of education*. Rotterdam: Sense Publishers.
- Dugdale, S., 2009. Space strategies for the new learning landscape. *Educause*, (March/April), pp.50-63.
- Educause, 2010. The future of higher education: beyond the campus. Available at: <http://www.educause.edu/library/resources/future-higher-education-beyond-campus> [Accessed 11 March 2014].
- Eisenhardt, K.M., 1989. Building theories from case study research. *The Academy of Management Review*, 14(4), pp.532-550.
- Eisenstein, E.L., 1980. *The printing press as an agent of change*. Cambridge: Cambridge University Press.
- Eisenstein, E.L., 2012. *The printing revolution in early modern Europe*. Cambridge: Cambridge University Press.
- Elliott, J., 1991. *Action research for educational change*. Buckingham, UK: Open University Press.
- Ellis, R.A. and Goodyear, P., 2016. Models of learning space: integrating research on space, place and learning in higher education. *Review of Education*, 4(2), pp.149-191.
- Ellmers, G.N., 2014. *Graphic design education: fostering the conditions for transfer in a project-based and studio-based learning environment, through a structured and critical approach to reflective practice*. PhD Thesis. Wollongong, Australia: University of Wollongong.
- Facer, K., 2011. *Learning futures: education, technology and social change*. Abingdon, UK: Routledge.
- Felicia, P., 2011. *Handbook of research on improving learning and motivation through educational games: multidisciplinary approaches*. Hersey, PA: IGI Global.
- Finlayson, B.G. and Hayward, D., 2010. Education towards heteronomy: a critical analysis of the reform of UK universities since 1978. *Labour*, pp.1-25.
- Fitzgibbon, K. and Prior, J., 2010. The changing nature of students' social experience within university. *Journal of Applied Research in Higher Education*, 2(1), pp.26-32.
- Fleischmann, K., 2014. Collaboration through Flickr and Skype: can Web 2.0 technology substitute the traditional design studio in higher design education? *Contemporary Educational Technology*, 5(1), pp.39-52.
- Flyvbjerg, B., 2006. Five misunderstandings about case-study research. *Qualitative Inquiry*, 12, pp.219-245.
- Fors, V., Bäckström, Å. and Pink, S., 2013. Multisensory emplaced learning: resituating situated learning in a moving world. *Mind, Culture, and Activity*, 20(2), pp.170-183.
- Frascara, J., 2004. *Communication design: principles, methods, and practice*. New York: Allworth

- Press.
- Freire, P., 1996. *Pedagogy of the oppressed*. London: Penguin.
- French, S., 2015. The Benefits and Challenges of Modular Higher Education Curricula. *Melbourne Centre for the Study of Higher Education*, the University of Melbourne. Available at: <http://melbourne-cshe.unimelb.edu.au/resources/occasional-papers> [Accessed 11 May 2017].
- Fry, H., Ketteridge, S. and Marshall, S., 2008. *A handbook for teaching and learning in higher education: enhancing academic practice*. London: Routledge.
- Fuglsang, M. and Meier Sørensen, B., 2006. *Deleuze and the social*. Edinburgh: Edinburgh University Press.
- Füssli, K.-H., 2006. Pestalozzi in Dewey's realm? Bauhaus master Josef Albers among the German-speaking emigrés' colony at Black Mountain College (1933-1949). *Paedagogica Historica*, 42(1-2), p.77-92.
- Gellerstedt, M., 2015. Work Integrated Learning - a Marriage Between Academia and Working Life. *Journal of Systemics*, 13(6), pp.38-46.
- Gendlin, E.T., 1996. *Focusing-oriented psychotherapy: a manual of the experiential method*. New York: Guilford Press.
- Gendlin, E.T., 1997. *Experiencing and the Creation of Meaning*. Illinois: Northwestern University Press.
- Gendlin, E.T., 2003. *Focusing*. London: Rider.
- Ghassan, A. and Bohemia, E., 2015. The global studio. *FORMakademisk*, 8(1), pp.1-11.
- Gianoncelli, T., 2013. Sounds of places between ethnography and education. *European Scientific Journal*. June, Special Edition No.2.
- Gibbs, G., Morgan, A. and Taylor, E., 1982. A review of the research of Ference Marton and the Goteborg group: A phenomenological research perspective on learning. *Higher Education*, 11, pp.123-145.
- Given, L.M. ed., 2008. *The SAGE encyclopedia of qualitative research methods*. Thousand Oaks, California: SAGE Publications Ltd.
- Glasgow School of Art, 2014. Communication Design. *Glasgow School of Art*, [online]. Available at: <http://www.gsa.ac.uk/study/undergraduate-degrees/communication-design/> [Accessed 5 April 2014].
- Goldblatt, P.F., 2006. How John Dewey's theories underpin art and art education. *Education and Culture*, 22(1), pp.17-34.
- Goldstein, C., 1998. *Teaching art: academies and schools from Vasari to Albers*. Cambridge: Cambridge University Press.
- Gómez, À.I.P., Fernández, M.S., Gómez, E.S., Mas, J.F.M., 2009. The impact of action research in Spanish schools in the post-Franco era. In: S.E.N. and B. Somekh, eds. 2009. *The SAGE handbook of educational action research*. London: SAGE Publications Ltd. pp.481-495.
- Google, 2016. *Google classroom*, [online]. Available at: <https://chrome.google.com/webstore/detail/google-classroom/mfhehppjhmmlfbbopchdfldjgmhfhfk?hl=en> [Accessed 16 September 2016].
- GoPro Inc, 2015. *World's most versatile camera | HERO4 black edition* [online]. Available at:

- <<http://gopro.com/>> [Accessed 29 May 2015].
- Gray, C. and Malins, J., 2004. *Vizualizing research: a guide to the research process in art and design*. Aldershot: Ashgate Publishing Limited.
- Gray, D.E., 2014. *Doing research in the real world*. Los Angeles, California; London: SAGE.
- Guba, E.G. and Lincoln, Y.S., 1981. Effective evaluation. *Evaluation*, 107, p.xxi, 423.
- Güler, K., 2015. Social media-based learning in the design studio: a comparative study. *Computers and Education*, 87, pp.192-203.
- Gumtau, S., 2011. *Affordances of touch in multi-sensory embodied interface design*. PhD Thesis. Portsmouth, UK: University of Portsmouth.
- The Guardian, 2015. Students worldwide fight back against commercialisation of universities. *Higher Education Network | The Guardian* [online] 20 April. Available at: <<http://www.theguardian.com/higher-education-network/gallery/2015/apr/20/students-worldwide-fight-back-against-commercialisation-of-universities-in-pictures>> [Accessed 12 November 2015].
- Hale, T., 2016. Meeting the yeti: learning about design ethnography and teaching anthropological habitus in a student-led project on “disconnection”. *Annals of Anthropological Practice*, 40(2), pp.207-218.
- Hall, J., 2010. Making Art, Teaching Art, Learning Art: Exploring the Concept of the Artist Teacher. *International Journal of Art & Design Education*, 29(2), pp.103–110.
- Halverson, C.A., 2002. Activity theory and distributed cognition: Or what does CSCW need to DO with theories? *Computer Supported Cooperative Work*, 11(1-2), pp.243-267.
- Hancock, D.R. and Algozzine, B., 2011. *Doing case study research: a practical guide for beginning researchers*. New York: Teachers College Press.
- Hand, L. and Bryson, C., 2008. *Student Engagement*. London: SEDA.
- Hannon, A., 2014. Fleeting occupations: the “studio” as an extension of psychological inhabitation. *Journal of Visual Art Practice*, 13(1), pp.50-60.
- Harris, G., 2017. Central Saint Martins creates temporary art school at Tate Modern. *The Art Newspaper*, [online] 9 January. Available at: <<http://theartnewspaper.com/news/news/central-saint-martins-pops-up-at-tate-modern/>> [Accessed January 11, 2017].
- Harris, M.E., 2002. *The Arts at Black Mountain College*, Cambridge, Mass.: MIT Press.
- Harrison, A. and Hutton, L., 2014. *Design for the changing educational landscape: space, place and the future of learning*. Abingdon, UK: Routledge.
- Hawkins, J.A., 2010. *A phenomenological exploration of feelings, thinking and learning: A practitioner action research investigation*. PhD Thesis. Manchester, UK: Manchester Metropolitan University.
- Hayton, A.R., Haste, P. and Jones, A., 2014. Promoting diversity in creative art education: the case of Fine Art at Goldsmiths, University of London. *British Journal of Sociology of Education*, 5692(January), pp.1-19.
- Heath, C., Hindmarsh, J. and Luff, P., 2010. *Video in qualitative research: using video psychological and social applications*. London: SAGE.
- Heidegger, M., 2006. *Mindfulness*. London: Continuum-3PL.

- Henshaw, V. and Mould, O.T., 2013. Sensing designed space: an exploratory methodology for investigating human response to sensory environments. *Journal of Design Research*, 11(1), pp.57-71.
- Heschong Mahone Group, 1999. *Daylighting in schools. An investigation into the relationship between daylighting and human performance*. Fair Oaks, California: Heschong Mahone Group.
- Hickman, R., 2009. *Research in art and design education: issues and exemplars*. Bristol: Intellect.
- Hidy, L., 2007. Calligraphy and letterpress in design education. *Printing History*, 2(2), p.3.
- Higher Education Statistics Agency Limited (HESA), 2017. *Higher Education Statistics for the UK 2005/06*, [online]. Available at: <<https://www.hesa.ac.uk/data-and-analysis/publications/higher-education-2005-06>> [Accessed 18 April 2017].
- Holl, S., Pallasmaa, J. and Pérez Gómez, A., 2006. *Questions of perception: phenomenology of architecture*. Tokyo: a + u Publishing.
- Howes, D., 1991. *Varieties of sensory experience: a sourcebook in the anthropology of the senses*. Toronto: University of Toronto Press.
- Howes, D., 2004. *Empire of the senses: the sensual culture reader*. Oxford: Berg Publishers.
- Howes, D., 2005. Skinscapes: embodiment, culture and environment. In: C. Classen, ed. *The book of touch*. Oxford: Berg Publishers. pp.27-40.
- Howes, D., 2012. Sensing the Unseen - Response. *Sensate Journal*, 2.0. [online] Available at: <<http://sensatejournal.com/2012/07/david-howes-sensing-the-unseen-response/>>.
- Howes, D., 2014. Introduction to sensory museology. *The Senses and Society*, 9(3), pp.259-267.
- Huber, J., Caine, V., Huber, M., Steeves, P., 2013. Narrative inquiry as pedagogy in education: the extraordinary potential of living, telling, retelling, and reliving stories of experience. *Review of Research in Education*, 37(March), pp.212-242.
- Huberman, A.M. and Miles, M.B., 1994. *Qualitative data analysis: an expanded sourcebook*. Thousand Oaks, California: SAGE Publications Ltd.
- Ikemi, A., 2005. Carl Rogers and Eugene Gendlin on the bodily felt sense: what they share and where they differ. *Person-Centered and Experiential Psychotherapies*, 4(1), pp.31-42.
- Ingold, T., 2002. *The perception of the environment: essays on livelihood, dwelling and skill*. London: Routledge.
- Ingold, T., 2011. *Redrawing anthropology*. Surrey, UK: Ashgate.
- Institute of Philosophy, School of Advanced Study, U. of L., 2014. *Grant news: IP CenSes awarded £2m AHRC large grant | Institute of Philosophy*, [online]. Available at: <<http://philosophy.sas.ac.uk/about/news/censes-awarded-2m-ahrc-large-grant>> [Accessed 28 July 2014].
- Itten, J., 1975. *Design and form: basic course at the Bauhaus*. London: John Wiley and Sons.
- Johnson, E., 2014. Letterpress lives on. *University Wire*. Uloop, Inc, Carlsbad.
- Jove, G., 2011. How do I improve what I am doing as a teacher, teacher educator and action-researcher through reflection? A learning walk from Lleida to Winchester and back again. *Educational Action Research*, 19(3), pp.261-278.
- Jury, D., 2011. *Letterpress: the allure of the handmade*. Hove, UK: Rotovision.
- Kant, I., 1781. *Critique of pure reason*. Available at: <[415](http://www.gutenberg.org/files/4280/4280-</p>
</div>
<div data-bbox=)

h/4280-h.htm>.

- Kara, H., 2016. *Creative research methods in the social sciences: a practical guide*. Bristol: Policy Press.
- Katz, V., Brody, M., Creeley, R., Power, K., 2013. *Black Mountain College: experiment in art*. London: MIT Press.
- Keiny, S. and Orland-Barak, L., 2009. Educational action research as a paradigm for change. In: S.E.N. and B. Somekh, eds. *The SAGE handbook of educational action research*. London: SAGE Publications Ltd. pp.166-178.
- Kemmis, S., McTaggart, R. and Nixon, R., 2014. *The action research planner: doing critical participatory action research*. Singapore: Springer.
- Kemp, D., 1999. *Proposals for reform in higher education*. Canberra: Australian Government.
- Kemp, S.E., Hollowood, T., Hort, J., 2009. *Sensory evaluation: a practical handbook*. Chichester: Ames, Iowa.
- Kensinger, K.M., 1991. A body of knowledge, or, the body knows. In: *The Gift of Feathers exhibition, The University Museum, University of Pennsylvania*. Pennsylvania: University of Pennsylvania. pp.37-45.
- Kentgens-Craig, M., 2000. *The Bauhaus and America: first contacts, 1919-36*. Cambridge, Mass.: MIT Press.
- Khan, S. and Van Wynsberghe, R., 2008. Cultivating the under-mined: cross-case analysis as knowledge mobilization. *Qualitative Social Research*, 9(1).
- Kilpatrick, W.H., 1914. *The Montessori system examined*. Cambridge, Mass.: Riverside Press.
- Knaub, A.V., Foote, K.T., Henderson, C., Dancy, M., Beichner, R.J., 2016. Get a room: the role of classroom space in sustained implementation of studio style instruction. *International Journal of STEM Education*, 3(1), p.8.
- Knox, J., 2014. Digital culture clash: "massive" education in the *e-learning and digital cultures* MOOC. *Distance Education*, 35(2), pp.164-177.
- Kolb, A.Y. and Kolb, D.A., 2005. learning styles and learning spaces: enhancing experiential learning in higher education. *Academy of Management Learning and Education*, 4, pp.193-212.
- Kolb, D.A., 1983. *Experiential learning: experience as the source of learning and development*. Upper Saddle River. New Jersey: Financial Times/ Prentice Hall.
- Koshy, E., Valsa, K. and Waterman, H., 2010. What is action research? *Action Research in Healthcare*, (2009), pp.1-24.
- Kozulin, A., Gindis, B., Ageyev, V.S., Miller, S.M., 2003. *Vygotsky's educational theory in cultural context*. New York: Cambridge University Press.
- Kraft, P. and Bansler, J.P., 1994. The collective resource approach: The Scandinavian experience. *Scandinavian Journal of Information Systems*, 6(1), Article 4.
- Kramer, L., Schwartz, P., Cheadle, A., Rauzon, S., 2012. Using photovoice as a participatory evaluation tool in Kaiser Permanente's community health initiative. *Health Promotion Practice*, 14(5), pp.686-694.
- Krueger, R. a, 2006. Analyzing focus group interviews. *Journal of Wound, Ostomy, and Continence Nursing: Official Publication of the Wound, Ostomy and Continence Nurses Society / WOCN*,

- 33(5), pp.478-81.
- Kurt, S., 2009. An analytic study on the traditional studio environments and the use of the constructivist studio in the architectural design education. *Procedia - Social and Behavioral Sciences*, 1(1), pp.401-408.
- Lane, S.J., 2002. Sensory modulation. In: A. Bundy, S.J. Lane, and E.A. Murray, eds. 2002. *Sensory Integration: Theory and Practice*. Philadelphia: F.A. Davis. pp.101-122.
- Larsson, J. and Holmström, I., 2007. Phenomenographic or phenomenological analysis: does it matter? Examples from a study on anaesthesiologists' work. *International Journal of Qualitative Studies on Health and Well-being*, 2(1), pp.55-64.
- Latta, M.M. and Kim, J.-H., 2009. Narrative inquiry invites professional development: educators claim the creative space of praxis. *The Journal of Educational Research*, 103, pp.137-148.
- Lave, J. and Wenger, E., 1991. *Situated learning: legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Leitch, R. and Day, C., 2000. Action research and reflective practice: towards a holistic view. *Educational Action Research*, 8(1), pp.179-193.
- Levin, D.M., 1994. Making sense: the work of Eugene Gendlin. *Human Studies*, 17(3), pp.343-353.
- Light, G., Cox, R. and Calkins, S.C., 2009. *Learning and teaching in higher education: the reflective professional*. London: SAGE Publications Ltd.
- Lillard, A.S., 2008. *Montessori: the science behind the genius*. New York: OUP USA.
- Lunenberg, M., Ponte, P. and Van De Ven, P.-H., 2007. Why shouldn't teachers and teacher educators conduct research on their own practices? An epistemological exploration. *European Educational Research Journal*, 6(1), pp.13-24.
- Lyon, P., 2011. *Design education: learning, teaching and researching through design*. Surrey, UK: Gower.
- Lyons, L., 2006. Walls are not my friends: issues surrounding the dissemination of practice-led research within appropriate and relevant contexts. *Working papers in Art and Design*, (4).
- Mahn, H. and John-Steiner, V., 2002. The gift of confidence: a Vygotskian view of emotions. In: G. Wells and G. Claxton, eds. 2002. *Learning for life in the 21st century: sociocultural perspectives on the future of education*. Oxford: Blackwell Publishing Ltd. pp.46-58.
- Malnar, J.M. and Vodvarka, F., 2004. *Sensory design*. Minneapolis: University of Minnesota Press.
- Manen, M. Van, 1990. *Researching lived experience: human science for an action sensitive pedagogy*. New York: State University of New York Press.
- Marginson, S., 2002. Nation-building universities in a global environment: the case of Australia. *Higher Education*, 43(3), pp.409-428.
- Marginson, S., 1998. The West Report as national education policy making. *The Australian Economic Review*, 31(2), pp.157-166.
- Mariano, C., 2000. Case study: the method. In: P. Munhall and C. Oiler Boyd, eds. 2000. *Nursing research. A qualitative perspective*. Sudbury, MA: Jones and Bartlett. pp.311-337.
- Marinetti, F.T., 2005. Tactilism. In: C. Classen, ed. 2005. *The book of touch*. Oxford: Berg Publishers. pp.329-332.
- Marshalsey, L., 2015. Investigating the experiential impact of sensory affect in contemporary

- communication design studio education. *International Journal of Art and Design Education*, 34(3), pp.336-348.
- Marton, F., 1986. Phenomenography: a research approach to investigating different understandings of reality. *Journal of Thought*, 21(3), pp.28-49.
- Marton, F., 2004. *Classroom discourse and the space of learning*. London: Routledge.
- Marton, F., 2014. *Necessary conditions of learning*. London: Routledge.
- Marton, F. and Booth, S., 1997. *Learning and awareness*. London: Routledge.
- Marton, F. and Pang, M.F., 2008. The idea of phenomenography and the pedagogy of conceptual change. In: *International handbook of research on conceptual change*. New York: Routledge. pp.533-559.
- Marton, F. and Pong, W.Y., 2005. On the unit of description in phenomenography. *Higher Education Research and Development*, 24(4), p.335.
- Massumi, B., 2002. *Parables for the virtual: movement, affect, sensation*. London: Duke University Press.
- McCarthy, S., 2013. *The designer as...: author, producer, activist, entrepreneur, curator, and collaborator: new models for communicating*. Amsterdam: BIS Publishers.
- McLean, R., 1980. *The Thames and Hudson manual of typography*. London: Thames and Hudson.
- McNess, E., Arthur, L. and Crossley, M., 2013. "Ethnographic dazzle" and the construction of the "other": revisiting dimensions of insider and outsider research for international and comparative education. *Compare: A Journal of Comparative and International Education*, 45(2), pp.222-295.
- McNiff, J. and Whitehead, J., 2006. *All you need to know about action research*. London: SAGE Publications Ltd.
- McNiff, J. and Whitehead, J., 2010. *You and your research project*. Abingdon, UK: Routledge.
- Meggs, P.B. and Purvis, A.W., 2011. *Meggs' history of graphic design*. New Jersey: John Wiley and Sons.
- Melhuish, C., 2010. *Ethnographic case study: perceptions of three new learning spaces and their impact on the learning and teaching process at the universities of Sussex and Brighton*. Unpublished report: CETLD/InQbate.
- Merleau-Ponty, M., 1962. *Phenomenology of perception by M. Merleau-Ponty; translated from the French by Colin Smith*. London: Routledge.
- Merleau-Ponty, M., 1964. The film and the new psychology. In: *Sense and Non-Sense*. Illinois: Northwestern University Press, p.64.
- Michael, G., 2008. The affective establishment and maintenance of Vygotsky's zone of proximal development. *Educational Theory*, 58(1), pp.83-102.
- Minogue, J. and Jones, M.G., 2006. Haptics in education: exploring an untapped sensory modality. *Review of Educational Research*, 76(3), pp.317-348.
- Mizuruchi, S.L., 2008. *The rise of multicultural America: economy and print culture, 1865-1915*. Chapel Hill: University of North Carolina Press.
- The Montessori Foundation, 2017. The Montessori Foundation. Available at: <<http://www.montessori.org/>> [Accessed 12 April 2017].
- Montessori Primary Guide, 2013. *montessori - sensorial – introduction*, [online]. Available at:

- <<http://www.infomontessori.com/sensorial/introduction.htm>> [Accessed 26 August 2016].
- Montgomery, A., 2012. Education in the age of rising fees and speed learning. *Design Week*, [online] 22 November. Available at: <<http://www.designweek.co.uk/industry-voice/education-in-the-age-of-rising-fees-and-speed-learning/3035627.article>> [Accessed 22 September 2014].
- Moodie, G., 2015. How different are higher education institutions in the UK, US and Australia? The significance of government involvement. *Higher Education Quarterly*, 69(1), pp.3-36.
- Moon, J.A., 2006. *Learning journals : a handbook for reflective practice and professional development*. London: Routledge.
- Moon, J.A., 2009. The use of graduated scenarios to facilitate the learning of complex and difficult-to-describe concepts. *Art, Design and Communication in Higher Education*, 8, pp.57-70.
- Mooney, C.G., 2000. *Theories of childhood: an introduction to Dewey, Montessori, Erickson, Piaget and Vygotsky*, Minneapolis: Redleaf Press.
- Moran, D., 1999. *Introduction to phenomenology*. New York: Routledge.
- Morgan, J., 2014a. Government grant letter delivers cut to university funding. *Times Higher Education*, [online] 10 February. Available at: <<http://www.timeshighereducation.co.uk/news/government-grant-letter-delivers-cut-to-university-funding/2011182.article>> [Accessed 22 August 2014].
- Morgan, J., 2014b. University financial health check 2014. *Times Higher Education*, [online] 17 April. Available at: <http://www.timeshighereducation.co.uk/story.aspx?storyCode=2012657> [Accessed August 12, 2014].
- Morrison, M., 2015. An invitation to create inspiring learning spaces. *Tech and Learning U6*, 35(7), p.42.
- Moszkowicz, J., 2009. *A re-evaluation of historical precedents in the age of new media*. PhD Thesis. Bristol: University West of England.
- Muhammad, S., Sapri, M. and Sipan, I., 2014. Academic buildings and their influence on students' wellbeing in higher education institutions. *Social Indicators Research*, 115(3), pp.1159-1178.
- Munro, K., 2016. Students take action against Sydney University over Sydney College of the Arts closure. *The Sydney Morning Herald*, [online] 13 September. Available at: <<http://www.smh.com.au/national/education/students-take-action-against-sydney-university-over-sydney-college-of-the-arts-closure-20160913-grf4jl.html>> [Accessed 18 September 2016].
- Murray, K., 1957. *Report of the committee on Australian universities*. Canberra, Australian Capital Territory: Government Printer.
- Musson, A.E., 1958. Newspaper printing in the Industrial Revolution. *The Economic History Review*, 10(3), pp.411-426.
- National Advisory Council for Art Education (NACAE), 1960. *First Report of the National Advisory Council on Art Education (First Coldstream Report)*, London: H.M.S.O.
- National Committee of Inquiry into Higher Education (NCIHE) (UK), 1997. *Higher education in the learning society: summary report*. Oxford, UK: Oxford University Press.
- Nichols, D., 2009. *Planning Thought and History*. Lecture, The University of Melbourne.
- Nimkulrat, N., 2007. The role of documentation in practice-led research. *Journal of Research Practice*, 3(1), p.M6.

- Noffke, S. and Somekh, B. eds., 2009. *The SAGE handbook of educational action research*. London: SAGE Publications Ltd.
- Norberg-Schulz, C., 1980. *Genius loci: towards a phenomenology of architecture*. New York: Rizzoli International Publications.
- Nussbaum, B., 2014. Design education in the post-digital age by John Maeda. *Design Management Review*, 25(4), pp.11-17.
- Otero-Pailos, J., 2010. *Architecture's Historical Turn: Phenomenology and the Rise of the Postmodern*, Minneapolis: University of Minnesota Press.
- Oxford Dictionaries, 2016. Oxford Dictionaries. *Oxford University Press*. Available at: <http://www.oxforddictionaries.com/> [Accessed July 29, 2016].
- Pallasmaa, J., 2009. *The Thinking Hand: Existential And Embodied Wisdom In Architecture*, Chichester: John Wiley and Sons.
- Pallasmaa, J., 2012a. *The Eyes of the Skin: Architecture and the Senses*, Chichester: John Wiley and Sons.
- Pallasmaa, J., 2012b. *Encounters: v. 2: Architectural Essays*, Helsinki: Rakennustieto Publishing.
- Parliament of Australia, 1989. *The Higher Education Contribution Scheme*, Parliament of Australia. Available at: http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/Publications_Archive/archive/hecs.
- Parsons The New School for Design, 2014. Visual Communication Design Major | Parsons The New School for Design. *Parsons The New School for Design*. Available at: <http://www.newschool.edu/parsons/bfa-communication-design/> [Accessed April 27, 2014].
- Pektas, S.T., 2012. The blended design studio: an appraisal of new delivery modes in design education. *Procedia - Social and Behavioral Sciences*, 51, pp.692-697.
- Perks, T., Orr, D. and Al-Omari, E., 2016. Classroom Re-design to Facilitate Student Learning: A Case Study of Changes to a University Classroom. *Journal of the Scholarship of Teaching and Learning*, 16(1), p.53.
- Pfaffmann, C. and Norgren, R., 1977. Sensory affect and motivation. *Annals of the New York Academy of Sciences*, 290(1), pp.18-34.
- Piaget, J., 1952. *The origins of intelligence in children*. New York: Norton.
- Piaget, J., 1954. *The child's construction of reality*. New York: Basic Books.
- Pigrum, D., 2007. The "ontology" of the artist's studio as workplace: researching the artist's studio and the art/design classroom. *Research in Post-Compulsory Education*, 12(3), p.291.
- Pink, S., 2001. *Doing visual ethnography: images, media and representation in research*. London: SAGE Publications Ltd.
- Pink, S., 2006. *The future of visual anthropology: engaging the senses*. Oxford: Routledge.
- Pink, S., 2008. An urban tour: the sensory sociality of ethnographic place-making. *Ethnography*, 9(2), pp.175-196.
- Pink, S., 2009. *Doing sensory ethnography*. London: SAGE Publications Ltd.
- Pink, S., 2014. Digital-visual-sensory-design anthropology: ethnography, imagination and intervention. *Arts and Humanities in Higher Education*, 13(4), pp.412-427.

- Pinnegar, S.J. and Daynes, G. eds, 2007. Locating narrative inquiry historically: thematics in the turn to narrative. In: *Handbook of Narrative Inquiry: Mapping a Methodology*. Thousand Oaks, California: SAGE, pp.3-35.
- Pole, C. and Morrison, M., 2003. *Ethnography for education*. Buckingham, UK: Open University Press.
- Portugali, N., 2006. *The act of creation and the spirit of a place: a holistic-phenomenological approach to architecture*. London: Edition Axel Menges.
- Powell, K., 2010. Making sense of place: mapping as a multisensory research method. *Qualitative Inquiry*, 16(7), pp.539-555.
- Powers, M.N., 2017. *Self-regulated design learning: a foundation and framework for teaching and learning design*. New York: Routledge.
- Pring, R., 2004. *Philosophy of educational research*. London: Continuum-3PL.
- Prosser, M. and Trigwell, K., 1999. *Understanding learning and teaching: the experience in higher education*. Buckingham, UK: Open University Press.
- Pushor, D. and Clandinin, D.J., 2009. The interconnections between narrative inquiry and action research. In: S.E.N. and B. Somekh, eds. 2009. *The SAGE handbook of educational action research*. London: SAGE Publications Ltd. pp.290-301.
- The Quality Assurance Agency for Higher Education (QAA), 2016. The Quality Assurance Agency for Higher Education (QAA). <http://www.qaa.ac.uk/>. [Accessed 5 October 2016].
- Ramaswamy, V. and Ozcan, K., 2014. *The co-creation paradigm*. Stanford, California: Stanford Business Books.
- Rappaport, L., 2013. Trusting the felt sense in art-based research. *Journal of Applied Arts and Health*, 4(1), pp.97-104.
- Rasila, H. and Rothe, P., 2012. A problem is a problem is a benefit? Generation Y perceptions of open-plan offices. *Property Management*, 30, pp.362-375.
- Reardon, S. and Tangney, B., 2014. Smartphones, studio-based learning, and scaffolding: helping novices learn to program. *ACM Transactions on Computing Education (TOCE)*, 14(4), pp.1-15.
- Reason, P. and Bradbury-Huang, H., 2005. *Handbook of action research*. London: SAGE Publications Ltd.
- Relph, E., 2008. *Place and placelessness*. London: Pion Ltd.
- Resnik, D.B., 2015. What is ethics in research and why is it important? *National Institute of Environmental Health Sciences*, [online] 1 December. Available at: <<http://www.niehs.nih.gov/research/resources/bioethics/whatis/>> [Accessed 25 September 2016].
- Reynolds, R., 2016. Defining, designing for, and measuring “social constructivist digital literacy” development in learners: a proposed framework. *Educational Technology Research and Development*, 64(4), pp.735-762.
- Richards, N (2011) *Realities Toolkit #17: Using participatory visual methods*. Report, University of Manchester, UK.
- Riddle, M.D. and Souter, K., 2012. Designing informal learning spaces using student perspectives. *Journal of Learning Spaces*, 1(2), n.p.

- Rieber, R.W. and Carton, A.S., 1987. The collected works of L.S. Vygotsky: problems of general psychology. *cognition and Language*, 1, p.396.
- Rigley, S., 2005. Thinking in solid air. Design educators are finding that letterpress nurtures creativity and visual abstraction. *Eye Magazine* [online], 59 (Autumn). Available at: <<http://www.eyemagazine.com/feature/article/thinking-in-solid-air>> [Accessed 16 March 2014].
- Rigley, S., 2011. Buying time. *Eye magazine* [online], 79 (Spring). Available at: <<http://www.eyemagazine.com/feature/article/buying-time>> [Accessed 11 August 2014].
- Robbins, L.R., 1963. *Higher education: report of the Committee on Higher Education*, London: H.M.S.O.
- Rodik, P. and Primorac, J., 2015. To use or not to use: computer-assisted qualitative data analysis software usage among early-career sociologists in Croatia. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 16(1), n.p.
- Rosenfield, M., 2011. Computer vision syndrome: A review of ocular causes and potential treatments. *Ophthalmic and Physiological Optics*, 31, pp.502-515.
- Rosenthal, T.G., 2006. *Josef Albers. formulation: articulation*. New York: Thames and Hudson.
- Roworth-Stokes, S. and Ball, T., 2015. The use of design case studies in design education. In: M. Tovey, ed. 2015. *Design pedagogy: developments in art and design education*. Surrey, UK: Gower Publishing Company. pp.181-210.
- Royal College Of Art, 2013. *MA Visual Communication Programme Specification 2013/14*, pp.1-10.
- Rudd, T., Gifford, C., Morrison, J., Facer, K., 2006. *What if... Re-imagining learning spaces*. Bristol: Granada.
- Russ, S.W., 1993. *Affect and creativity: the role of affect and play in the creative process*. Hillsdale, N.J: L. Erlbaum Associates.
- Russ, S.W., 1998. *Affect, creative experience and psychological adjustment*. Ann Arbor: Taylor and Francis.
- Rust, C., Mottram, J. and Till, J., 2007. *AHRC Research Review Practice-Led: Review of practice-led research in art, design and architecture*, Report, Arts and Humanities Research Council and Sheffield Hallam University, Sheffield, UK.
- Ryan, K., 2016. Creating collaborative learning spaces. *Tech and Learning*, 36(7), p.30.
- Ryan, R.M. and Deci, E.L., 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist*, 55, pp.68-78.
- Saghafi, M., Franz, J. and Crowther, P., 2012. Perceptions of physical versus virtual design studio education. *ArchNet-IJAR*, 6(1), pp.6-23.
- Salama, A.M. and Wilkinson, N., 2007. *Design studio pedagogy: horizons for the future*. Gateshead, UK: The Urban International Press.
- Saldaña, J., 2016. *The coding manual for qualitative researchers*. London: SAGE Publications Ltd.
- Saletnik, J. and Schuldenfrei, R., 2009. *Bauhaus construct: fashioning identity, discourse and modernism*. London: Routledge.
- Saltmarsh, S., Chapman, A., Campbell, M., Drew, C., 2015. Putting "structure within the space": spatially un/responsive pedagogic practices in open-plan learning environments. *Educational Review*, 67(3), pp.315-327.

- Sandbach, K., 2011. Graphic design and the aesthetics of place. *Iridescent-Icograda Journal of Design Research*, 1(2), pp.148-159.
- Sanders, E.B.-N. and Stappers, P.J., 2008. Co-creation and the new landscapes of design. *CoDesign*, 4(1), pp.5-18.
- Sanya, T., 2016. Participatory Design: An intersubjective schema for decision making. *International Journal of Architectural Research*, 10(1), pp.62-75.
- Sassoon, R., 2009. *The designer: half a century of change in image, training, and techniques*. Bristol, UK: Intellect.
- Satpute, A.B., Kang, J., Bickart, K.C., Yardley, H., Wager, T.D., Barrett, L.F., 2015. Involvement of sensory regions in affective experience: a meta-analysis. *Frontiers in Psychology*, 6, p.1860.
- Schön, D.A., 1971. *Design studio: an exploration of its traditions and potential*. London: RIBA Publications.
- Schön, D.A., 1984. *The reflective practitioner: how professionals think in action*. London: Basic Books.
- Schön, D.A., 1990. *Educating the reflective practitioner: toward a new design for teaching and learning in the professions*. San Francisco: John Wiley and Sons.
- School of Visual Arts, 2014. *School of Visual Arts | SVA | New York City*, [online]. Available at: <<http://www.sva.edu/attend-sva/undergraduate>> [Accessed 27 April 2014].
- Schwandt, T.A., 1994. Constructivist, interpretivist approaches to human inquiry. In: N.K. Denzin and Y.S. Lincoln, eds. 1994. *Handbook of qualitative research*. Thousand Oaks, California: SAGE. pp.118-137.
- Scott-Webber, L., 2004. *In sync: environmental behavior research and the design of learning spaces*. Michigan: Society for College and University Planning.
- Scott-Webber, L., 2012. Institutions, educators, and designers: wake up!: current teaching and learning places along with teaching strategies are obsolete-teaching styles and learning spaces must change for 21st-century needs. *Planning for Higher Education*, 41(1), pp.265-277.
- Scott-Webber, L., 2013. Optimizing informal learning spaces: ten tips for universities. *Getting Smart*, [online] August. Available at: <<http://gettingsmart.com/2013/08/optimizing-informal-learning-spaces-ten-tips-for-universities/>> [Accessed 27 November 2014].
- Scott-Webber, L., Abraham, J. and Marini, M., 2000. Higher education classrooms fail to meet needs of faculty and students. *Journal of Interior Design*, 26(2), pp.16-34.
- Scott-Webber, L., Branch, J., Bartholomew, P., Nygaard, C., 2014. *Learning space design in higher education*. Oxfordshire, UK: Libri Publishing.
- Scrivener, S.A.R., 2010. Transformational practice: on the place of material novelty in artistic change. In: M. Biggs and H. Karlsson, eds. 2010. *The Routledge companion to research in the arts*. Abingdon, UK: Routledge. pp.259-276.
- Scrivener, S.A.R., 2013. Towards a practice of novel epistemic artefacts. In: M. Schwab, ed. 2013. *Experimental systems: future knowledge in artistic research*. Leuven, Belgium: Leuven University Press. pp.135-150.
- Seamon, D., 1996. A singular impact: Edward Relph's place and placelessness. *Environmental and Architectural Phenomenology Newsletter*, 7(3 (Fall)), pp.5-8.

- Seamon, D. and Mugerauer, R., 2000. *Dwelling, place and environment*. Malabar, Australia: Krieger Publishing Company.
- Seo, M.-G., Barrett, L.F. and Bartunek, J.M., 2004. The role of affective experience in work motivation. *Academy of Management Review*, 29(3), pp.423-439.
- Serulnicov, A., 1999. *Piaget for beginners*. London: Writers and Readers Ltd.
- Sharman, I.J. and Patterson, Z., 2013. Not two weeks in a place tidying up the paper drawer. In: *2nd International Conference for Design Education Researchers* [online]. Oslo: DRS//Cumulus. Available at: <<http://iansharman.com/not-two-weeks/>>.
- Sharp, J.G., Hemmings, B. and Kay, R., 2016. Towards a model for the assessment of student boredom and boredom proneness in the UK higher education context. *Journal of Further and Higher Education*, 40(5), pp.649-681.
- Shaughnessy, A. and Brook, T., 2009. *Studio culture: the secret life of the graphic design studio*. London: Unit Editions.
- Shaw, M.P. and Runco, M.A., 1994. *Creativity and affect*. Norwood, NJ: Ablex Publishing Corporation.
- Shreeve, A., 2010. A phenomenographic study of the relationship between professional practice and teaching your practice to others. *Studies in Higher Education*, 35, pp.691-703.
- Shulman, L.S., 2005. Signature pedagogies in the professions. *Daedalus*, 134(3), pp.52-59.
- Van Sickle, J.R., 2016. Discrepancies between student perception and achievement of learning outcomes in a flipped classroom. *Journal of the Scholarship of Teaching and Learning*, 16(2), p.29.
- Simm, D. and Marvell, A., 2015. Gaining a “sense of place”: students’ affective experiences of place leading to transformative learning on international fieldwork. *Journal of Geography in Higher Education*, 39(4), p.595.
- Simonsen, J. and Robertson, T., 2013. *Routledge international handbook of participatory design*. Abingdon, UK: Routledge.
- Sims, E. and Shreeve, A., 2012. Signature pedagogies in art and design. In: N.L. Chick, A.H. Regan, and A.R. Gurung, eds. 2012. *Exploring more signature pedagogies: approaches to teaching disciplinary habits of mind*. Sterling, VA: Stylus. pp.55-67.
- Sin, S., 2010. Considerations of quality in phenomenographic research. *International Journal of Qualitative Methods*, 9(4), pp.305-319.
- Smith, J.A., Trinidad, S. and Larkin, S., 2015. Participation in higher education in Australia among under-represented groups. what can we learn from the Higher Education Participation Program to better support Indigenous learners? *Learning Communities : International Journal of Learning in Social Contexts*, (17), pp.12-29.
- Smith, S.C., 2013. Computer vision syndrome. *Insight (American Society of Ophthalmic Registered Nurses)*, 38, p.23.
- Stein, S.N., 2013. *Architecture and the senses: a sensory musing park*. PhD Thesis. Maryland: University of Maryland.
- Steiner, R., 1996. *The education of the child and early lectures on education*. Hudson. New York: Anthroposophic Press.

- Stenhouse, L., 1975. *An introduction to curriculum research and development*. London: Heinemann.
- Stewart, D.W. and Shamdasani, P.N., 1990. *Focus groups: theory and practice*. Thousand Oaks, California: SAGE Publications Ltd.
- Sullivan, G., 2009. *Art practice as research: inquiry in visual arts*. Thousand Oaks, California: SAGE Publications Ltd.
- Szebeko, D. and Tan, L., 2010. Co-designing for society. *Australasian Medical Journal*, 3(9), p.580.
- Tellegen, A., 1989. The emotional bases of personality. In: L. Clark and D. Watson, eds. 1989. *Symposium conducted at the meeting of the American Psychological Association*. New Orleans.
- Temple, P., 2008. Learning spaces in higher education: an under-researched topic. *London Review of Education*, 6(3), pp.229-241.
- Temple, P., 2014. *The physical university: contours of space and place in higher education*. Abingdon, UK: Routledge.
- The Josef and Anni Albers Foundation, 2016. Josef and Anni Albers, Teaching, Josef Albers, Chronology. Digital image. Available at: <<http://www.albersfoundation.org/teaching/josef-albers/chronology/overview/>> [Accessed 4 July 2016].
- Thistlewood, D., 1992. *Histories of art and design education: Cole to Coldstream*. Harlow, UK: Longman.
- Thomas, D.R., 2006. A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2), pp.237–246.
- Thrift, N., 2006. Space. *Theory, Culture and Society*, 23(2-3), pp.139-146.
- Tomal, D.R., 2003. *Action research for educators*. Oxford: Scarecrow Press, Inc.
- Tovey, M., 2015. *Design pedagogy: developments in art and design education*. Surrey, UK: Gower Publishing Company.
- Trahar, S., 2011. Changing landscapes, shifting identities in higher education: narratives of academics in the UK. *Research in Education*, (86), p.46-VI.
- Tuan, Y.-F., 1978. *Space and place: the perspective of experience*. Minneapolis: Minnesota Press.
- Turcotte, C.L., 2015. University trends: contemporary campus design. *Planning for Higher Education*, 43(3), p.80.
- Universities UK, 2016a. Higher education in numbers. Available at: <<http://www.universitiesuk.ac.uk/facts-and-stats/Pages/higher-education-data.aspx>> [Accessed 8 February 2017].
- Universities UK, 2016b. Universities UK statement on the outcome of the EU referendum. Available at: <<http://www.universitiesuk.ac.uk/news/Pages/statement-on-eu-referendum-outcome.aspx>> [Accessed 30 June 2016].
- University College Dublin, 2016. Education theory/Constructivism and Social Constructivism in the classroom. *Open Educational Resources of UCD Teaching and Learning*, [online]. Available at: <http://www.ucdoer.ie/index.php/Education_Theory/Constructivism_and_Social_Constructivism_in_the_Classroom> [Accessed 22 January 2017].
- University of the Arts London Central St Martins, 2014. *MA Communication Design*, [online].

Available at: <<http://www.arts.ac.uk/csm/courses/postgraduate/ma-communication-design/>>
[Accessed 22 September 2014].

- Varbelow, S., 2015. *Growing into the size of your feet: A narrative inquiry into the role early educational experiences play throughout life*. PhD Thesis. Texas: University-Corpus Christi.
- Varela, F.J., 1993. *The embodied mind: cognitive science and human experience*. London: MIT Press.
- Vaughn, M., Parsons, S.A., Kologi, S., Saul, M., 2014. Action research as a reflective tool: a multiple case study of eight rural educators' understandings of instructional practice. *Reflective Practice*, 15(5), pp.634-650.
- Vignoles, A. and Murray, N., 2016. Widening participation in higher education. *Education Sciences*, 6(2), p.13.
- Voegtle, E.M. and Macmillan, P., 2014. *Higher education policy convergence and the Bologna process: a cross-national study*. UK: Palgrave Macmillan.
- Vozzo, L., 2011. Shaping the professional identity of an educator through self-study. *Educational Action Research*, 19(3), pp.313-326.
- Vyas, D., van der Veer, G. and Nijholt, A., 2013. Creative practices in the design studio culture: collaboration and communication. *Cognition, Technology and Work*, 15(4), pp.415-443.
- Vygotsky, L.S., 1978. *Mind in society: the development of higher psychological processes*. Cambridge, Mass.: Harvard University Press.
- Waldrip, B., Yu, J.J. and Prain, V., 2016. Validation of a model of personalised learning. *Learning Environments Research*, 19(2), pp.169-180.
- Walter, E.V., 1998. *Placeways: a theory of the human environment*. Chapel Hill, North Carolina: The University of North Carolina Press.
- Wang, C. and Burris, M., 1997. Photovoice: concept, methodology, and use for participatory needs assessment. *Health Education and Behavior*, 24(3), pp.369-387.
- Warren, S., 2012. Having an eye for it: aesthetics, ethnography and the senses. *Journal of Organizational Ethnography*, 1(1), p.107.
- Watson, V.W.M. and Marciano, J.E., 2015. Examining a social-participatory youth co-researcher methodology: a cross-case analysis extending possibilities of literacy and research. *Literacy*, 49(1), pp.37-44.
- Webb, G., 1997. Deconstructing deep and surface: towards a critique of phenomenography. *Higher Education*, 33, pp.195-212.
- Weber, N.F., The Albers Foundation, Horowitz, F.A., Horowitz, F.A., Danilowitz, B., 2006. *Josef Albers: to open eyes: The Bauhaus, Black Mountain College, and Yale: At the Bauhaus, Black Mountain, and Yale*. London: Phaidon Press Ltd.
- Webster, L. and Mertova, P., 2007. *Using narrative inquiry as a research method: an introduction to using critical event narrative analysis in research on learning and teaching*. New York; London; Routledge.
- Wells, G., 2009. Dialogic inquiry as collaborative action research. In: S.E.N. and B. Somekh, eds. *The SAGE handbook of educational action research*. London: SAGE Publications Ltd. pp.50-62.

- Wells, K., 2011. *Narrative inquiry*. New York: Oxford University Press, Inc.
- Wenger, E., 2000. *Communities of practice: learning, meaning, and identity*. New York: Cambridge University Press.
- West, R., 1998. *Learning for life: review of higher education financing and policy: final report*. Canberra: Australian Government Publishing Service.
- Wetherell, M., 2012. *Affect and emotion: A new social science understanding*, Vancouver: SAGE Publications Ltd.
- Wetherell, M., 2014. Feeling rules, atmospheres and affective practice: Some reflections on the analysis of emotional episodes. In: C. Maxwell and P. Aggleton, eds. 2014. *Privilege, agency and affect*. Basingstoke, UK: Palgrave Macmillan, pp.221-239.
- White, I. and Lorenzi, F., 2016. The development of a model of creative space and its potential for transfer from non-formal to formal education. *International Review of Education*, 62(6), pp.771-790.
- White, M., 2009. The Industrial Revolution. *The British Library*, [online] 14 October. Available at: <<https://www.bl.uk/georgian-britain/articles/the-industrial-revolution>> [Accessed 15 September 2016].
- Wild, C., 2013. Who owns the classroom? Profit, pedagogy, belonging, power. *International Journal of Art and Design Education*, 3(32), pp.288-299.
- Wilson, S.E. and Zamberlan, L., 2017. Design pedagogy for an unknown future: a view from the expanding field of design scholarship and professional practice. *International Journal of Art and Design Education*, 36(1), pp.106-117.
- Wolcott, H.F., 1999. *Ethnography: a way of seeing*. Walnut Creek, CA: AltaMira Press.
- Wolcott, H.F., 2009. *Writing up qualitative research*. Los Angeles: SAGE Publications Ltd.
- Woolner, P., McCarter, S., Wall, K., Higgins, S., 2012. Changed learning through changed space: When can a participatory approach to the learning environment challenge preconceptions and alter practice? *Improving Schools*, 15, pp.1-14.
- Woolner, P., 2010. *The design of learning spaces*. London: Continuum.
- Yin, R.K., 2013. *Case study research: design and methods*. London: SAGE Publications Ltd.
- Zifcak, S., 2013. Johannes Itten, Bauhaus' master of color. *Kaufmann Mercantile*, [online]. Available at: <<http://kaufmann-mercantile.com/johannes-itten/>> [Accessed 30 June 2013].
- Zucker, D.M., 2009. Teaching research methods in the humanities and social sciences: how to do case study research. *School of Nursing Faculty Publication Series, Paper 2*, n.p.