

Designing my learning: Establishing my practice as an educational broker

Newcastle University

Vidya Sarangapani

Submitted in partial fulfilment of the requirements for the
degree of Doctor of Philosophy

School of Education, Communication, and Language Sciences

June 2020

Abstract

Voices of external practitioners do not seem to occupy a central position in educational discourses except maybe in some rare cases when the enquiry has been led by a practitioner. Initially, I was oblivious to this underrepresentation of practitioner voice. I had questions regarding the validity of my practice as I had assumed that my non-teacher status coupled with my intersectional identities within race and gender influenced the marginality of my role in the education system.

This thesis summarizes my journey that I have made from taking the outsider stance to that of an insider to reconceptualize my practice. I have moved from viewing my work on the outside, removing the self and marginalizing my role to that of acknowledging the ‘selves’ in the practice and looking inside by placing me in the center. The narrative that I provide is an ode to that tacit self which is no more a bystander but an active participant of my practice. Through my work I expand the knowledge on educational brokerage and the importance of context-aware and conscious brokers traversing diverse socio-cultural systems. I explore the role of ‘broker meta-awareness’, a form of knowledge of the self that supports brokers to become effective boundary crossers. I demonstrate the impact of such meta-awareness within educational brokerage mechanisms.

Using self-study action research methodology, I facilitated three action research cycles in three schools in two countries, India and England. Analyzing the data from the three action research cycles helped me to envision my practice from ‘margins and marginality’ to ‘boundaries and centrality’. Shifting my perception from ‘marginality’ to ‘centrality’ was possible because I was able to cross both imagined and real boundaries. Through a conscious brokerage approach I have been able to reconceptualize my practice and in the process have crafted a nuanced vocabulary to aid other educational brokers that could help them to revision their role and in turn their practice.

At the start of my research I viewed digital technologies as an external instrument that I could use as a tool to tackle an issue. Through this research I have come to appreciate the role of digital technologies to reshape and establish my broker practice where technologies have acted as boundary objects supporting the diverse boundary-crossings that I have undertaken.

Finally I would like to highlight the central role of personal agency within broker practice. Through my work I have been able to impact some of the social structures to ensure

learning is more joined up. Along with ecological agency, high levels of personal agency was employed to facilitate meaningful brokerage processes. Through this thesis I present an explicit form of brokerage where brokers who have meta-awareness of their role are able to strengthen their practice across diverse socio-cultural domains and in the process are able to impact student learning and teacher practice.

Acknowledgements

There are so many that I would like to thank, without whom my PhD journey would not have been complete.

First and foremost my grateful thanks to my supervisor Prof. David Leat for his sagacious inputs, patient hearing of my wild and wonderful concepts, stimulating my knowledge constructs and nurturing my new learning. As I always say ‘David puts the super in the supervisor’.

Thank you to Dr. Ahmed Kharrufa, my second supervisor whose support has strengthened my academic proficiency within HCI and education. Your guidance has been key for me to write and publish papers early in my academic career.

Thank you to Prof. Pete Wright for expanding my horizon with experience-centered HCI and for being unfazed by my unorthodox research approaches.

Heartfelt thanks to all my participant schools in India and England. Thank you for welcoming me with warmth and openness. You have impacted my learning and life in so many wonderful ways. Thank you all for showing me that schools can be places of enrichment for everyone.

My personal gratitude to the teachers Kate, Sussanah, Deeanne and Gandharvi who have shaped my practitioner experience for the better.

Thank you to the students that I have worked with in all the schools. You are the reason why I do what I do and why I love what I do.

Thank you to my fellow researchers at Open Lab. Our little chats in the kitchen, across the lab, in-between meetings, while walking past work-stations and much more have been invaluable. Those informal, impromptu exchanges always got me to think and reflect on my notions of knowledge and knowing. Special mention to Jan and Dalia, thank you for being there when I really needed someone.

Thank you to the academics at Open Lab and School of Education. Your invisible support and your enthusiasm to hear about my work often motivated me to do my best. You have taught me how a simple act of listening can shape excellent research.

A very special mention to my daughter Aarya, to whom I credit my personal and intellectual emancipation. She has helped me find the strength to carry on even during the most hardest of the times.

I wish to tell thank you to all the people that I have met through the course of my life. In some ways all those encounters have a helped me to be the person that I am today. A special thank you to my mother(Amma) and father(Appa) and to my sister and brother, Divya and Kanna. I wish to thank Arun for being a good father to our daughter, and to thank Harish and Saroja for their prayers and support. A special mention to all my mommy-friends who have helped me in so many ways by pitching in for child-care at various points so that I could fulfil my research undertakings. I am forever grateful to the eternal Kriya force for guiding me across through the known and unknowns.

This research was funded through the EPSRC Centre for Doctoral Training in Digital Civics (EP/L016176/1).

Dedication

To my daughter Aarya. Through you I live my childhood all over again. Through you I view everything with awe and innocence. Through you I celebrate life with hope and happiness.

Thank you for being my spiritual guide.

Abbreviations

AR – Action Research

RD – Research Diary

E/PBL- Enquiry/Project Based Learning

NMS – Newcastle Matriculate School

HT_NMS – Headteacher, Newcastle Matriculate School

DH_NMS – Deputy Head, Newcastle Matriculate School

Hum_NMS – Humanities teacher, Newcastle Matriculate School

Geo_NMS – Geography Teacher, Newcastle Matriculate School

Eng_NMS – English Teacher, Newcastle Matriculate School

Tech_Sup – Technical Support, Newcastle Matriculate School

INDUS – India United School

HT_INDUS – Head Teacher, India United School

DH_INDUS – Deputy Head, India United School

Eng_INDUS – English Teacher, India United School

Hist_INDUS – History Teacher, India United School

ICT_Sup – Computer Lab Assistant, India United School

WS – Wakefield School

DH_WS – Deputy Head, Wakefield School

HT_WS – Head Teacher, Wakefield School

Lang_WS – Language Lead, Wakefield School

Contents

<i>List of Figures</i>	<i>xi</i>
Chapter 1. Introduction	2
1.1. Overview of my thesis	2
1.1.1. My value system.....	3
1.1.2. Issues of Validity and Values	5
1.1.3. Potential Significance of my study	5
1.1.4. My claims to knowledge.....	7
1.2. Background	8
1.2.1. Evolution of my research questions	9
1.2.2. My multicultural upbringing.....	11
1.2.3. The evolution of my methodology	12
1.2.4. Technology and Cross-cultural learning	13
1.2.5. The start of my action research cycles.....	17
1.2.6. Key issues of my thesis	20
1.2.7. Preliminary Findings of my study	21
1.3. My Concerns	22
1.3.1. Working in schools as a practitioner	23
1.3.2. Tacit to Explicit	24
Chapter 2. Methodology	28
2.1. Introduction	28
2.1.1. Description	30
2.1.2. Marginality in the education system.....	32
2.1.3. Valuing my practice and my work	33
2.1.4. Moving towards a living theory of practice.....	34
2.1.5. Practical Considerations	35
Chapter 3. Research Design	43
3.1.1. Data Collection - Methods.....	47
Audio Files - Transcribed Text.....	48
Reflective Diary	48
Artefacts.....	48
Photographs.....	49
3.1.2. Data Analysis	49

Personal Reflection	50
Thematic Analysis	50
3.1.3. Potential significance of my research.....	Error! Bookmark not defined.
3.1.4. Rigour, Quality and Authenticity	51
3.1.5. Research Ethics: Permissions and Access	54
3.2. Conclusion.....	56
Chapter 4. Literature Review.....	58
4.1. Developing my conceptual frameworks.....	58
4.1.1. Values of voice.....	59
Marginal Voice	59
Minority Voice.....	61
4.1.2. Values of agency.....	63
4.1.3. The paradox of power	66
4.1.4. Brokerage and Boundary Crossing	66
4.2. Exploring contextual issues	70
4.2.1. Surface and Deep Learning.....	71
4.2.2. Cross-cultural learning in English curriculum	71
4.2.3. Computing in English curriculum.....	73
4.2.4. Enquiry and Project Based Learning.....	74
4.2.5. Technology and Cross-Cultural Learning.....	75
4.3. Conclusion.....	77
Chapter 5. Making PBL Work	79
5.1. Introduction	79
5.2. Identity	79
5.3. Practice	80
5.4. Project Based Learning.....	81
5.5. Community Curriculum	82
5.6. Technology, PBL and Deep Learning	83
5.7. Technology supported PBL and peer feedback.....	84
5.8. Digital Mysteries.....	85
5.8.1. Digital Content Creation Tools	85

5.9. Action Research Cycle 1	87
5.9.1. First steps	87
5.9.2. Face-to-face meetings	88
5.9.3. The activity before the activity.....	90
5.9.4. Observations	91
5.9.5. PBL Activity	92
Launch Assembly.....	92
The Activity	93
5.10. Conclusion.....	115
5.10.1. Critical Incidents	115
5.10.2. Making PBL Work.....	117
Resources	117
People	119
Risk.....	124
Chapter 6. Taking Risks	126
6.1. Introduction	126
6.2. Risk-taking and Trust	127
6.3. Culture	128
6.4. Technology, cross-cultural context and peer feedback	130
6.5. The Activity	132
6.5.1. Phase 1 - Activity in India	132
First Steps.....	133
6.5.2. Phase I - Activity in England.....	135
PBL activity at NMS	135
6.5.3. Phase II – Activity in India.....	137
PBL activity at INDUS	137
6.5.4. Phase I (continued) – Activity in England	161
PBL activity at NMS	161
6.6. Conclusion.....	167
Chapter 7. Becoming Explicit.....	173
7.1. Introduction	173
7.2. Literature Review	173
7.2.1. Critical consciousness.....	173

7.2.2.	Praxis	174
7.2.3.	Power	174
7.2.4.	Conscientisation	175
7.3.	The activity.....	176
7.3.1.	Early discussions.....	176
7.3.2.	PBL activity at Wakefield and NMS	177
7.4.	Conclusion.....	188
7.5.	Pedagogical Implications.....	191
7.6.	Guide chart - Factors impacting brokerage	192
Chapter 8. Empirical Study		195
8.1.	Changing practice	195
8.1.1.	Researcher Role.....	195
	The role of digital technology to support peer-feedback in cross-cultural context	196
	The role of digital technology to support deep learning in diverse cultural setting.....	198
8.1.2.	Practitioner Role.....	200
	Guide chart - Factors impacting brokerage.....	201
	Thematic Analysis	204
8.2.	Meta-Reflections	226
Chapter 9. Discussion		229
9.1.	Potential significance of my research	232
9.2.	From being to becoming	233
9.3.	Claims to knowledge within theoretical context	236
9.3.1.	Reconceptualising my role and my relationship with teachers and schools.....	236
9.3.2.	Reconceptualising my notions of values	237
9.3.3.	Reconceptualising importance of culture, communities and digital technologies	238
9.3.4.	Reviewing the quality of my research and practice	239
9.3.5.	Developing my own critical awareness	239
9.3.6.	Contributing to development of social good.....	241
9.3.7.	Contributions to knowledge.....	243
Chapter 10. Conclusion.....		247
10.1.1.	Impact on my practice	247
10.1.2.	Scope and Limitations.....	250

Ensure you reflect on the scope and limitations of your doctoral work, returning to the consideration of authenticity, rigour, quality and transferability. **Error! Bookmark not defined.**

10.1.3. New Lines of Enquiry **Error! Bookmark not defined.**

Discuss recommendations or possible new lines of inquiry, new questions, and new directions for future research, inspired by your thesis. **Error! Bookmark not defined.**

Appendices 253

Appendix 1 - Information Sheet..... 253

Appendix 2 – Participant Debrief..... 256

Appendix 3 – Student/Participant Consent Form..... 258

Appendix 4 – Parent/Guardian Consent Form..... 259

Bibliography 261

List of Figures

Figure 1: Participants at the design workshop.....	15
Figure 2: My ontological and epistemological framings.....	28
Figure 3: Examples of physical artefacts created by students.....	49
Figure 4: INDUS student employing her voice during peer- feedback.....	40
Figure 5: Comparative summary of different approaches to agency.....	64
Figure 6: The five types of brokerage mentioned by Gould and Fernandez (1989).....	67
Figure 7: Solo taxonomy sheet.....	95
Figure 8: Student project Migrantopoly, a board game.....	96
Figure 9: Students working in the computer lab.....	98
Figure 10: Students using ThoughtCloud application.....	99
Figure 11: Students creating videos for their projects.....	102
Figure 12: Projects produced by the students.....	106
Figure 13: Skills sheet to evidence students' learning on EPBL projects.....	110
Figure 14: Facilitating session independently. Students developing storyline.....	111
Figure 15: Open Day event at NMS.....	114
Figure 16: Timeline of AR Cycle 1.....	115
Figure 17: Cultural value comparison between England and India.....	130
Figure 18: Project work – Indian slum dwelling behind the railways.....	136
Figure 19: First meeting with INDUS students.....	138

Figure 20: Students and Eng_INDUS working on their paper mysteries.....	141
Figure 21: Morning rush hour	142
Figure 22: Skype meeting with NMS students.....	143
Figure 23:The short kurta that I wore to the school	144
Figure 24:Students working on their paper mysteries	145
Figure 25: Students in the ICT lab.....	145
Figure 26: Using my personal device to access internet for information.....	146
Figure 27: Left: My attire without dupatta;, Right: My attire with duppatta	148
Figure 28: Students working on their project models.....	148
Figure 29: Students working on their storyline	150
Figure 30:Workshop with teachers on ‘Entwining PBL within curriculum’	151
Figure 31: Students creating their digital mysteries using Thinking Kit.....	152
Figure 32: Rehearsal presentations with students.....	154
Figure 33: Permission note from HT_INDUS authorizing printing request	155
Figure 34: Students playing the board game that they created for the project	156
Figure 35:Handwritten feedback from INDUS students	156
Figure 36:e-Open Day between INDUS and NMS school.....	157
Figure 37:Completed project models by INDUS students	158
Figure 38:End of e-Open Day	158
Figure 39: Final goodbyes	159
Figure 40: Thank you cards from INDUS students	160
Figure 41: PBL space as imagined by Hum_NMS and Geo_NMS	162
Figure 42:NMS students solving INDUS generated mysteries	163
Figure 43: Feedback from INDUS student.....	164
Figure 44:NMS student response to the feedback from INDUS students.....	165
Figure 45: The end of the project at NMS.....	166
Figure 46: Timeline of AR Cycle 2	167
Figure 47: Working with Wakefield students. Lang_WS helping in the session.....	178
Figure 48: Wakefield Students working on their projects	179
Figure 49: Mining projects developed by NMS students	180
Figure 50: Project work developed by Wakefield Students	181
Figure 51: Open Day event with NMS and WS students along with community members	183
Figure 52: Timeline of AR Cycle 3	188
Figure 53: Male_D’s annotation that highlights his brokerage process guide chart	223

Figure 54: Male_A1's annotation that highlights his brokerage process guide chart223
Figure 55: Female_M's annotation that highlights her brokerage process guide chart.....224
Figure 56: Male_A2's annotation that highlights his brokerage process guide chart225
Figure 57: Female_R's annotation that highlights her brokerage process guide chart226

I

Introduction

Chapter I. Introduction

I.1.OVERVIEW OF MY THESIS

This is my story. Presented as a research thesis to explain my journey from being to becoming. It is my epistemological crossing from a categorical existence to a dialogical one. My claim is that I have now come to understand and acknowledge my practice for its unique and vital contribution to the English education system. As a researcher-practitioner I am now able to tap into my ontological, epistemological and pedagogical values that impact my practice. This learning has helped me to develop a deep respect for my practice especially in ways that I did not view or appreciate it before.

I use a personal tone throughout the thesis to present my integrity as a researcher just as I have sought to establish my integrity in my practice as an educational broker. This personal tone is a reflection of my attempt to capture my lived experiences in carrying out this research, which at times was very challenging but profoundly enriching. I have used self-study action research (McNiff, 2013) as a methodology as I found it best suited to explore my practice and understand its impact. I have come to realise the importance of self-reflexivity, the ability to being aware of one's intersection of social position, personal experiences and political and professional beliefs (Attia & Edge, 2017; Berger, 2015) alongside engaging in meta-thinking and meta-feeling whilst still being in the moment (Linn Nagata, 2004). Engaging in self-reflexivity meant that I was often prone to having a dialogue with myself on my experience, reflecting about my values and this process has helped me to make my presence visible in the research. My research did not provide me answers to all the questions that emerged but it did provide an enhanced understanding of my actions and a nuanced language to explain those actions. I particularly identified with living theory of practice (McNiff, 2007; Whitehead, 1989) and have offered my explanations for the choices I have made which then formed my living theory of practice. Through living theory (Whitehead, 2019b) I was able to focus my attention on my experiences and values that further gave meaning and purpose to me and my research.

My personal and professional life are independent yet inter-dependent. What I do in my professional sphere is an extension of my values, principles and ideas. My motivation to work with schools evolved organically as a result of my employment within a diverse arts charity where my primary role was to manage their socio-cultural inclusion, cultural diversity and arts-in-education portfolio. This thesis elucidates my journey of working with students in diverse

cultural contexts and documenting my experience as an external practitioner based outside the school's administrative and organisational ecosystem. By navigating through the system, I was able to influence equitable curriculum delivery during my research. I present the struggle that I underwent as I journeyed the system by critically reflecting and articulating on the question 'what is my practice?'. This critical reflection helped me to understand the role of (or the lack of) voice and agency in my work.

Critical reflection meant that I had to engage in a continuous process of action and reflection to view and review the choices that I made to impact my work. This process of action and reflection helped me to document the research process and aid my writing. Critical reflection raised my awareness of diverse socio-cultural narratives and historical discourses which in turn supported the development of my epistemological, ontological and pedagogical values and insights. As my writing expanded so did my learning about the education system and its various processes and policies. By discussing and debating on some of the implicit concepts about knowledge and knowing, I was able to arrive at a deeper and richer understanding of what I do, why I do it and how I could be effective in doing what I do.

As I journey through the thesis I provide context and concepts that have influenced my epistemological, ontological and methodological conundrums. I discuss the emergence of my living educational theory starting with my value system.

1.1.1. My value system

Values serve as reference points for people to formulate attitudes and behaviours (Rokeach, 1979) and they are trans-situational, desirable goals that serve as guiding principles in human lives (Sagiv, Roccas, Cieciuch, & Schwartz, 2017). Prior to conducting my research, I was oblivious as to how my values could influence my practice. Whilst values did guide and shape my behaviour and decisions, I was unable to recognize its significance in determining my professional role. Working on this research has helped to bring my ontological, epistemological and pedagogical values to foreground alongside providing me guiding frameworks to complete my thesis. The works of Jean McNiff (McNiff, 2019) and Jack Whitehead (Whitehead, 2019a) have also steered my thinking through my writing.

My living theory is rooted in my values that have in turn shaped my identity. Exploring my values helped me to understand and substantiate my research methodology, that of self-study action research (McNiff & Whitehead, 2009). This methodology embraces the harmony that exists between my work and my values. My practice is grounded in values of equality, inclusivity and creativity. It is by employing these values that I am able to generate knowledge

for myself and for people around me. I embody these values through my work ensuring that concepts take form through actions. In order to translate concepts into actions I had to first interrogate myself with the following questions.

- How are my values of equality, inclusivity and creativity embodied and translated in my practice?
- Why do I work within the context of cross-cultural learning?
- Why do I place the role of digital technologies central in my practice?
- How could I engage school leaders to understand why my values are important within school curriculum?
- Why do I feel that my practice is unclear, under represented and most importantly unacknowledged by the education system?
- Why am I not pursuing formal roles within the education system to embed my work within the curriculum?
- What do I endeavour for the students and teachers to learn through my interactions?
- What do I want them to retain in the long run?
- Why do I view technology as an intersection to embed cross-cultural learning?

This is just an indicative list of questions that I wanted to ask about my practice. In addressing these questions I hoped to evidence my engagement with critical pedagogies and present how my values have driven my practice and thus my claims to knowledge.

A key learning that I acquired as a result of this research was regarding notions of knowledge and its acquisition. Conventional beliefs regarding knowledge have been very categorical in nature. The knowledge and knower are classified as separate entities and much of this is due to the nature of existing hierarchies and power structures (Adelstein, 2007) within the education system. Through my work I wanted to challenge the existing centralised notions of knowledge and knowledge creation. More importantly, I wanted to bring about a sense of self-awareness in my role. I believe I have achieved this by understanding the role of critical consciousness (Freire, 1974) where individuals recognise their oppression and act to change their social condition. The development of my critical consciousness was made possible through reading, dialogue, reflection and action (Watts, Diemer, & Voight, 2011) and the process of my inquiry and documentation ably supported me in this activity. Using Freirean lens on praxis, power and conscientisation (Freire, 1970a, 1970b, 1974) I have been able to deconstruct the nature of my work and gain meaningful insights about my practice, and am now able to confidently situate my the work within the realms of educational brokerage.

1.1.2. Issues of authenticity and Values

Whilst I understood the need for authenticity, I still had issues as to how I would test my claim to establish authenticity. I realized that I needed a standard of judgment that would establish the worth of my practice and my claims to knowledge. I sensed that I needed to look at my value system to sort this conundrum. In translating my values into action through my practice I was converting the abstract into real that could further serve as my living standard of judgement (McNiff & Whitehead, 2005). I thus sought to establish authenticity by testing my claims to knowledge. I did this by engaging with academic literatures, educational research, engaging in discussions with colleagues, teachers and students, inviting critique from domain experts and peers and by publishing my work in the academic domain (Sarangapani, Kharrufa, Balaam, Leat, & Wright, 2016; Sarangapani, Kharrufa, Leat, & Wright, 2018). In fact I tested the authenticity of my brokerage claim by inviting critical feedback from other researchers on my claims to knowledge and my methodological rigour.

1.1.3. Potential Significance of my study

The reason I undertook this study was to demonstrate the (lack of) voice and agency of practitioners working at the periphery of the English education system. Engaging in self-study action research meant that practitioners like myself can now offer the documentation of our professional practice as living educational theories. This approach is well supported through literatures (McNiff, 2005, 2007; Whitehead & McNiff, 2006) and its impact in documenting and developing one's practice is also well recognized (McDonagh & Sullivan, 2017; Roche, 2011; Schön, 1992).

I found the educational living theory approach suited to my needs as the living theory is generated through one's lived practice (Whitehead, 1989). I knew that the work I do had the potential to impact personal and social change. In writing this thesis and placing it in the public domain I believe I have taken the step towards making a social impact. I have contributed to the growing body of work on educational change and I hope that my account would motivate and support other practitioners to reflect on their practice.

External practitioners who are not teachers or researchers need to be acknowledged and accepted as reliable educational researchers. As a practitioner and a researcher I would like it if my experiences contributed towards the advancement of educational practice and academic discourses. However, voices of external practitioners do not seem to occupy central position in educational discourses except maybe in some rare cases perhaps when the enquiry has been led by a practitioner. Initially I was oblivious to this underrepresentation of practitioner voice. As I progressed through

my research I started to wonder if this was due to systemic marginalization. By engaging in this research I was able to respond to some of those questions. Writing this thesis helped me to gain an awareness of my educational broker practice through which I began to challenge the system particularly its sanctification of centralized notions of knowledge creation.

My first encounter regarding centralized notions to knowledge creation particularly was within my research lab. I often had intellectual arguments with my peers regarding their positivist beliefs to objective and scientific research. Working within a technology lab meant that my colleagues were comfortable with the narrative that research within social science is less scientific, unreliable and imprecise as the research domain relies on practice rather than a tangible product. Lagemann (2000) seemed to echo my colleagues' concerns when she said that educational research would not fit the conception of either 'research' or 'science' and thus called this field educational scholarship or educational study.

Neither singular in focus nor uniform in methods of investigation, education research grew out of various combination of philosophy, psychology, and the social sciences, including statistics. The variety that has characterized educational scholarship from the first, combined with the field's failure to develop a strong, self-regulating professional community, has meant that the field has never developed a high degree of internal coherence. (Lagemann, 2000)

The prevalence of such thinking concerned me and I have raised these concerns across my thesis. Through critical engagement with academic literature (S. Ball, 2013) I have become aware how the combination of power and dominant discourses often dictates as to what constitutes knowledge thereby marginalizing non-conventional voices to the sidelines of educational and social scientific research. I challenge such hegemonies by raising my voice through my research and in doing so I offer motivation to other practitioners to challenge the status-quo that often defines what makes valid knowledge and knower.

The insights that I have developed are done so by engaging through 'messy' (Cook, 2009) research. When I started my enquiry I was very confident in my ability to carry out a self-study action research. Having conducted one, I realized how under-prepared I was. I recognized that my practice and knowledge are still evolving and that my values are tightly engaged in a dialogical relationship with my practice.

The significance of my thesis lies in my capacity to critically engage with my work which is evidenced through my personal and professional transformation. I started with doubts regarding what my practice is and what is that I really do. In time I realized that I was not externalizing my values as I did not acknowledge my voice or agency. I was of the opinion that I was inadequately equipped to be a part of the education system and in doing so I was diluting my values of inclusivity. In denying my practice the respect or acknowledgement I was denying

the capacity to impact the learning of students, teachers and the wider community members. Through this thesis I present evidence as to how, addressing the above issues has improved my understanding of my role and my work. In doing so I was also able to initiate the development of my consciousness and ensure that my actions and decisions are well-informed and conscious.

Looking into my practice, I address issues relating to marginality (Clifton, 1979; Hendry, 1975; Stonequist, 1935) and critique them to establish my voice and agency. I have now come to appreciate the transformative potential of personal agency (Vallacher & Wegner, 1989) and ecological agency (Priestley, Edwards, Priestley, & Miller, 2012) for teachers and students. In having acquired my voice and agency, I am now able to use it to engender social and educational impact.

1.1.4. My claims to knowledge

I present my claims as my contribution to educational practice and theory. I am now able to articulate my voice through my research to academic experts and school leaders. By developing my own living educational theory, I am now able to challenge centralized notions to knowledge generation. In developing my voice against the hegemony I am able to exercise my capacity to influence other practitioners. This is my original contribution, of generating my own living theory where I understand, establish and improve my practice. Developing my understanding is reified through my position as a conscious educational broker.

I test my claim to knowledge by using the standards of judgement that are rooted in values of equality, inclusivity and creativity. In testing my claim to establish its authenticity I also ask questions to myself like

- Have I engaged in critical reflection to further understand my practice?
- Have I learned and have I been able to evidence this learning?
- Have I transformed my practice by meaningfully engaging with values of equality, inclusivity and creativity?
- Have I articulated my account well so that it can contribute to the learning of those engage in broker practice?

The broad aims of my research can be summarised as

- Reconceptualising my understanding of what ‘broker practice’ means and my identity as an ‘educational broker’.
- Improving my broker practice by realising the values of equality, inclusivity and creativity in my practice.

- Developing the values of voice and agency for myself and for the teachers and students that I work with.
- Developing a community of enquiry for those working in broker practice by establishing a shared language for the practice

In order to realize my aims for the research I use action research methodology by adopting the critical questions raised by McNiff and Whitehead (McNiff & Whitehead, 2009).

- I review my current practice;
- I identify what is it about the practice (as a broker) that I wish to improve;
- I ask focused questions about how educational brokers can establish their worth;
- I imagine a way forward by planning a project with a school;
- I deliver the project and add any modifications if required as the action progresses.
- I evaluate the action;
- I reconsider my role as a broker and the broker-practice in light of the evaluation.

This thesis is organized into 10 chapters. Chapter 1, 2, 3 and 4 are concerning with the background to my research, the methodology used and contextual and conceptual literature frameworks. Chapter 5, 6 and 7 present the action-reflection cycles and my meta-reflection on the cycles. Chapter 8 provides the authenticity of my enquiry where I invite other practitioners to critique my claim to knowledge and Chapter 9 is the discussion chapter that provides critical reflections and rationale for my actions. Chapter 10 is the conclusion chapter. I would like to state here that writing in this thesis is a continuation of my action-reflection process and by making this work publicly accessible to everyone, I have tried to cross-examine the significance of my work.

1.2.BACKGROUND

This thesis is a reflective account of my work that I undertook for four years. A lot of the explanations regarding past actions and decision are presented in this thesis through my current wisdom. This wisdom emerged due to a lot of internal interrogations. I remember one conversation with my supervisor, Prof. David Leat, where I was being very critical of my work as I was unable to complete the writing within a certain timeframe. David replied ‘You could have completed it, only if you had the knowledge of today.’ His words were reassuring as I know that the account I am providing is through the wisdom and knowing of today. Whilst I do sometimes wish to have gotten to this place sooner whereby I could have identified my research

questions quicker and focussed my efforts early on. Nevertheless I am pleased that I got to do the learning that helped me to arrive at my research questions.

1.2.1. Evolution of my research questions

My research question evolved to address two issues,

- How do I establish my practice and my role as an educational broker?
- How do I develop a shared understanding of my practice so as to influence educational pedagogies and create opportunities for students, teachers and other practitioners to work in ways that nurtures their capacity to use their voice and agency?

This wasn't the initial direction of my research question. My initial approaches were motivated by the work that I undertook during my Master's degree (MRes) in 2015 and for my dissertation I chose to investigate the use of video technology by migrant communities to co-create and curate cross-cultural learning resources for schools (Sarangapani et al., 2016). This research was partly inspired by; my socio-cultural history of being born and raised in India , my experience of working in a south-Asian arts charity in England and, finally my experience in running an educational consultancy to embed international learning in schools in England. I worked as a creative practitioner in these job roles where I harnessed the power of arts to deliver workshops relating to equality and diversity. Submitting my dissertation with academic rigour towards the MRes degree guaranteed a place in the doctoral programme. The doctoral programme required me to situate the role of HCI (Human Computer Interaction) within educational settings and my interest to work with schools to embed cross-cultural learning through digital technologies thus found roots. Completing my MRes dissertation led me to question how my work is contributing to student learning and teacher practice. This wasn't the case when I started my MRes degree. At that point I subscribed to propositional logic (Ryle, 1949) where I viewed knowledge as a commodity that had to be deposited and regarded my actions separate from the remit of my research.

Back then I assumed that I was conducting research on my practice and if challenged, I would have argued that I was aware of my various 'I' positions (Bakhtin, 1981) and the dialogical relationship between them. It wasn't so. It is only now I realise that my epistemological stances were not clearly formed as I saw my researcher-self different from my practitioner self. I now understand that in order to appreciate what I was doing I had to first engage in a dialogic relationship with all my 'I' positions and recognize the tensions that existed between the 'I' positions. It was the dialogical engagement (Wegerif, 2008) that helped me with

my reflective writing process and aided in the sense-making of my work both to myself and to those interested in my research idea.

As a researcher, I was based within a HCI lab and at the start of my PhD I naturally followed precedence that was established in the lab i.e. understanding and evaluating the role of technology to impact human experiences. At that point I was oblivious to that fact that I was relegating my practice to the background. In fact I felt so uncomfortable to discuss my practice, that I deliberately chose to ignore my practitioner-self and focused only on my researcher-self. I felt that concentrating on my practice would make the research about me and I felt awkward about this aspect. I was unaware of the dialogical nature of relationship that I could hold with my various selves, the knowledge that I can create, or the link that exists between my practice and theory. This ignorance made it difficult for me to explain my ideas regarding my research and my practice. As I reflect on my early field notes I see that my thinking was focused on the situations outside rather than on my practice. Several entries in my diary strike a note where the reflections correspond to what the teachers and students said, thereby taking an outsider stance (Nakata, 2015) to the event taking place. The reflections were about what they said and did rather than what I thought, felt or did in response. At that point I did not engage in critical reflection or discuss the issue at hand and hence the observations appeared to be removed from my practice. I could also notice that I used my voice to record and describe the action of others. As I was not employing my critical thinking I was not asking critical questions such as ‘why was I insistent in entwining my work within curricular learning?’ ‘Why did I often engage in conversations with that teachers regarding their views on the project?’ I see myself asking these questions now as I have realized that my decision then did not resonate with my values and neither was I wielding my voice and/or agency. The gap that exists between our value positions and our behaviours stops us from realizing who we are and who we wish to be. I externalized this quandary at that point and I exhibit it as we go along in the thesis.

One reason for such disengagement was my inability to critically engage with literatures at the start of my research life. I used literatures to report the thinking of others as opposed to using it to activate my thinking. I have now realized the difference and I am now able to engage critically with literatures and theories and arrive at my own inferences.

As we progress through this thesis I will be able to demonstrate the emergence of my critical competencies. Prior to doing that I would like to establish the context as to why I had accepted underlying assumptions as givens and not employed my critical competencies. I begin this with my student experience that is entwined to my multicultural identity.

1.2.2. My multicultural upbringing

I begin with my upbringing and schooling as it is in these crucial years that thinking is honed and formed. My early life was in India, a country that vigorously subscribes and promotes rote approaches to learning (Nayak, 2018). Learning through this system meant that students were never encouraged to employ their critical thinking skills. I suspect this contributed to the development of my categorical thinking (Florian & Rouse, 2009) where differences were often viewed and assumed to be predictive of difficulties. I carried this thinking into my adulthood even as I started my work as an educator in England.

An incident that highlights the apathy in the Indian education system was when I was 11 years old. I was taken ill and had to miss school for a week. When I returned I realised that I needed help in my math lessons and approached the math teacher for help. Her reply was ‘You missed the class, it is your fault. You must try and learn it in your own time’. This was one of the earliest instances I recall when I used my voice. The socio-cultural system in India relies on values of patriarchy to keep powerless voices silent. Disagreement is conflated with disrespect and power structures ensure that only selective voices have a platform to speak.

My cultural upbringing in India also influenced the formation of my identity and the development of my values. Growing up in India provided plentiful opportunities to mix and mingle with those who are different, embrace the differences, and celebrate the similarities. But using your voice to ask questions about inequality was frowned upon, especially from those who were considered less equal. Women, children and the disadvantaged fell into this category. I consider myself to be a trailblazer for I would often challenge prevalent patriarchal thinking and ask questions regarding the injustice that was meted out to me because of my gender. Be it personal choices like opting to wear a piece of clothing or the professional aspiration to do something unconventional, I always tried to challenge status-quo by using my voice and staying true to my values.

Whilst I don't wish to portray myself as a victim of repressive culture, the truth is that patriarchal systems do not engender critical thinking. I believe that the oppressive educational and social cultures denied me the learning that I could have accessed in my growing years. The development of categorical thinking (Langhe & Fernbach, 2019), issues with marginality of my role as a creative practitioner in schools (Stonequist, 1935), hesitance to critique academic experts, all of this stems from my internalised oppression (Pheterson, 1986) that I faced growing up. Pheterson's (ibid) writing summarises my experiences aptly.

Internalized oppression is the incorporation and acceptance by individuals within an oppressed group of the prejudices against them within the dominant society. Internalized oppression is likely to consist of self-

hatred, self-concealment, fear of violence and feelings of inferiority, resignation, isolation, powerlessness, and gratefulness for being allowed to survive. Internalized oppression is the mechanism within an oppressive system for perpetuating domination not only by external control but also by building subservience into the minds of the oppressed groups.

Freire's writing on internalised oppression (Freire, 1970a) brings out the notion of 'identification with the oppressor' where the oppressed's image of what a 'full humanity' looks like is based on the oppressor. This is the reason why the oppressed adopt the ways and thinking of the oppressor. The oppressed have '*internalised the image of the oppressor and adopted his guidelines*' to conduct their lives. My personal form of '*internal oppression*' relates to self-doubt, feelings of intellectual inferiority, powerlessness and gratefulness for being allowed to express myself. All through my growing years I found it important to receive validation and acknowledgement for my behaviour, thinking and doing. I carried this dependency in my professional life too. I was anxiously seeking validation, for someone to value my practice and my work. In the absence of this validation I resigned to the notion that my practice was inferior when compared to the work of the teachers and that the educational frameworks and theories used by teachers to impact student learning were far superior than my practical and experiential knowledge.

1.2.3. The evolution of my methodology

I started my research to find the missing jigsaw in my practice. I hoped that engaging in self-inquiry will help me to find words to explain what I do. From experience I knew that the creative workshops that I was delivering through my education consultancy was impacting students. I noticed students enthusiastically participating in the workshops and intently engaging with the learning materials. But I was not sure what is it about my practice that makes it work and how it could be improved. I was keen to contribute to academic discourses and educational debates regarding learning approaches so that my work could be taken seriously by decision makers and policy specialists but was unable to articulate the benefits to educators.

I thus began my research initially looking at my educational and epistemological values. I undertook readings on feminism (Adichie, 2014; Whipps & Lake, 2020), feminist HCI (Bardzell & Bardzell, 2011) and post-colonial HCI (Irani & Dourish, 2009; Irani, Vertesi, Dourish, Philip, & Grinter, 2010; Philip, Irani, & Dourish, 2012) to understand how my values fuel my practice. The readings in areas of feminism and post-colonialism easily fed into my work through peer interactions and by understanding the work of my colleagues who were working within diverse areas, through the lens of HCI. My initial interest in feminist ontology

started out of curiosity, but as I started reflect on the readings, I began to embrace its offerings. I would like to highlight that reading Adichie's (Adichie, 2009) work had a significant impact on the way I formed my thinking and my arguments. In her TED talk (ibid) Adichie warns about the dangers of reducing complex human lives and experiences into a single narrative and the issues of such narratives becoming dominant and normalised. Feminist readings were thus helping me to develop an internal dialogue, to recognise what I believe and to develop a voice to articulate my emotions and values. In this thesis I particularly use the framework of pragmatist feminism (Sullivan, 2002; Sullivan & Tarver, 2019; Whipps & Lake, 2020) as an ontological lens to understand and execute my research work.

Simultaneously my conversations with David motivated me to think critically and interrogate my values. Concurrently I was reading several literatures which helped me to recognise that values of equality, inclusivity and creativity which were central to my personal and professional life. The evolution and crystallisation of these values can be found in chapters 5, 6 and 7. Working and interacting with my colleagues in my HCI research lab enhanced my critical thinking abilities as I was engaging in intellectual debates about my practice. Writing my thesis further opened up my thinking to look at my practice in a nuanced manner.

1.2.4. Technology and Cross-cultural learning

My first experience working as a practitioner in schools was through a south-Asian arts charity where I was first employed. The remit of my role was to schedule artists to deliver art workshops in schools and when possible assist the artist in the workshops. The creative workshops were designed to develop an understanding of the diverse cultural communities and schools embraced these workshops as it enriched student learning and fulfilled Ofsted requirements. In parallel, schools were also developing international links with educational institutions in other parts of the world through British Council projects (Hunt, 2012) and they were using art workshops to deepen their links with their international partners. British Council projects were sought after by schools as they positively impacted Ofsted inspections for offering first-hand experiences of multi-cultural learning. I worked in the charity for five years and then moved to start my own educational consultancy. I enjoyed designing creative projects for young people and thus decided to focus my efforts in delivering services to embed international learning and creative curriculum in schools.

Embarking on the doctoral study was an organic progression as I was at cross-roads trying to make sense of what is my practice and how to meaningfully engage school leaders, teachers and policy makers through my work. The doctoral programme seemed to offer practical

opportunities to test my ideas and concepts and engage critically with my practice and I was excited about the prospects. The first year of the doctoral programme comprised of MRes degree. It was during my MRes dissertation that I came across terms such as 'educational brokerage' and 'broker practice' which swayed my curiosity to revisit my practice and reflect on my role and my work.

My MRes dissertation was the groundwork that I did in order to start my doctoral research. Le Dantec (Le Dantec & Fox, 2015) talks about the 'work before the work' and emphasises on the importance of making work visible as it is the 'work that keeps the work going'. I had not considered my practice in these terms and by reading relevant academic literature I could see the richness and meaning nestled within my practice. My MRes dissertation explored to recognize the role of digital technologies to support communities to curate cross-cultural resources for schools. The use of digital technology was vital within my research as my doctoral research was funded through EPSRC (Engineering and Physical Sciences Research Council) Digital Civics programme. The Digital Civics (Open Lab, 2014) programme is an interdisciplinary research activity that seeks to understand the role of digital technologies to support civic engagement of individuals and communities. As I progressed through my research I realised that I could harness the potential of digital technologies to attract school leaders and sustain the interest of teachers and students and embed my work within curriculum

My MRes dissertation was the first academic research project that I had worked on and was thus using unconventional methods to structure my research. This generated a lot of scepticism from my MRes supervisors. I was disappointed to hear their reservations but was unable to communicate the rationale for my choices or its value offering at that point. In hindsight I would like to put this down to lack of shared language to articulate the benefit. I was unable to use my voice, literally and figuratively. However I knew that this project had potential to assist schools and communities and thus carried on working on this project with doubts looming around the validity of my research design.

As a first step, I contacted a local charity, LearnWell and sought their help to recruit participants for my activity. LearnWell supports the learning needs of ethnic minority children by organising homework clubs, afterschool clubs, holiday clubs in the west end of Newcastle. I volunteered at the charity for one month to familiarise myself with students and parents. I distributed information flyers to the parents and invited them to an open morning to learn more about the project. Unfortunately this approach did not yield any response. As I was running out of time, I decided to tap into my networks to recruit migrant families with school-going children

to take part in my research and was able to find four families who agreed to take part. My next step was to identify schools and requested the families to introduce me to their child's school head. I took this approach as I was interested to find out how schools; managed parental engagement, responded to community engagement initiatives and, received new ideas suggested by parents. Three out of four families found it easy to organise this meeting. I had to intervene with the fourth school to organise the meeting.

At the meeting with the school heads, I discussed the ethos of the project and requested the heads to review the materials produced by the families and provide feedback. The next step was to bring the families together for a design workshop and brief them on the goals of the activity. I talked about the activity and requested the family members to capture everyday cultural instances as it takes place in their lives using the video capturing app Bootlegger (Schofield, Bartindale, & Wright, 2015).



Figure 1: Participants at the design workshop

As my MRes research continued I updated my supervisors on the progress who were still unconvinced about the activity especially the curation of everyday cultural instances that takes place within homes. My then lead supervisor asked me, 'Vidya but why would anyone give you such personal information?' I could not alleviate my supervisor's scepticism then and felt very unsupported. As I reflect on this incident I realise that one reason for my inability to use my voice and articulate my choices to my supervisor then, was due to my categorical thinking and the perceived marginality of my role. My supervisor felt the data required for the project were very personal and this could dissuade participants from engaging in the activity. What she was unaware was the relationship that I had with my participants. With over a decade of experience working with migrant communities and education providers I had built trust with my participants. I knew that this would aid me to complete my activity but I was unable to express this then. Reflecting on this episode helped me to acknowledge my inability to articulate when

questioned is actually linked to my internal oppression where I felt that my supervisor has more academic experience and status and thus must not be challenged.

This activity also helped me to understand how open the schools were, especially when new ideas were suggested by non-experts and community members. An interaction with one school, Martin Hall Primary, stands out. In my phone call to the school, the receptionist accused me of being rude as she felt that I was bothering her for a meeting to discuss the project. The parent had warned me regarding the unfriendly reception staff at the school. This episode helped me to understand my tenacity to stay calm during difficult situations. At that moment in time, I did not realise the importance of this incident. Later on, as I reflected on the incident, I realised that the tacit nature of my work like my personality, my approaches to conflict were some of the factors that made my work unique and exciting to students and teachers. I would not have acknowledged this earlier but through critical reflection I am now able to embrace the importance of tacit work enthusiastically. The remaining three schools, Newcastle Matriculate School (NMS), Rudy Hill Primary and Fallswell Primary invited me into their schools and actively engaged with my ideas. The involvement of schools revealed their attitude to parental engagement and their approaches to explore innovation in curriculum delivery.

My MRes dissertation highlighted the importance of communities as social and cultural assets for schools. My heritage and background helped me to empathise with my participants' notions to norms, traditions and beliefs along with their fears, anxieties and worries. Families invested their faith in me and opened up their personal spaces and lives by documenting their cultural lives using the suggested digital technologies. In turn I ensured that their narratives are presented without 'exotification'. In fact I remember one family specifically stating that the only reason they are doing this project is because I am involved in it. At the end of the activity I took the videos created by the families and showed it to the school heads. The heads provided feedback and appreciated the efforts that went into the activity. The headteacher of NMS was very supportive and her enthusiasm caught my attention. In fact the headteacher even went as far to use the resources in the classroom. I realized that NMS teachers and the school heads were invested in the ethos of the topic and consequently approached them requesting their partnership in my doctoral research activity. NMS agreed to the proposal and I discussed my ideas in running a technology-mediated cross-cultural activity to engage wider group of students and families. The school heads agreed to that as they believe that interactions with families and communities would not only help the school with their curriculum delivery but would also aid students to transition easily into higher education and/or working life. This approach resonated to the theory of local learning ecologies (Hodgson & Spours, 2013) which I was keen to

understand as to how different components of the community could support and influence student learning and teacher practice.

Through my MRes research activity, I believed that I was externalizing my values by encouraging my research participants to use their voice and agency. In trying to think how my participants are engaging with their voice and agency I assumed that I was developing my practice. However it was only after the completion of my dissertation that I became aware of my outsider stance, of being a spectator in my own research. I realized that in order to develop my own living theory of practice I must first develop my capacity for critical thinking. This meant that I must first explore my own thinking and my first step towards that process was to identify and establish my epistemological and ontological values. I discuss my ontological and epistemological stances in the next chapter.

As I embarked on my PhD research, I started to first familiarize with the critical educational literatures.. Conversations with David and the willingness of NMS to work as my research partner in my doctoral programme motivated me to think more about my practice in terms of educational brokerage and broker practice.

1.2.5. The start of my action research cycles.

In this section, I would like to explain how I set about researching my practice by giving a brief introduction about the three action research cycles. The three phases lasted from 2015-2018.

My first action research cycle lasted from Sep 2015- June 2016 and was carried out at NMS. In this cycle I focused on understanding the influence of context in my practice. I designed this research cycle to understand the various challenges that a researcher has to navigate when delivering a technology-supported PBL (Project Based Learning) activity in schools. Through meetings with the headteachers, subject heads and my supervisors, a preliminary plan about the PBL activity was created. All stakeholders agreed that the activity would be a co-curricular in nature, delivered within History and Geography lessons using the topic 'Migration'. We agreed to use the digital tools Digital Mysteries (DM) (Kharrufa, Leat, & Olivier, 2010b) and Thinking Kit (TK) ("Thinking Kit," n.d.) as a part of the activity. The rationale for selecting this digital application is discussed later in the chapters.

Another motivating reason to work through action-research cycles was because I wanted to move away from trying to fit my practice into a fixed framework, to that of a critical practice, where I wished to see my work as something that is evolving and one that reflects my personal and educational values. I knew that this would be a complex undertaking but one that required doing and I knew that working on this research would help me to answer the question 'What is it

that I actually do?’ I chose PBL approaches for its socio-constructionist outlook and action research approach for its focus on iteration and action. I was initially concerned with my limited grounding in using PBL approaches and to some extent even the use of action research methodology. However my experience delivering my MRes project injected a sense of confidence in me to work on a PBL activity. Simultaneously I was also reading literatures relating to action research and was developing a deeper philosophical understanding for my decisions which further strengthened my conviction to engage in action-research methodology.

The first action research cycle focused to embed a technology mediated PBL activity using culture as context. I was also exploring the processes required to roll-out such a project in a school and understanding the institutional, personal and technological challenges that one faces whilst making it happen. My data indicates that for a new project to work well in schools three components were crucial; people, resources and risk. However I sensed that I was operating with an outsider stance and decided to critically examine my role in my second action research cycle by exploring the nature of risk.

The second action research cycle took place between Oct 2016- Apr 2017. In this cycle I could detect a faint emergence of my understanding of my practice as I probed my epistemological and ontological perspectives. In this cycle, I explored the nature of risk and undertook some risks to establish my role. I pushed boundaries in some places and in others I crossed them. This cycle took place in two different locations across two different cultural contexts, India and England. Working in diverse cultural contexts helped me to experience new dimensions of learning. I show episodes of my learning by reflecting on interactions with both teachers, students and the extended community members. The reflection processes are presented in this chapter to evidence my evolving pedagogical values. It also got me to think about two aspects; educational brokerage and factors that influence brokerage processes. I specifically reflected on the nature of my work that involved working across two cultures. Doing so helped me to recognize the importance of values and how I could employ my values to inform my dialogical thinking (Wegerif, 2008).

The third and final action research cycle lasted from Sep 2016 to July 2017. In this cycle I re-evaluated my assumptions of the things I knew and came to realize that a large part of my work is delivered through tacit actions. The hidden nature of my work meant that I either ignored the tacit nature or took it for granted. In this final cycle, I have tried to embody the tacit through a guide chart in order to make tacit explicit. Applying Freirean lens of critical consciousness (Freire, 1974), I transposed his ideas of socio-political and cultural contexts among farmers in Brazil to that of my practice working within the education system in England

today. Freire's work can be used for the oppressed and under-represented everywhere, and can be decoded and appropriated to diverse contexts. Particularly the English state education system comprises of the very rich, very poor, the middle class, the working class and the growing impoverished classes (Dorling, 2014). Racism, classism, sexism, ableism, cultural, ethnic and language biases, lack of opportunities and economic inequities are experienced by some more than others. Freire believes for only when the oppressed are cognizant of the oppression only then change can take place. He advocates that the role of revolutionary leaders is to facilitate this realization and empower the oppressed population to act and liberate themselves. In drawing parallel, I was able to contextualize this to my work as an educational broker. Having subscribed to dominant narratives of meritocracy that exists in the education system, I had internalized the oppression and adopted the ways and thinking of the oppressors i.e. I let the system dominate my thinking and placed my role and my contribution in the periphery. In doing so I was not engaging with my voice or agency. As I became aware about my oppression I started to encourage my students to do the same. For example there was an instance when students ask me some difficult questions relating to equality and inclusivity that I could have easily provided answers to. I did not do that. Instead I encouraged the students to engage their thinking and ask those difficult questions to their peers. I detail this interaction in chapters 5 and 6. My sense of self-awareness showed emergence in second action research cycle but manifested well only in the third action research cycle.

The third action research cycle helped me to become aware of my role as an integral component within the school curriculum and my practice an important aspect of the education ecosystem. Through conscious effort I ensured that the tacit was made explicit. Whether it was developing the confidence to ask the group of students to give me more energy in the classroom or taking the lead to coordinate with senior leaders to provide time in a busy curriculum, I have made personal strides in acknowledging my role. The emergence of my critical consciousness has to do with fighting the internal oppression something that I would not have acknowledged in the past. There were embedded narratives that I had to become conscious of to challenge them.

- That of an outsider trying to influence the education system.
- That of an unqualified teacher trying to challenge structures and influence curriculum.
- That of a woman trying to direct her male counterparts to rethink their teaching delivery mechanisms.

It was important that I acknowledged these internal oppressive narratives that were obstructing my 'professional self' from expressing its full potential. It was through action and

reflection-on-action (Marcos, Miguel, & Tillema, 2009) that I was able to explore my personal beliefs and conduct a deliberate, critical internal analysis of my thoughts and actions and present those actions in this thesis. Education literatures summarize reflection-on-action as a meta-cognitive problem solving process that is deliberate, personal and generates professional knowledge (Marcos et al., 2009). In doing all the above I was evidencing my claims to knowledge.

By reflecting on my practice, I was also looking to articulate and communicate my values through my practice. Only when the values were reflected in my practice, my living theory of practice started to emerge. I began to test my ideas against critical feedback and started to present my papers at conferences and submitting them to publications (Sarangapani et al., 2018; Sarangapani, Kharrufa, Leat, & Wright, 2019). As I started to present my work to peers and experts, my confidence grew to offer explanations and definitions about my practice. Simultaneously I questioned myself regarding the implications of my research to the wider education system.

1.2.6. Key issues of my thesis

I am making significant claims in this thesis and I evidence these claims by conducting a rigorous inquiry into my practice. This was partially motivated by the compelling need for self-discovery. This gradually led to the evolution of research questions and finally to my living theory of practice (Whitehead, 1989). The questions that I systematically address in this thesis are:

1. What is my practice and how I do I establish it?
2. How I describe my practice and improve it?
3. How are my epistemological and ontological values being reflected in my practice?
4. How do I move from categorical to dialogical thinking about my practice?
5. How is the use of digital technology impacting my practice?
6. How is my practice impacting students, teachers and other practitioners?

So after years of work with students and schools to improve their learning and understanding of their values, I now turn the focus on myself and my practice to understand what are my guiding values that fuel my practice. Engaging in this reflection has shaped my thinking about knowledge generation, about my identity as a practitioner-researcher and about the nature of English education system.

My current understanding of the education system is one that is very progressively instrumental – as students start to progress through the years, teaching the curriculum becomes

the focus. Education is thus used as a tool, an instrument to achieve the goals set by policy makers (Priestley, 2010). Curriculum is driven by attainment agenda and performativity where knowledge is commodified (S. J. Ball, 2003). I thus started my research to see if I could work in ways that honors my educational values and impacts student learning so that they can be the best version of themselves when they complete their learning in my workshops. However through my experience working within the system as a practitioner and researcher, I realized that the system has less freedom and openness than what it makes itself to be. Power, control and management play central role in the English education system. The system would thus find my values of inclusivity and creativity conflicting to what it espouses. The lack of freedom is particularly apparent with teachers who have overwhelming teaching and marking timetables and very little time for reflection. Reflection to me is a form of dialogue with the self. Having never engaged in reflection earlier meant that I bought into the narratives of internal oppression and categorical thinking. To move away from this I had to engage in reflection and develop a critical awareness of the issues in my practice. Developing a dialogue with the different representation of my 'selves' (Bakhtin, 1981), helped me to understand the dialogical relationship that I share with my thoughts and ideas. Then thinking to me becomes a practice of dialogues and a way of dialogic imagination (ibid). In doing so I was able to develop a dialogical relationship both with my thinking and with the people around me.

1.2.7. Preliminary Findings of my study

Through my work I present my living educational theory of an educational broker practice focussed around embedding cross-cultural learning in schools. The clarity of my thinking can be considered as an evidence to my claim of understanding my practice through the comparison of my research stances in my earlier writing (Sarangapani et al., 2016, 2018). I have a deepened understanding of my practice and the social, cultural, political context influencing my practice. One of my early learning was knowing that my practice is about being and becoming rather than seeking validation for being and doing. This means that I have not produced a framework for practitioners working as educational brokers to easily validate their existence. Instead I have reflected and engaged critically with my practice to externalise my educational values. In doing so I am setting an example for others to follow suit as required. When working with teachers and students I have embodied my values of equality and inclusivity by encouraging my community of inquirers to engage with their voice and agency.

This report demonstrates the emergence of my critical voice as I reflect on my practice alongside trying to engage with the issues of struggling to articulate my living theory of

practice. I test my claims by linking into relevant academic literature and by inviting critique from colleagues and peer professionals. All of this evidences my claim, and shows that I now know my practice better than what I did before. I also claim that my understanding has the ability to influence the education system especially by addressing some of the power relationships between teachers and students, teachers and parents and schools and their communities. In trying to reduce the power distance between multiple parties, I highlight the importance of relational nature of our existence and the interconnectedness of our stories (McNiff, 2009). This interconnectedness can only be nurtured through dialogical engagement and by embedding the values of equality and inclusivity.

The truth here is that I have learnt more about my practice and hierarchy in the education system in the last four years than what I did in the last 15 years of my experience as a practitioner. I now work consciously in way that honours my educational values. This has led to a deepened understanding of my practice, thereby shaping my personal and professional identity. As I go forward I will keep asking myself the questions?

- What is it that I want to do further?
- Why I do want to go there?
- How will this help me and the community that I am a part of?
- What is important about my practice that I should continue doing it?

I have moved from viewing my practice on the outside, removing the self and marginalising my role. I now actively acknowledge the ‘selves’ in the practice and have started looking inside by placing me in the centre. From maintaining strict boundaries, I have moved from ‘existing on the boundaries’ to ‘thriving on the boundaries’ (Leat & Thomas, 2018). For long I stayed on the side-lines partly due to the internal oppression and partly due to nature of the marginality of my role. Consequently I used to talk about the instruments used in my practice as the catalyst that shaped my practice rather than the tacit aspect that I bring to it. This thesis is an ode to that tacit self which is no more just a bystander but an active participant of my practice. I believe that this tacit self is adding value and meaning to my personal and professional life and to the lives of people that I work with.

1.3.MY CONCERNS

In this section I state my journey into critical thinking and my ability to theorise my practice. This section will highlight how a series of events, over a period of time accrued to impact my

critical thinking. I offer an explanation of my professional history that will set context to my educational practice.

1.3.1. Working in schools as a practitioner

I use the term conformity to describe my early experiences working as a practitioner. I believed that I had to conform; to structures, policies, power and curriculum. There were boundaries that clearly showed what I should do and was expected to do. I also took cue from the teachers who were also conforming to the system to understand how to remain within the boundaries. They never challenged the status quo and always maintained the classroom in discipline. Initially I was very excited by the whole set-up. Coming from a rote-learning culture meant that I was pleased to see the freedom that the English education system offered. An aspect of this adulation should also be attributed to my colonial thinking, where anything ‘western’ was deemed definitely better. As I got to learn about the English system and its adherence to bureaucracy I realised that a plethora of challenges do exist, especially for practitioners like myself who have very little voice within the school system. I accepted things as they were and didn’t think I had agency (Priestley et al., 2012) to change things for myself let alone the system. Engaging with critical literatures (S. Ball, 2013; Freire, 1970a, 1974; Terry, 1997) helped me to realise that the education system in England subscribes to the unspoken rule of meritocracy where people who enter the system are streamed, selected and categorised. It was an important learning for me because I came to realise that I had assumed my role at the periphery as I deemed it was suitable to the merit that I held. Involving with such ideas was crucial as this helped me to develop a language to articulate my thinking and question some of the norms that I had hitherto accepted.

The need to explore and establish my practice came from the discord that I was facing as a practitioner and what I believed was my practice. I did not recognise that a lot of what my practice is in the tacit nature of my work. This dissonance started in 2012 when I had just started my consultancy. I used arts as a medium to encourage children to think outside the box and ask difficult questions as to why things are different. Dance was my instrument to build conversations with schools and establish trust with students. I was more than a ‘bollywood dancer’ going into schools to teach dance. But schools were unable to view my practice in entirety. They were keen to slot the work that I do somewhere in the curriculum and when that wasn’t possible, schools would not renew their contract. At such instances I felt that since I was the outsider, the issue rested with me and thus I needed to change. I never asked questions or challenged decisions and instead created new coping mechanisms. I expanded my portfolio to offer cross-cultural experiences from countries like Zimbabwe, China, Sri Lanka and

Bangladesh. I started to work as a Creative Agent through the Creative Partnerships programme (Bragg & Manchester, 2011) and to establish the validity of my role. I offered activities to deliver British Council projects as I knew they can influence Ofsted inspections. I attended professional development courses and read educational literatures hoping that I will chance upon the solution to my undescribed problem. So I was constantly looking on the outside for the solution. It never occurred to me that I had to look inside and when I started to do that I realised that I was living in contradiction to my educational values (Whitehead, 1989), where I knew that I had to engage with the voice but I carried on working in silence. I didn't realise the complexity of the issue until I started to engage in this research. Engaging with literatures of critical pedagogy meant that I was able to see the complexity of my role and the challenges that was present in the education system. The close relationship between knowledge and power that exists in the system meant that certain kinds of knowledge were considered more valid and valuable than others. In order to understand the nature of the knowledge that I generated I realised that I needed to become critical of my own practice. Writing this thesis using self-study approach initiated the process of looking within. This was something new to me and I felt lost at times as my peers were predominantly working through positivist research approaches. They had a path defined towards their inquiry whereas I was still unclear as to what my 'problem' was. Reading critical literatures and talking to David provided some relief as I was able to view the problem in the education system and since I was part of that system, I was part of the problem too. This was a turning point as I was able to recognise and define my problem in concrete terms. Being able to articulate the problem was the first step to finding and using my voice. I realised that in order to articulate and establish my practice I need to bring forth the tacit and make it explicit.

1.3.2. Tacit to Explicit

Initially I saw that the problems was on the outside and thus was trying to look for solutions on the outside. I knew that I needed to examine my concerns critically by developing dialogical practices. The focus to look on the inside helped me uncover the different meaning associated with looking inside and I found support by reading some critical work related to tacit knowledge (Freeman, 1991; Mewborn & Randi, 2000; L. Shulman, 1987) and its importance in school setting. Shulman, (1987) in his work talks about 'Wisdom of Practice' a source of knowledge base that guides the practice of the teachers and is inadequately understood as it is 'least codified'. He (L. S. Shulman, 1988) explores the dilemma of how teachers arrive at their explanations and understanding of what they do in their practice and mentions that

'While tacit knowledge may be characteristic many things that teachers do, our obligation as teacher educators must be to make the tacit explicit. Teachers will become better educators when they can begin to have explicit answers for the questions, "How do I know what I know? How do I know the reasons for what I do? Why do I ask my students to perform or think in particular ways?" The capacity to answer such questions not only lies at the heart of what we mean by becoming skilled as a teacher; it also requires a combining of reflection on practical experience and reflection on theoretical understanding.'

Knowing that my issues of making tacit knowledge explicit was not limited just to me was indeed comforting. The process of making tacit explicit is not a linear process (Freeman, 1991) and requires a constant exchange and interaction between previously held knowledge with new learnings and it is these interactions that actually shapes the previously held knowledge. I realised that context is important so the outside is important as much as the inside. This was an important learning as I knew that a lot of what I do is because of my values that fuels my work but as I began to interrogate my practice I was able to understand why I do some of things the way I do in certain places and spaces. These realisations helped me to create some of my broad conceptual frameworks. I was particularly drawn to Freire's work (Freire, 1970a, 1974) and I have used his understanding of critical consciousness as a guide to my 'becoming'.

My choice of action research methodology was particularly relevant as it provided me the space to look at my practice both from the inside and out and McNiff's works (McNiff, 2013; McNiff & Whitehead, 2009; Whitehead & McNiff, 2006) have significantly influenced me in grounding the approach to explore my practice. I have also been influenced by reading some of the works of Bourdieu (1990), Foucault (S. Ball, 2013) and Freire (1970a) to understand how educational institutions can wield social control. Foucault's work highlights the relationship between power and knowledge and the use of power in schools can institutionalise the objectification of knowledge. This was an interesting learning journey as I was able to acknowledge that I viewed my role as powerless and that knowledge that I was trying share was objectified. Schools were often trying to seek a positivist explanation for my work thereby pushing me to try and fit my work to address curriculum goals. Bourdieu's work (1990) shows how schools can become agents of social domination and reproduction where dominant institutional narratives shape children's identity and thinking. At a personal level this was relevant to me as I subscribed to the dominant narratives at play and chose to be a passive thinker and a silent observer. Bourdieu's and Foucault's work highlighted to me that I had complied with the social control and it was this learning that helped me to revisit my practice and reconceptualise it so that I can establish it. I thus started to engage in dialogical thinking (Wegerif, 2008) and dialogical approaches in my practices where the projects that I designed was done with an aim to seek knowledge together.

I conclude this chapter by mentioning that the focus on my practice and the focus on my learning from my practice are not mutually exclusively. The two come together to ground my inquiry and I turn my attention to my methodology that helped me achieve this feat.

2

Methodology

Chapter 2. Methodology

2.1. INTRODUCTION

In this chapter I discuss the methodology used to carry out my research. I present explanations for my choices alongside charting practical details and issues encountered. Doing so provides an authentic and robust account of the methodological rigour and substantiates the enormous efforts that I invested to conduct this inquiry.

I start by briefly introducing my ontological and epistemological stance that has shaped my choices in this research. Ontology deals with the nature of existence and the structure of reality whereas epistemology helps one to understand the generation of knowledge about the social world, its possibility, scope and legitimacy (Al-Saadi, 2014). Adopting a feminist ontology (Stanley & Wise, 2002) has given me the freedom to explore my reality which I believe is constantly negotiated, debated and interpreted. Walach, (2020) says that ontology and epistemology are interdependent as ontology drives epistemology and epistemology implicitly strengthens or explicitly produces ontology. The aim thus was for me to experience my ‘self’ as the product of interaction and social construction whilst subtly changing in the different interactional circumstances (ibid). The below image provides a visual representation on the encompassing nature of ontology and epistemology that has organically led me to my methodology of self-study action research.

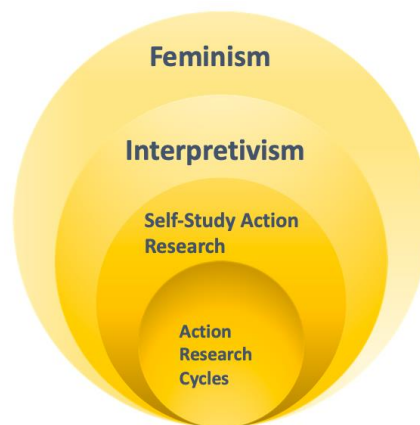


Figure 2: My ontological and epistemological framings

I was particularly interested in using feminist lens to evaluate my actions and demonstrate how my actions have influenced social good. I was keen to find a academic grounding that advocates practicality without compromising the theoretical underpinnings of feminism. As a researcher and practitioner I was aware of the dichotomies present in my research area and in my personal value system. I thus was seeking an

ontological/epistemological system that embraced this dynamic relationship of looking at knowledge as an enriching experience alongside embracing the notion that concentrated on action to impact human experience and life conditions. This led me to Pragmatist Feminism (Sullivan, 2002; Sullivan & Tarver, 2019; Whipps & Lake, 2020). As the name suggests pragmatist feminism integrates the core concepts of pragmatism which includes notions of pluralism, lived experience and public philosophy with feminist theories and practice that emphasizes the importance of social change (Whipps & Lake, 2020). The intersection of pluralism, lived experience and social change was an integral component of my personal and professional life and it was thus important that I bring this aspect to steer my research and my practice into an authentic space, grounded in my values. I periodically use this viewpoint to evaluate my situations and standpoints and employ the learnings to inform my plans in my action research cycles. Pragmatist feminism believes that people rely on others to understand themselves, and that there is a *dynamic co-constitutive relationship* between the self and environment where distinct boundaries cannot be etched (Sullivan, 2002). This knowledge of boundaryless boundary helped me to understand my practice as distinct and continuous and I revisit this aspect through the notion of boundary and boundary crossing (Akkerman & Bakker, 2011). Another aspect in the feminist pragmatism ontology is its keen orientation to action. I was motivated by this focus on action to understand how my intersectional identity of an ethnic minority woman without a qualified teacher status impacted the educational practice that is largely shaped by hegemony and intellectualism of the west. In my dealings I have used aspects of pragmatist feminism to evaluate my actions and its consequence for my practice and for other practitioners. My ontology has helped to understand the gendered experiences that I was gathering as result of my work both here in England and in India.

My ontology guided my epistemological stance within interpretivism, to interpret the social phenomena by situating my researcher-self firmly in the process (Schwandt, 1994). The interpretivist paradigm is particularly interesting to me as it has a close relationship with constructivism (Mack, 2010). The interpretivist paradigm influenced me to explore action research methodology and I particularly investigate my work within the framework of self-study action research where the action-research methodology provided support on practitioner observation and data analysis and the self-study methodology provided the tools and techniques to develop an enhanced understanding of my role and practice.

Pragmatist feminism focuses on interpreting actions alongside understanding the consequences of such actions. When actions are evaluated, values come to fore and in the process it invokes reflexivity in the researcher. This aspect of engaging in reflexivity is what I

found particularly valuable in self-study action-research methodology. As an educator, whether it was developing activities for children, or organizing open day events for parents, I was constantly bringing my authentic self to the research by ensuring that I engage the whole community in embracing cross-cultural learning. As a researcher-practitioner, I was constantly seeking to organize interactions that reflected the importance of diversity and inclusivity, where students could actively engage and respond. I thus chose self-study action research for its ability to support and nurture reflexivity in my research. Berger (2015) explains reflexivity as a mirror that researcher turn back on themselves to recognize and to take responsibility of their own situatedness within the research. They do this whilst considering the effect that it may have on the setting and the people taking part in the research, questions being asked, data being collected and its interpretation. Reflexivity to me is also being aware of one's intersection of social position, personal experiences and political and professional beliefs. Part of developing an understanding of my practice was to note the consequences of my action and to view myself as an actor in the education eco-system. This meant that I understand and acknowledge the parallels that exists in my personal and research action. My personal actions can be observed in all my interactions whether it is with the headteacher at NMS or with students in India. I recognised that these individuals were responding to my personality, a tacit aspect that I brought along from my personal self into my research self. Reflexivity has helped me to become conscious of these nuances. This raised conscious has also created a challenge for me by generating a dividing line of what I can and can't generalise as a result of my research. I cannot generalise the individuality that educational brokers need to bring to a specific situation, but I can mention that representation matters. For example I can mention that an ethnic minority women, working as a researcher in a classroom will certainly impact young girls to understand and develop their voice and agency. I can thus generalise the conscious awareness of who I am and how people respond to me. But the nature of impact that I might be having on individuals is something that cannot be generalised. Berger (2015) further adds that reflexivity is like a major quality control in qualitative research as the self-awareness can impact the characteristics and experiences of the researcher and the research. This aspect of reflexivity where my practice and values intersect helped me to interrogate my standpoints and by consciously trying to bring my affective and attitudinal values I have been able to enhance, inform and reshape my practice.

2.1.1. Description

The inquiry approach taken during my MRes dissertation encouraged me to reflect on my ontological perspectives as at that point I saw myself separate from my work and had accepted

an ancillary view of my role in the education system. This knowledge was in the background through the years that I worked in the education system but only came to foreground during my Master's project as I started to engage with academic literatures. I realized that I had accepted that 'teachers knew best' rule and that 'there was a right way' of teaching. Schools often approached me to deliver cross-cultural workshops as an enrichment activity or to fulfil statutory demands of Ofsted inspections. The workshops were commonly introduced as a part of the PSHE curriculum (Physical, Social, Health and Emotional) or Citizenship curriculum which meant that students felt the learnings from these workshops were not central to their school learning as they were not given grades for participating in the workshops. I never questioned nor critically analyzed the situation at hand. I had accepted the prevalent ancillary notion of my role and justified it to myself that things that matter within the school curriculum is often validated through scores and grades.

Having reservations about my role and practice meant that I did not engage in any form of critique regarding the prevalent educational discourses nor did I question on aspects of knowledge creation in the education system. Whilst I kept myself up to date on discussions and changes taking place in educational policies, I rarely questioned the national curriculum, its offering and whose interests were the educational policies serving. When I went into schools to conduct cultural workshops, I took the information provided by class teachers and headteachers regarding their school and their work as normative practices. I followed a formula to deliver my workshops that suited predominantly administrative requirements (read Ofsted inspection) of the school as opposed to educational change. My piecemeal approach was working in some ways and I didn't want to upset this working machinery. When I tried to change the format of my offering regarding cross-cultural learning, I was met with skepticism which then led to non-engagement by teachers in the workshop. The failure to not engage teachers meant that I could not plan long-term activities with the school thus leading to loss of work to me and loss of learning for teachers and students. I attributed this as a failed approach and acknowledged that I was an 'external agent', someone working 'outside the system' and consequently reverted to using passive approaches. Critical literatures (Cambridge Primary Review, 2009) highlight that such concerns are widespread across the English education system due to the lack of vision and the race to implement supremacist and narrowly nationalist view of education without being aware of the true complexities of globalization.

I recall several episodes of meeting with school heads and teachers encouraging them to look at the curriculum and challenge some of the approaches particularly with topics relating to cross-cultural learning. Reactions from schools would range from disinterest, doubt to

downright rejection as headteachers felt that the work practitioners provide do not address core curriculum needs. In a situation where I did manage to get the opportunity to work with the school, the activities would be scheduled for short-term and in most cases would be a one-off ‘bollywood dancing’ workshop. I struggled to seek a long-term buy-in as I was unable to find the words and language to explain to the schools that their approaches were ad hoc and sometimes irrelevant and that they needed to embrace ‘real-world approaches’ to embed cross-cultural learning. However I was unable to clarify what these ‘real world approaches’ meant. It did not occur to me that I had to look inside at what I do i.e. study my practice and develop a language for my practice. I failed to recognize the importance of my work as I saw myself as ‘just’ a practitioner working outside the system with little agency to influence the system or change some of its working. The idea to explore, understand and establish my work as a practice did not occur at all as I had fallen to the trappings of marginal role (Clifton, 1979; Hendry, 1975) where I saw my role existing at the periphery of the education system.

2.1.2. Marginality in the education system

The concept of ‘marginality’ is used to define those roles that are peripheral to the main functioning of an institution (Stonequist, 1935) where the marginal person is not integrated in the formal structures of the institution and as a result may be unable to contribute to the desired goals of the institution. This creates a marginal situation that does not legitimize the individual’s work or consider their contribution important to the growth of the organization. The lack of legitimacy has been noticed even in teaching roles particularly with student teachers (Clifton, 1979) who are viewed to lack authority and knowledge of rituals followed in a classroom. Clifton (ibid) adds that not recognizing legitimacy can make individuals feel like imposters and affect their self-concepts. I resonated with this statement as there were times when I felt that my work was not adding value and was often questioning what does my work amount to.

Reading about ‘irrationality, unevenness, and unfairness’ (S. Ball, 2018) present in the education system got me think about educational reform. Educational matter is now reduced to indicators and outputs and this was one of the contributing factor for the presence of marginal roles in the system. The argument continues in areas of student achievement where reforms introduced are for pure attainment measure rather than a progress measure (Leckie & Goldstein, 2017). I would go further and summarise English education as a neo-liberal, quasi-market system where education has been commodified and the marker is ‘driven’ by parental choice. Thus I found a paradox inherent within the English education system. The existing performance-centered, output oriented, instrumental approach to learning is at odds with the aspirations of the

National Curriculum where the focus is to engender human creativity and achievement (Department for Education, 2013b).

2.1.3. Valuing my practice and my work

During my MRes programme, I started to conceptualize my identity as a ‘researcher’ but the focus then was to study the impact of tools that I used in my practice. My interdisciplinary doctoral research was within Digital Civics where digital technologies were employed to understand its impact on the design and delivery of public services (Open Lab, 2014). In my MRes dissertation the focus was on the use of video technologies to explore learning resource curation by community members (Sarangapani et al., 2016). There I took an outsider stance to understand what makes my approach work and attributed the success of my research to the digital tools, my passion, teacher and student engagement but rarely credited the whole practice. The irony here was that I was planning a research on the work that I deliver, so that I can make improvements to it. But it never occurred to me that I need to first acknowledge the practice in order to examine the work that was taking place.

I was working in contradiction to my ontological/epistemological stance at that point. It was here I acknowledged that I have to first understand what I do, and then articulate it so that there is a shared understanding of my practice and my role. I had to make an effort and move away from the internalized narratives such as ‘my work exists on the periphery’ or ‘I am working in a marginal role as I am not a qualified teacher and thus my practice is not valuable’. As I engaged in critical reflection I was able to see myself as a work-in-progress and my work as unique. I understood that ‘people are like unfinished, uncompleted beings, in and with a likewise unfinished reality’ (Freire, 1970a). This awareness has also influenced how I see myself in relation to the ‘other’. I had not given enough thought to this concept of ‘other’ (Krumer-Nevo & Sidi, 2012) but as I started to look at my practice I realized that I had indeed subscribed to the notion of ‘otherness’ about my work, of attaching inferiority due to the difference that exists (Schwalbe et al., 2000). Spivak (Jensen, 2011; Spivak, 1980, 1985) is acknowledged to be the first to use the notion of ‘othering’ in a systematic way. Spivak, (1985) in her work analyses three dimensions of othering by looking at the archive materials of the British colonial power in India. The first dimension of othering is about power, where the subordinate is made of who holds the power, the second dimension is constructing the narrative of the ‘other’ as an inferior and the third dimension of othering implies that knowledge and technology belongs to the *powerful empirical self and not the colonial other*. I resonated with these levels of othering as my intersectional self of being a woman, ethnic minority, non-qualified teacher, I had faced

oppression at each level in the past. I had internalized the oppression and in turn created an identity of deficit. The issue with 'othering' is that it produces poverty of knowledge and this poverty is a condition that is created by structures and institutions and not by any faults of the people themselves (Krumer-Nevo & Sidi, 2012). The insights that I now have has helped me to understand and talk about my practice alongside helping me to perceive my contribution to an institution, all of which has created avenues for other practitioners, teachers and students to be critical, aware and engaged with the world they live in.

2.1.4. Moving towards a living theory of practice

In having to write this thesis I have recounted how I have moved from viewing my practice with a categorical lens to that of a dialogical one. I am taking action for my thinking where I am critiquing my categorical stance. Freire (1974) mentions that 'critical reflection is also action and that reflection accompanied with action has the ability to transform the world'. Subscribing to a dialogical stance meant that I needed to engage in critical self-perspective and thus looked at methodologies that support such critical inquiry like ethnographic action research (Tacchi, Slater, & Hearn, 2003), first-person action research (Marshall, 2016) and self-study action research (McNiff & Whitehead, 2009). Bath (2009) mentions that within action-research, practitioner-as-researcher occupies central role for he/she is also the interpreter-of-practice. She(ibid) further adds that reflection on action should be a part of action-research and that reflexivity is a key and consistent feature within action research-methodology. Bath's work (ibid) echoed to my feminist ontological values as she draws parallel to reflexivity and textuality. I was the practitioner and researcher and this thesis would be presented in first person account. The insider perspective is seen to intersect with participation in order to provide an epistemology appropriate to educational research and the researcher.

After looking at the options available I decided to use self-study action research as it embraced my dialogical stance where I am able to see the "I" that I am in relation to the various other "I's". These multiple I-positions was referred by Bakhtin, (1981) as the 'dialogical self' and they are the diverse voices that one hears from the world around. I realized that I was moving through the various I-positions and was negotiating and reconstructing my identity. So epistemologically, self-study action research made sense as it helped me to understand the I-positions thereby helping me to deal with my 'othering' notions.

Living theory of practice acknowledges that 'an individual produces an explanation of their educational influence in their own learning, the learning of others and in the learning of social formations' (Whitehead, 1989). The idea here is that every individual is capable of

offering an account of their practice and in doing so he/she shows that they are accountable for their practice whilst constantly trying to address the question ‘How do I improve my practice?’ (Whitehead, 1989). Living educational theories acknowledge that the theories are living which means they are also evolving. The theories are recognized as lived, embodied and expressed by the researcher through their practice (Whitehead, 2019b). An individual’s account of living theory also includes a critique of their past learning and an aspiration to establish and improve their practice for the future in ways that are not yet grasped in practice. Living theory places the practitioner-researcher in the center of research process where theories are generated by researchers as they go about with their practice in workplace context.

All the above helped me to understand the power that I held to transform my self, my practice and the social set-up around me. I came to realize that power can be used not just to control and shape one’s knowledge through behavior (S. Ball, 2013) but also to shape human and social transformation (Hunjan & Pettit, 2011). My awareness of my practice was because I chose to employ the power I held to engage in critical reflection and generate explanations for my actions and use it to influence the education system that I was a part of.

2.1.5. Practical Considerations

My initial experiences when I started to write this thesis was that of chaos and mess. I wasn’t sure if I will ever bring out any sense from the chaos and mess that lay in front of me. It was here that I encountered readings on the importance of mess in action research methodology (Cook, 1998). When I started I had no idea how to make my practice and my experience intelligible. There was no model or framework that instructed how to present a first-person account of an action-research who wants to establish an educational brokerage practice. In fact I was oscillating between first-person action research (Marshall, 2016), self-study action research (McNiff & Whitehead, 2009) or ethnographic action research (Tacchi et al., 2003) as each one seemed to offer things that I wanted. I was constantly seeking for clarity, for answers and definitions that I could simply follow. I did not appreciate my methodological freedom and constantly sought ways to conform my research into some existing framework. This was because I thought I needed to sieve the mess and chaos out and present a flawless version of my experience. But mess helps in the construction of new knowledge (Cook, 2009) and in turn impacts and transforms one’s practice too. Cook (ibid) summed my thought well as below.

‘Yet how do you write up that complicated bit that involves all that thinking and sifting? Is it that because we don’t have a way that we can make it intelligible to others, which enables a reader to follow our unravelling of a situation, we describe it in a clear, perfectly linked, linear manner’ (Cook, 1998).

It is not to say that methodological guidelines don't exist for action research. Several researchers have explained it in their works (Brydon-Miller, Greenwood, & Maguire, 2003; Heikkinen, Huttunen, & Syrjälä, 2007; Lewin, 1946; Marshall, 2016; McNiff & Whitehead, 2009) but like Cook (ibid) for me it was knowing that research is messy and that I had to embrace this mess as a part of the method where the 'systematic inclusion of mess' should be acknowledged for building rigour into the method (Cook, 2009). This also made me realize that I was researching my self and my practice and that I had to free myself from the 'tyranny of method' (G. Thomas, 1998) and shake that feeling of 'being an incompetent, ill-equipped researcher who does not have a clear path to explain her work'.

Another aspect that made it really uneasy was the thought that I had to focus this thesis on 'me'. I knew I had to do it but I found this difficult initially. Therefore my early drafts were about describing and recording 'what happened' rather than 'what I did?' or 'Why did I do that?'. As I started to write, I was able to refocus this information and reflect it on my practice to answer what I did, how did I do it and why did I do it. I was negotiating and recreating my identity as I was going through the research. I was doing this to improve myself, my practice and possibly provide direction to others, who would, in the future, see benefit when they have to work in similar contexts.

The next step was to identify my values and see if they reflected in my practice. My feminist values were central to my everyday existence and I wanted to extend these values within my work. I wanted to bring my feminist values and embody it through my actions. Particularly within my practice, I wanted to make sure that I was consciously and continuously embracing notions of equality, voice, conscious action and agency. I often wondered if I embodied these values in my practice and if I did, was it evident to the outside world. I decided to reflect on them as I went about gathering data for my research. I wondered if I could demonstrate my embodied values and in doing so if I could validate my claims to knowledge that I would be offering. As I was engaging in critical reflection I found myself asking questions like what is that I am looking for in my practice? What data should I collect to show that my practice matters? What am I learning by engaging in this critical reflection? What happens when my values are challenged? As I researched, I was able to gather data on how my critical awareness came to be. I gathered data through diverse sources; my reflective journal (research diary) on Evernote, photographs, audio and video recordings, email correspondences, conversations with my supervisor and colleagues all of which captured the rich complexity involved in my work.

Every time I went through the notes, I felt that I had expressed the issues, the challenges and particularly my struggle. At that point I did not have the time to elaborate as to why this episode had such a huge impact. Reflecting on it later helped me to understand the concepts and values that I embodied in my self and my practice and how I was coming to terms with them. Audio recordings with students also helped me to strip away the layers and face the things that I should know about my practice. Interviews with students highlighted the process of what makes my practice unique and important to learning institutions. My inquiry was about me finding my voice through critical reflection and in the process encouraging communities around me to find their voice and ‘contest conventions and prescriptions’ (Winter, 1998) so that knowledge production is decentralized. It took a while for me to realize that my ideas, my solutions, my reflections, my apprehensions and experiences are in essence ‘knowledge’ and ‘my knowledge’ should not be of any lesser value due to the lack of its theoretical interpretation. Winter (1998) came to my rescue here.

‘As far as I am concerned, then, ‘being theoretical’ in one’s approach to data analysis is not, even at best, to do with finding prestigious quotations or grand generalisations as a prior framework, but using data from one’s own inquiry as a starting point for questioning, for challenging, for seeking interpretations which make sense of the present in terms of historical origins and possible futures, interpretations which make sense of the individual instance in terms of social structures and political processes, which use a variety of conceptual vocabularies as possible metaphors; for a given event. ‘ (Winter, 1998)

This knowing helped me to acknowledge that my actual-self was existing with constraints when compared to my idealized-self. This is explained within self-theory (H. J. M. Hermans, 2001) where individuals often spend most of their entire lives in company that resonates with their actual-self and it is only when we slow down and reflect, are we able to bring to the fore some of our ideas, solutions, values and make comparison between the person we are and the person we hope to be. I realized that most of the time I lived in sub-optimal state and the journey between my actual-self and idealized-self is what this thesis all about.

I realised that my theoretical stance would become evident not only by reporting my individual experiences but also how those experiences stood in relation to the social structures and political processes that I was a part of. I unpick these experiences in each of the action research cycle where I saw how processes and structures seem to influence how I engaged with my voice. In my action research cycles, I have tried to make sense of the present experiences with the knowledge and understandings of the past to ensure my voice and agency are established in the imagined future.

With renewed confidence, I started to monitor and collect data to establish my understanding and capacity for knowledge production. Taking this decentralised notion to

knowledge production meant that I could claim capacity for knowledge production and for 'being theoretical'. I could elucidate my researcher skills that were emerging through my living theories of practice. Developing a dialogical stance meant that I was now able to acknowledge my identity as a practitioner and a researcher. I have realized the clarity and voice that I hold over my ontological and epistemological stances which I hope will serve me well on my future learning journeys. I gained a clear voice regarding my methodological stance as I navigated, altered and adapted my methodology to suit my inquiry in order to articulate my practice. I incorporated various data gathering methods such as photography, audio transcripts, field notes, narrative reflections from practice, interviews with teachers and students and conversations with supervisors, colleagues and friends to feed into my research as data. I have analysed this data through the value sieve, as I believe values provide the necessary standards and criteria to conduct data analysis.

2.1.6. Motivation for self-study action research

One of the issue that I had to reconcile and find answers was to the questions as to why I am choosing to undertake a self-study action research (McNiff & Whitehead, 2009) as my methodology. Whilst I was certain on the action-research methodology I still struggled how to engage with it and present it in this thesis.

Kurt Lewin, a social psychologist is often credited for the origin of action-research (Adelman, 1993) for he saw action-research as a systematic enquiry that encouraged democratic participation of all participants and supported the quest for effectiveness. I struggled with this concept of effectiveness but his description of 'no action without research and no research without action' resonated strongly with me. I was on a pursuit to find answers to questions such as What is my practice?, How do I establish it? and more importantly How can I develop a shared language that could describe my practice? Within action research, the action part is about improving one's practice and the research part is about creating knowledge about one's practice (McNiff & Whitehead, 2009). This echoed with my needs as I was not only interested to understand and define my practice but also improve my learning in order to improve my practice. Action research is practice-based which means practice is understood as both action and research (ibid). This methodology ably supported insider-research (Coghlan, 2001) as the researcher is within the context of inquiry and has the ability to influence the happenings taking place in the research setting. As a researcher I realized that this approach would equip me with the ability to not only control, regulate and explain my practice but also develop a detailed account of my practice and its offering. Exploring my options I finally decided to go ahead and

follow self-study action research as I realized that it is exactly what I would be doing i.e. studying the ‘self’ to understand its practice.

The self-reflection process that I was undertook to understand my epistemological, ontological, and methodological values was also creating some form of disruption in my belief system. I figured out that if I wished to impact my practice I must be brave and forthright to embrace the disruption. I found the use of living educational theory particularly apt to tell my story for it supports the externalisation of real-life dialogical experiences of practitioners (McNiff, 2005). Having worked in the education sector for over 15 years it is only now I have come to understand that my educational practice does influence the form of theory that I engage with (McNiff, 2005). I have now become more aware of my practice and appreciative of its capacity to create knowledge. The move from a categorical stance to a dialogical one was not an easy process either. In the last 15 years I was always shown how to think and what kinds of knowledge I could create. I believed that I did not have the choice to impact the syllabus, teacher engagement or the student learning. This was in complete contrast to the freedom that I was offered through my research which was startling and sometimes even discomfoting. My dialogical pedagogies have been developed by looking and reading the theories of others (Bakhtin, 1981; Dewey, 1986; Freire, 1970a) and in doing so I realized how the dialogical stances harmoniously flowed within my practice and work.

The rigour employed in my methodology was due to the extensive reading and learning of academics and visionaries (McNiff, 2005, 2007, 2013; McNiff & Whitehead, 2009; Whitehead & McNiff, 2006) that helped my capacity to think independently for personal and professional growth. My influence can be regarded as that of a catalyst who is trying to establish voice and agency to help the self and the people that I work with. I locate my practice within the realms of educational brokerage and as an educational broker I design and deliver activities for students to use their voice and agency by engaging with their communities. The example below from a student substantiates this.

Female 5: It's also really good, because I remember when I was talking to my Mum and Dad, instead of like Emma said, having it on the internet or a book, they can explain everything and everything that they say, it's also interesting to see how they came along and it really helps to understand the general, kind of thoughts, of someone who comes instead of just knowing what happened, you know how they feel as well.

Student Interview, AR Cycle 1

I find several levels of learning in her response that acknowledges how knowledge creation had happened beyond the walls of the classroom. She brings forth the role of emotions and feelings, community collaboration and contrasts her classroom learning to real world

learning. All of this highlights her critical thinking and her ability to use her voice to demonstrate her learning. I was keen for students to develop their authentic voice as an outcome of engaging in my workshops.

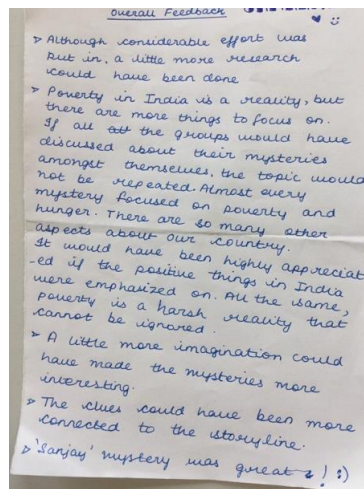


Figure 3: INDUS student employing her voice during peer-feedback

Whilst tapping into voice can be for introspection it can also be used for activism as I found out in my second action research cycle. One student from the Indian school used her voice to challenge colonial mindset in her peers. I remember the discussion with this particular student when she came up to me to express her displeasure regarding the learning artefacts produced by her English peers. I encouraged her to reflect on her thoughts and share it with her peers. Her feedback clearly represents her voice and her words and the intensity of her thoughts.

The final comments that I would like to express are from the headteachers and classteachers who emphasize the impact I have had on pedagogical practice.

Hum:NMS: No, seriously. I think you being you has been crucial to your enthusiasm.

Geo_NMS: The children responded really well to you.

Hum_NMS: Your constant presentation is upbeat and smiling and encouraging and coaching and questioning and in such a lovely way, has been so important to the project. I don't think that that could be classed as a researcher. It think it's got to be down to the person and I think you've contributed enormously.

Geo_NMS: I think you're right. I think, if it had been someone- The kids felt they wanted to share things with you and they wanted to speak to you about things. They wanted to ask you about things and they might not have been like that with someone else.

Hum_NMS: It makes it different from just another school.

Geo_NMS: Just us asking, "We need to do something again."

Hum_NMS: If it's just a classroom with me, who they see all the time, they say, "Right, we're going to do this project and we're going to be reaching out into the community and we're going to present-" But the fact that there is someone there, different, they are not normally used to seeing work with us makes it just that little bit, "Oh, this is something a bit different."

Geo_NMS: You can tell because, when you weren't there, they would ask where you were.

Teacher Interview, AR Cycle 1

HT_NMS: I think the answer to that is the fact that because the children and the staff have been involved with your lead if you were not a kind of lead as in... Not as lead as in making them do what you want them to do but as a lead in terms of introducing, dropping the ideas in. I think now people know how that has been modelled maybe for our staff and for the children. So it should be more self-sustaining in some respects because it has been viewed, hasn't it, as a model. Then we can start going, "Right, how did Vidya actually introduce this? What did she do when she brought in the Bootlegger? What did she do?" We need to maybe analyse that a bit so that we can make sure we present in the same way.

DH_NMS: I think a bigger share once we come towards the end of the project with yourself and the key teachers involved in that, the biggest share with the staff because if we are going to do this for theme week we are going to have to get moving on it quite quickly. Everybody will have a chance to actually dip their toes in the water and then the next wave of departments will say... I know the Science Department are chomping at the bit to do another project.

Teacher Interview, AR Cycle 1

HT_INDUS: The event went on very well, because it was a good experience. As I told you, I was very apprehensive about all of it, because the last experience we had was not really very good... I think there was a lot of learning that was taking place from our students also. There was a totally different methodology that you introduced which, I think, not only did the teachers pick up, and the children were also very comfortable with that.

Teacher Interview, AR Cycle 2

Earlier when I would receive feedback from headteachers mentioning how much the students and teachers enjoyed taking part in the activity, I would consider their words as kind gestures. It is only now that I realize that those feedback actually served as evidence and they reflect my ontological and pedagogical values emerging through my practice.

3

Research Design

Chapter 3. Research Design

In this chapter I present my understanding of how my research has pursued a systematic enquiry. My motivation to engage in self-study action research methodology stems from the need to explore my experiences from a personal standpoint. When I started to write the introduction chapter I realised that there was a lot of my past that has impacted my present and it was important to tell that story. I initially tried to write a third person account looking at my past from a distant and then writing about it. But it seemed impersonal and unauthentic. After a point, I could write no more and all my efforts then seemed to focus on extending the word count. This really changed as I started to narrate the experience instead of trying to report it. I looked at meaning, motivation, interactivity, therapeutic value, credibility, verisimilitude (Hatch & Wisniewski, 2002; Miller, 1974) all of which are important for a quality systematic inquiry. In using a narrative approach I put myself in the center and was able to take responsibility for my identity rather than delegating it to someone else (McCormack, Illman, Culling, Ryna, & O'Neill, 2002). Through my account I was able to provide not only what my practice entails but also the experiences that shape my practice. What was taken for granted earlier now became the focus and in doing so I was impacting the presence of my practice in the social hierarchy and influencing change in my practice. In developing the narrative I gained a better understanding of the 'self'. Telling a story facilitated the creation of a 'process menu' which helped me to understand the various steps involved in achieving certain outcomes and the challenges that accompanied it along the way (McCormack et al., 2002). This thesis presents not just the actions that I took in a specific social context but also my reflections as to why those actions were taken. I elaborate this in chapters 5, 6 and 7 where I offer narrative accounts of my critical reflection by organizing my research in three action-research cycles. I chose to bring in several aspects of literature within each of those chapters in order to contextualize how my action was informed due to various factors including my engagement with critical literature. Particularly in chapter 7, I summarize my critical reflection and present a guide chart to illustrate how I approached my practice. In chapter 8, I test the authenticity of my work by asking other researcher-practitioners working in similar areas to discuss and debate on the guide chart. Thus at the start of my research I first engaged in reflection on what I have done, following which I charted a plan as to how I should approach my research. Then as the action unfolded I went back to reflect on the action conducted. The learnings from the reflections informed my next action research cycle.

I was initially overwhelmed with the choices available within the action-research methodology. I finally narrowed down my choices and decided to use McNiff and Whitehead's (McNiff & Whitehead, 2009) self-study action research. Their critical questions provided me a methodological base to theorize what I have been doing and ensure that my work is rigorous and systematic. I situate my work and address their questions (ibid) as below.

I review my current practice;

My first step was to engage in reflection to understand what I was doing. In doing so I broke down the assumptions that my practice is separate from the person that I am and the values that I hold. I was unsure of the impact of my work on teacher-practice or student-learning or whether the knowledge or experience that I generated would be of any help to the academic community. At that point in time I had accepted the marginality of my role (Stonequist, 1935). I was categorizing my work and placing it within the educational hierarchy and comparing it to work that teachers do to impact student learning. Despite subscribing to feminist values (Adichie, 2014) of equality, inclusivity and agency, I was colluding to paternalistic notions of performance and centralized knowledge production. I realized that I was a living contradiction (Whitehead, 1989) and that I needed to look inside to change what was happening on the outside.

I identify an area I wish to improve.

I realized that I was not externalizing my values in my practice. Infact I saw that I was actually living and working in a paradox. I looked inside to see where the contradictions originated and found that it was due to the patriarchal upbringing, authoritative education system, colonial thinking and the immigrant self-doubt that have denied me the freedom to live my feminist values truly and completely especially in my educational practice. The current performative-focused, education system ((Clarricoates, 1981; Leckie & Goldstein, 2017) has ensured schools have become a bureaucratic machinery where the thinking of people can be controlled and managed. I realized that I need to emancipate my 'marginal thinking' and use my voice and agency to challenge the prevalent social condition that promoted notions of 'othering'.

I ask questions about how I can improve it.

These questions were my research questions and answers to these are my claims to knowledge. My concerns were regarding my role and my practice in the education system. So my research question centred on 'How do I situate and summarise my practice within the English education

system?’

I imagine a way forward.

The first action research cycle was my response regarding the way forward. I designed this cycle specifically to incorporate all the elements of my practice including cross-cultural learning, use of digital technology and experiential learning approaches to test the authenticity of my claims with respect to my practice. I looked at my practice and tried to critically capture what is that I do when I design and deliver an activity for a school. As I rolled out the other action research cycles, I gathered data that evidenced my claims. Data was collected through writings in reflective journal, field notes, discussions with headteachers, interviews with class teachers and students, photographs, student evaluation sheets, supervisory discussion notes, email conversations and discussions with colleagues. All the audio recordings were painstakingly transcribed and analysed to form evidence to my claims.

I evaluate the action.

Undertaking this research has given me the opportunity to develop a vocabulary for my work. I have nurtured my confidence as a practitioner, an educator, a researcher and an academic. I am now able to look at my practice as an extension of myself and engage in my practice as a reflective educator and reflexive practitioner (Attia & Edge, 2017). My epistemological stance has influenced my pedagogical style to encourage dialogic learning where discussions and debates are considered based on notions of validity and not that of power. This wasn't the case earlier. I thus evaluate my actions to see if I arrived from a categorical stance to a dialogical one where reflexivity is constantly present.

I reconsider my position in light of the evaluation.

I believe that I have conducted this research and adhered to methodological and systematic rigour (Whitehead & McNiff, 2006). The quality of my research did not just depend on existing methodological approaches but also on the communication of the results so that the results can be acknowledged as authentic, honest, clear and relevant. As a practitioner-researcher it is expected that I place my work in the public domain and be open to their scrutiny. I do that with a hope that an ‘intersubjective agreement’ (Terry, 1997) can be reached and I can establish the authenticity of my claims to knowledge. But getting to this point was not an easy process as it involved a lot of angst, worry and exasperation. I began putting words into a document from November 2018 and sending them over periodically to my supervisor for his feedback. From my

early attempts to write this thesis to its current stage, it has taken me nearly 16 months to understand what my research is all about and how I want to present it. Having conducted action research cycles in three different geographical locations nationally and internationally, I was able to collect large amounts of data to tell my story. The interdisciplinary nature of my research also created avenues for me to publish 4 papers in top-end HCI (Human Computer Interaction) conferences and build my reputation as an academic. These activities whilst have consumed a lot of my time but it has also showcased the rigour I have employed to write this thesis. My Ph.D. was funded by the Computing Science department where my initial motivations was to evaluate the impact of technology within educational domain. My interests initially resonated with the department's positivist approach and thus started my first year purely looking at the role of digital technology to impact curriculum learning. This approach did not help me to reflect on my practice and I thus relegated its existence to the background. I turned to David for help with the dichotomy I was facing. Discussions with him have always helped my thinking on nature of my research concerning my practice. Following those discussions I would end up feeling that I needed to focus my inquiry of what I do within the educational realm. I was torn. I almost felt it was self-indulgent to write this thesis about my work as I did not deem my practice to be important or mainstream. In hindsight I realized it was also due to the environment where I was working in i.e. from Open Lab, School of Computing Science. Technologists often view social science research lacking in objective. I heard narratives like focusing a thesis on individual's practice was akin to writing their autobiography and engaging in one would not lead to robust academic contributions. Being exposed to this form of talk in my workplace made me internalize those notions albeit with reservations. This meant the focus of my research kept oscillating between different standpoints like technology's impact on curricular learning in cross-cultural contexts or external agents working in schools to facilitate easy integration of technology and PBL. Thus the focus was always from an outsider stance looking at my practice through the tools and instruments that I use. Although the conceptual framework supported my value system, it did take a while to arrive at an understanding of what my research was going to be. It also took significant energy, time and effort to move away from the thinking where I was writing about the issues and to start thinking to write about my practice. This awareness and clarity happened in one of the meetings with my supervisor.

Me: But David, I am still not sure how I am going to make this PhD about 'me'?

David: Vidya remember this is about you and your practice. So you need to establish your 'self' as it is will resurface and emerge all through your work.

RD, PhD Supervisory Meetings with David, 2018

I clearly remember this meeting as it was here that the proverbial penny dropped. There was something about that statement that made complete sense to me as to why this has to be about 'my practice'. Up until that time I knew that I had to write about my practice but I did not realize why. Knowing is not the same as realizing and I am glad to have learnt this whilst writing this thesis. I started my research in 2015 and it seemed that I was very slow to recognize that I was researching was my practice (Whitehead, 1989). As I ploughed along I knew that my critical awareness was rising and I felt that I was moving closer to the issues that were core to my research.

3.1.1. Data Collection - Methods

In this section I provide a description of the data collection methods and data analysis aspects of my research. I explain the various facets involved that came together to form my data sets.

As I was working with multiple collaborators I realised that I needed to embrace a contextualised and interconnected research method to make sense of the data that was being generated. I wrote reflective field notes of the activity predominantly after the event was completed. This was because I was based within a school setting and it was not always possible to take photos or make field notes when the event was taking place. As I reflect on my research methods, I now realise that the learning from my data took place at multiple instances. For example when I was recollecting the event and writing my journal, when I was engaged in discussions with my colleagues regarding my work, when writing for academic publications, or while facilitating interviews with students and teachers. The below section highlights the different data sources that I have used and data analysis method employed. Whilst each data sources do seem unique but when viewed within the context of the project the coherence comes to the fore.

Having diverse data sets led to the generation of diverse facets of knowledge. The heterogeneity of the data highlights the complex nature of the processes involved in producing and compiling the data. I have predominantly employed informal approaches to collect my data to be mindful of the needs of the schools where I worked. Although some amount of loose structure and guiding questions were used when collecting data during focus group interviews. My data sets comprised of audio files (which was transcribed into text), reflective diary, artefacts and photographs.

Audio Files - Transcribed Text

Audio files were predominantly recorded during interviews conducted with teachers, students and fellow researchers. In each action research cycle, I conducted a focus group interview with teachers and students to collect their reflections on the activity. These audio files were predominantly transcribed by myself. In instances where I was unable to do it, due to time pressures, I would then send the data to a university approved professional audio transcription service who would transcribe the files into text and would email me the word document. These transcribed files then became pieces of data to be analysed.

Reflective Diary

I maintained a digital journal on Evernote where I recorded minutes of the meetings held with collaborators, minutes of meetings with supervisor and personal reflection at every step of the project. This reflective information has been used as data to conduct my analysis.

Artefacts

The physical and digital artefacts produced by students in each action research cycle also contributed to my data set. This data set was key as it helped me to recognise the students' ability to manipulate information from tacit forms to explicit forms through the creation of physical and digital artefact. These artefacts formed the basis of our conversations in our focus group interviews. The physical artefacts were the projects/models that students produced as a response to the PBL activity and the digital artefact refers to the mysteries created on the Thinking Kit application.

Another artefact was my brokerage factor guide chart. When working with my fellow researchers, I encouraged them to manipulate the guide chart that I had provided to them during the focus group interview. This artefact facilitated conversations during the focus group interview and was also used as a piece of data in itself.



Figure 4: Examples of physical artefacts created by students

Photographs

I collected several photographs through the course of my research project. Student conversations and collaborations in the classroom, teacher-student interactions, pictures of artefacts that were produced as part of the PBL activity and photographs of community members attending open day events in the school. The photographs were used to reflect and understand some of the processes involved in the projects. Images were captured to document a particular experience or process. The images in this document provides a visual representation of my research and helps to create a layer of meaning to the reader.

3.1.2. Data Analysis

As Richards (2003) puts it, ‘analysis is neither a distinct stage nor a discrete process; it is something that is happening, in one form or another, throughout the whole research process. The relationship between data and analysis is therefore an intimate one ...’ (p. 268).

I employed personal reflection and thematic analysis to make sense of my data. The three action research cycles provides a comprehensive view of my reflective analysis (chapters 5,6 and 7) where thematic analysis was used to interpret the data for the validation process (chapter 8) .

I have not undertaken a formal approach to data collection and data analysis but instead engaged in a reflective action research process where data collection, action and reflection

occurred in succession. There is definitely an element of ‘messiness’ in my data collection method but this approach is embraced within action research process (Cook, 2009) as it is through the mess that we are able to access our tacit knowledge. The messy, complex and co-dependant data sets like that of notes from my reflective diary, student and teacher interviews and photographs became an inherent part of the vocabulary within this thesis. Working with schools using dialogical approaches does create a certain amount of ‘mess’ during the research process. Hence I found it difficult to clearly bifurcate data collection from data analysis. The reflective diary notes helped me to reflect on the tacit and undocumented aspects of my work and in the process engage in analytical thought about my role and my practice. Infact my reflective notes make up a significant part of chapters 5, 6 and 7 as the analytical process of writing and producing them were a part research process in itself. To support my approaches in this hybrid analysis, I carried out two different types analysis, personal reflection and thematic analysis to contextualise my data. I briefly discuss them below.

Personal Reflection

Data analysis is often said to take place during reflective moments within action research (Grundy & Kemmis, 1981) and it was through reflection on my diary notes that I could understand the challenges and opportunities that lay within my role and my practice. I was able to access some deep learning that helped me to move forward in my research and embrace the authenticity of my practice. Whilst the interpretations from my reflections are my own but the insights that I offer from these interpretations will definitely help the wider practitioner community. The interpretations have been obtained through discussions with my supervisors and deliberations with colleagues and dialogues with teachers and students. Narrating observations (Burns, 2009) is accepted as a valid form of data analysis strategy within action research. In this approach researchers are encouraged to present their reflective notes through four ways; chronological, selective, particular and conceptual. I have opted a chronological-selective approach to make sense of my vast data sets and present my personal reflection through these data sets.

Thematic Analysis

Thematic analysis can be seen as a foundational method for qualitative analysis. It is a method for ‘*identifying, analysing, and reporting patterns (themes) within data and it minimally organises and describes data set in (rich) detail*’ (Braun & Clarke, 2008). The data is examined

repeatedly to identify themes and patterns. Some overlapping approaches can be identified between Grounded Theory (Strauss & Corbin, 1994) and Thematic Analysis (Braun & Clarke, 2008) especially that of open coding, axial coding and selective coding in Grounded Theory correlating to approaches of codes, sub-themes and themes within Thematic Analysis. For the purpose of this work, I have employed the techniques mentioned within Thematic Analysis (ibid) thereby following notions of codes, sub-themes and themes in this report.

I collected audio recordings of the focus group interviews and manually transcribed them. I read through the transcripts several times to get an impression and sense of the totality of the information. To develop a unit of analysis, segments were identified in the transcripts that showed transitional changes (e.g. change in activity, approaches to task) and coding categories were developed by employing thematic analysis techniques (ibid).

3.1.3. Rigour, Quality and Authenticity

I would like touch upon here how I am testing my claims to knowledge and its authenticity by first exploring the notions around validity. I resonate with McNiff's (McNiff & Whitehead, 2009) explanation as to why we need to validate our claims to knowledge. She says

'In presenting your research to others, you are claiming that you have done this. In asking them to validate your new knowledge, you are asking them also to validate your assumptions about the knowledge- generating process, that is, how you believe you have come to know.'

Lomax (1995) highlights the values of validation and mentions *'demonstrating the validity of action research means demonstrating high quality awareness of the issues'*. She (ibid) further adds that within action research, validation is seen as a process where the researcher is sharing his/her ideas, interpretations and conclusion particularly with an 'educated' audience, who are able to judge the authenticity and relevance of the work conducted. Bullough & Pinnegar (2001) provide guidelines to researchers engaging in self-study to establish quality and possibly towards establishing their claims to knowledge.

1. Autobiographical self-studies should ring true and enable connection
2. Self-studies should promote insight and interpretation
3. Autobiographical self-study research must engage history forthrightly and the author must take an honest stand
4. Biographical and autobiographical self-studies in teacher education are about the problems and issues that make someone an educator

5. Authentic voice is a necessary but not sufficient condition for the scholarly standing of a biographical self-study
6. The autobiographical self-study researcher has an ineluctable obligation to seek to improve the learning situation not only for the self but for the other
7. Powerful autobiographical self-studies portray character development and include dramatic action: Something genuine is at stake in the story
8. Quality autobiographical self-studies attend carefully to persons in context or setting
9. Quality autobiographical self-studies offer fresh perspectives on established truths.

Whilst these guidelines offer support with respect to quality there is very little direction provided on authenticity. The nature of educational research entails both moral and political aspects and as researchers we need to demonstrate not just quality but also authenticity and validity of our research (Feldman, 2003). Authenticity is important to me as I want my research to impact my practice, teachers, students, schools and most importantly other practitioners. I looked at some of the ways how researchers engaging in self-studies could increase the authenticity of their research (ibid).

- Providing clear and detailed description of how I collected data and making it explicit what counts as data in my work.
- Providing clear and detailed descriptions of how I constructed the representation from my data.
- Extending triangulation beyond multiple sources of data to include explorations of multiple ways to represent the same self-study.
- Providing evidence of the value of the changes in my ways of being an educators.

Traditionally research authenticity would mean that the methodological rigour meets several conditions including that of generalizability and replicability. My research seeks to understand what my role is, establish a shared language to define my work and in doing so create an identity for my practice. It would be impractical to try and generalize my work or use the data to replicate the findings. This is due the fact that the study involved a deepening of my critical understanding of my practice in a specific context with a definite set of students and teachers. It is impossible to replicate the findings as my actions cannot be considered in isolation for they are performed in a certain context with a set of people with whom I have a specific relationship. My research welcomes practitioners to take my findings and extend its offerings on educational brokerage as a form of practice to suit their needs. But this is does not imply generalizability or replicability. For example I presented factors affecting brokerage guide chart to my lab

colleagues who are working as researcher-practitioners in schools. They engaged with the guide chart, critiqued it and discussed as how they saw it fit in with what they did. Excerpts of the conversation is presented as below, I discuss this activity in detail in Chapter 7.

Male_A1: Yeah I know. It is hard not follow a similar sort of timeline (as indicated in the guide chart). Obviously between D and I we have different ones. Those nuances of how you are going to operate, how long you are going to operate for and what partners are going to be involved is useful. And pinch points of where people come together or where you probably feedback. Having those is very important if you were use it as a framework.

Female_M: For me this framework approach was very similar. Where it differs is any point I needed people from school to be there like teachers or like trying to organise the time, as teachers are so busy and when they are free 'lets have a chat, lets have an update' and they are like 'could we do this in 2 weeks time as I have to mark report' or do a training course so unless these are very predefined points, like the other day I have had a meeting in the diary for 2 or 3 weeks and the teacher was like 'Oh I forgot, I have signed for cover, do you want to have a meeting in the lesson?' and we tried and it wasn't working.

Male_D: Yeah different configurations of it might be helpful. So if you are doing something that is a programme, so this might be relevant Gareth. He might follow something that is relevant to your stuff where he is delivering curriculum and he has to go through the senior leadership team and things like. Whereas if you are doing a one-off session which hopefully will evolve into more, you will need one-on-one with the teacher who will be delivering it.

Researcher Interview, Guide Chart Validation

I am also mindful as to how I am testing my claims to knowledge. I have not just relied on my own interpretation of the events taking place, but through my everyday engagement in my practice and by engaging with emerging theory and literatures I have tested my claims as well as engaged in critique with other colleagues and practitioners. In doing so I claim that,

- I have deeper understanding of the education process in which my practice is situated.
- I have reconceptualized my practice and have developed a shared vocabulary by giving it an identity within educational brokerage domain.
- I ground the understanding of my practice in my ontological values of feminism particularly those of equality, inclusivity, voice and agency.
- I have impacted my practice as I now understand my work and its knowledge offering which are in sync to the values that I hold.
- It is not possible for me to teach how to be an educational broker but I have developed the capacity to engage in self-reflection and I am able to share this experience to help others to uncover their roles as educational brokers.

The following questions showcase the standards of judgement that I have used to evidence the quality of my practice and research.

- Have I evidenced the improvement of my understanding of my practice in relation to the educational practice where it is located?
- Have I considered the issues in establishing my practice in relation to my ontological values?
- Have I reconceptualized my practice in relation to my ontological values?
- Have I evidenced the change in my ideas towards my practice over the period of this research?
- Does my narrative exhibit originality and critical engagement?
- Have I articulated my account coherently, adequately and systematically?
- Have I taken ethics into consideration when engaging in research?

This is not an exhaustive list. This list will grow as I engage in my writing and narrating my account.

3.1.4. Research Ethics: Permissions and Access

I present the ethical considerations undertaken in my research to demonstrate its integrity and rigour.

My research comprised of three phases of action research and each phase was delivered as a distinct research cycle. Prior to commencing the activity on each phase, I made an application to the university ethics committee to seek their permission to conduct my research. Following the clearance, I approached my participants i.e. students, teachers and parents for consent (Appendix 1, 2, 3, 4), and invited them to take part in the research.

As I was working in an interdisciplinary area exploring technology and learning, I had to seek permission regarding technology use as well. The focus of my research was to look at my practice by leveraging the use of digital technologies and PBL approaches. So I had to monitor both my actions and student engagement with digital technologies, to map the trajectory of my practice in the research.

For my first action research cycle, I worked with 128, Year 7 students at Newcastle Matriculate School (NMS) a secondary school in Newcastle upon Tyne. I created the information sheet (Appendix 1) together with the teachers which was then circulated to the parents. I met the students to explain the project and collected student consent along with

parental consent. At the end of the phase I invited students to be a part of the focus group interviews and recorded the session.

I used 'opt-in' consent forms (Appendix 3 and Appendix 4) where participants have to sign the form to show they have read the details of the project and understood what the activity entails. I also sought consent from the senior management members, class teachers and subject heads.

For my second action research cycle, I was working with schools in England and India. I approached the ethics committee again to take their clearance to work with the school in India. I made sure that I covered aspects relating to researcher health and safety, anonymity and confidentiality and showed it to the teachers in India and England. Once they were satisfied with the ethics procedures that I had followed I sent over the consent forms to the two schools.

For my third action research, I worked with two secondary schools in England. My ethics approval was still valid and I referred to the steps that I had undertaken in action research cycle 1 and applied it to action research cycle 3.

One question that I often had was regarding anonymity waiver. The schools in England and India wanted to have their actual names attached to the project as they saw it as an avenue to impact their presence within the school community and showcase their width of engagement to the parental community. Since the ethics was provided for anonymity of participants I was unable to amend this aspect due to time constraints. The anonymity waiver request got me thinking regarding user anonymity in research. As researchers we wish to shield the participants from harm but that process could also mean that participants may experience 'loss of ownership' (Grinyer, 2002) due to anonymisation. The decision to offer my participants a choice to waive anonymity did not occur to me at the start of the project. I considered anonymity to be inherent and important aspect of a research as I thought it also meant confidentiality. The prevalent notion of conflating anonymity with confidentiality (R. Wiles, Crow, Sue, & Vikki, 2006) is widespread in research. I think there is a need to bring clarity on how confidentiality can be maintained without compromising on anonymity. This research has provided me the opportunity to challenge some of the givens that I had that I subscribed to regarding confidentiality and anonymity. It has also helped me to rethink on some established practices and to question and critique them. Offering a choice to the participants is not an easy decision but it is important to keep this discussion alive so that participants are empowered to make informed choices.

With respect to this research I have at all times acted responsibly and with integrity by maintaining the confidentiality and privacy of all participants. I have anonymized the names of the institution and have provided pseudonyms or initials to the participants for the purpose of

this research . At all times I have acted with a duty of care to my participants and to myself and have embodied the values and ethics required to conduct an honest and sincere inquiry. Consent forms were collected in a paper format and I have an physical archive of the consent forms in a secure location within the university.

I have had the opportunity to disseminate my research work through publications, conferences and talks. I sent drafts of my publication papers to the teachers and sought their views on it. When papers were published (Sarangapani et al., 2016, 2018, 2019) I sent the published articles to senior management in schools, respective class teachers and colleagues acknowledging their participation and thanking them for it. Presenting my work in different forums resonated well with my ontological and epistemological values where members of the wider public could engage and see what is it that I do.

3.2.CONCLUSION

Through this chapter I have presented my rationale for choosing self-study action research as my methodology and to aid me in producing my own living educational theory. In the next chapter I offer insights into how I began to take action to understand and establish my practice. As mentioned earlier, this thesis offers a narrative account of how I began unravelling my practice and reconceptualizing what I do. I was initially engaging with a lot of academic literature and theories but had not moved into critical reflection zone yet. The following chapters focus on more literature reviews that I undertook to situate my work within the action research cycles. I organise my literature a little differently from traditional thesis and I discuss them in the forthcoming chapters. In Chapters 5, 6 and 7, I explain my transformation by presenting my practice as a cycle of action-reflection and propel it in the direction towards critical reflection.

4

Literature Review

Chapter 4. Literature Review

This chapter is a representation of my understanding of the major conceptual issues before I started my action research cycles. In this chapter I identify the literatures that influenced my theoretical frameworks and grounded my educational values. I offer explanations as to how I came to recognize the values of voice and agency as key conditions to the development of my critical thinking and my practice. I initially explored literatures on some of the contextual issues affecting my practice particularly on the use of digital technologies and PBL pedagogy in cross-cultural setting. The use of technology was particularly important as through it I was able to establish the validity of my work to school leaders and decision makers. My practice now extends to encompass conceptual and contextual attributes where my value system supports my conceptual development and the use of technology, PBL pedagogy and cross-cultural setting lends itself to address contextual issues in my practice.

I examined various literatures to ascertain my living practice and to determine concepts and theoretical frameworks that would help me develop my understanding of the diverse components that come together to make my practice. I will be referring to more literatures in my action research chapters to evidence my developing understanding. To a small extent there are elements in this chapter that I did read later but have included them here to maintain coherency.

4.1.DEVELOPING MY CONCEPTUAL FRAMEWORKS

I started to engage with relevant literatures that supported the development of my conceptual frameworks. The range of literature that I chose to explore prior to writing this thesis were those of values, voice and agency which I had identified as key for the development of my practice and my critical thinking. It was important for me to ensure that my values didn't just exist as concepts but also as actions in my practice.

I have always believed that my practice embraces and celebrates the values of equality, inclusivity and creativity. Working within the remit of cross-cultural learning meant that these values were implicit to my work and practice. Thus I first focused on literatures

that contributed to the development of my conceptual framework and formed my living practice there by impacting my capacity for critical engagement.

4.1.1. Values of voice

Voice to me is engaging in dialogue and externalizing it. Through my voice I wanted to ensure that I making myself heard by narrating and authoring my lived experiences. Bakhtin et. al. (Bakhtin, 1981; Thompson, Bakhtin, Holquist, & Emerson, 2010) have provided a grounded framework on voice where they emphasize that one has to be aware of whose language is being represented. All discourses whether spoken or written, expressed or implicit, interacts dialogically with its immediate social and broader historical contexts. Giroux & McLaren (1986) mention that the concept of voice is an instance of self-expression to affirm one's own class, cultural, racial and gender identities, shaped by personal history and lived engagement with the surrounding culture. Reflecting on the values of voice I realized that I needed to engage with my inner dialogue if I wanted to use my voice outside. I recognized that I must understand how my gender, cultural and racial identities intersects with my heritage and history. Two voices particularly required my attention, one relating to the marginality of my role which I term it as the marginal voice and the second relates to my personal history and my lived experience which I term as the minority voice. I realized that exploring the two voices would evidence my internal dialogic interactions.

Marginal Voice

Using my voice I wish to highlight first-person perspectives of practitioners operating outside the school eco system. Due to the unconventional nature of our roles our voices have often been excluded from political and social construction of curriculum making. This was due to the fact that the voice of authorities always dominated discourses and determine whose knowledge mattered in institutions. The prevalent power structures and discourses were thus making my voice inaudible and maybe even undetectable. I realized that I needed to make an effort to build my voice, one that is strong, coherent and authentic. Using my practitioner voice was one way of addressing centralized notions to knowledge production. In doing so, I was trying to challenge the control that learning institutions were wielding on knowledge production. The motivation to develop my voice lay in the fact that I desired to reconceptualize my practice and its offering. I thus started to ask questions to those with

authority, trying to find ways to exercise my responsibility. Finding my voice became vital as I knew, doing so would aid me to move my role away from the margins.

It was in reading the works of Freire (Freire, 1970a, 1974) that I found the raising of the consciousness can assist one to find their voice. Work of Habermas (Terry, 1997) regarding 'ideal speech-situation' which disregards prior power relations during idea exchanges made perfect sense. My experiences of working in schools highlighted it as a place of contradiction. Not everyone's knowledge was not accepted as equally credible. Whilst school leaders express the need for decentralized approaches to knowledge creation, the structures are usually driven by centralized policy frameworks. I wanted school heads to hear my thoughts regarding knowledge production. To understand that curriculum was not the body of knowledge within the education framework and that schools should be a place for mutual learning where lived experiences are shared. However I was unable to do so and I realize my hesitancy was to do with issues of validity. Even when I was using my voice I was not doing so to challenge status quo. For example in meetings with the teachers when there was no apparent disagreement it was always assumed that the decision was mutually accepted. The diary record highlights this where my silence was accepted as an agreement to the decisions that teachers were taking.

The logistics of using iPads seems pretty challenging. Even with the presence of iPads teachers seem to prefer to use Desktops. Hum_NMS seemed a little more keen to maybe try it even if it seemed a little cumbersome. But Geo_NMS mentioned that she would much rather use the desktops rather than the iPads just to keep it manageable. I didn't want to upset the dynamic and I mentioned that I am trying to research my work on mobile devices and wondered if they could work on iPads. But Geo_NMS discussed it with Hum_NMS in trying to build the mystery on the desktops. We decided to go ahead with desktops for the moment.

RD, Action Research Cycle 1

I realized that if I really cared about student learning I must engage in deeper uncomfortable discourses of access and privilege (Nieto, 2005). Prior to doing that I needed to find within me what is it about access and privilege that is stopping me from being the professional that I want to be. The issue about using my voice is not that I was not being listened to. Students, teachers and school leaders were listening to what I have to say. But they were responding to my voice by reiterating my thoughts and ideas back to me without critically examining their opinions. Such scenarios encouraged tokenistic participation. This lack of internal dialogue in students and teachers is what I was keen to address but lacked the voice and words to do so. Freire's (1970a) views on dialogue resonated well here for he says dialogue as a task of learning is broken even if one of the them lack humility. I interpret

humility here as the ability to be self-critical, where each party is able to acknowledge the power and privilege they possess. He (ibid) adds

How can I dialogue if I always project ignorance onto others and never perceive my own? How can I dialogue if I regard myself as a case apart from others — mere “its” in whom I cannot recognize other “I”s? How can I dialogue if I consider myself a member of the in-group of pure men, the owners of truth and knowledge, for whom all non-members are “these people” or “the great unwashed”? How can I dialogue if I start from the premise that naming the world is the task of an elite and that the presence of the people in history is a sign of deterioration, thus to be avoided? How can I dialogue if I am closed to — and even offended by — the contribution of others? (Freire, 1970a)

This quote highlights my dilemma regarding dialogue and how dialogue can offend individuals who hold power. When individuals with power don't welcome dialogue how can I possibly encourage them to reflect on privilege. The lament in the last line echoes my thoughts as I have met school leaders who do not wish to engage in a dialogue with me regarding curriculum change. When I pursue, they are offended that someone without any experience or formal teaching qualification is audacious to offer views on topics beyond her expertise.

Dialogic exchange seeks full representation of voices living and unfinalized where majority and minority perspectives are embodied (DePalma, 2008). It is in these words that I was seeking to break out of my marginal voice. I wanted to engage in a dialogic exchange with the diverse voices that I represented, some of which were dominant and others, work-in-progress. I wanted to acknowledge the unfinalized nature of these voices that I embodied. I realized that not engaging in a dialogic exchange with my self is akin to rendering disservice to the community that I was part of. The hegemony of mainstream culture is already dominating the system and the only way to challenge the hegemony is to raise our voices against the systematic silencing through the principles of dialogicity.

Minority Voice

Schools today reflect the multicultural makeup of the society. This plurality brings with itself issues of legitimacy due to competing values and priorities as school curriculum are designed by the state often misjudging the requirements of minorities and the disadvantaged. As I am socially positioned to be aware of issues relating to cultural minorities I recognized the importance of using my voice. Raising my minority voice often makes me anxious as the issues that I highlight may be misinterpreted thus making it a risky proposition for me to raise my voice. It is not the fear of disagreement that worries me but the essentializing of my voice to be representative of the whole minority group (Martin & Van Gunten, 2002) that worries

me. This expectation, due to my heritage, often creates a pressure in the work that I do. Coupled with this I have to also think about ‘translating’ some of the issues to make it accessible and explain the issues in relation to the dominant narratives to ensure authorities are able to grasp the gravity of the situation. Such translation activities requires enormous emotional and mental labor and shifts the attention back to power structures thereby reinforcing status quo.

The essentializing of a minority voice where the experiences of an individual is seen to be representative of the whole community inhibits the effort to reach out to the diversity of views and experiences. This lack of diverse minority voices in the development and design of the curriculum is very apparent (Harris & Reynolds, 2014; Y. Kim, Baylor, & Shen, 2007; Tomlinson, 2012; Turney & Kao, 2009). Research has addressed these issues (Crozier & Davies, 2007; Yanghee Kim, 2009) to ensure schools take responsibility to address the absence of minority voices but there is still a long way to go to achieve equality in curriculum framing. Stakeholders of schools are unable to raise their voice due to the prevalent power structures. It is thus not a surprise to see practitioners with passive voices operating inaudibly on the periphery. There is also an intersectional effect that is at play. Working on the periphery and being a minority provides me ample excuses to not engage with my voice as it requires tremendous confidence and self-restraint in equal measures to challenge status quo. I remember one conversation with Hum_NMS prior to the international linking of schools when I was asking him about how curriculum addresses the colonial history.

‘Well we do teach about the development of British empire in the curriculum and they get to learn about the positive and negatives of the influence of the British empire.’

RD, Action Research Cycle 2

It was here that I wanted to ask him about colonial past, getting students to debate about colonial thinking, about decolonizing the curriculum and how it impacts critical thinking, But I couldn’t get myself to say all this to him at that point because I didn’t know how to broach this conversation.

If important and diverse voices don’t take part in the dialogue, there is a risk that we run into the majority monologue with a tacit agreement to honour the culture of silence (Freire, 1985) leading to false understanding or rather an incomplete understanding of the issues at hand. The importance of including diverse, incomplete and contradictory voices in education has been well summarised by DePalma (DePalma, 2008)

No textbook, video or lecture can duplicate the kind of learning that comes from the dialogic encounter among living, diverse, incomplete, incoherent and sometimes frustrated voices. Our task is to find ways

of inviting these voices into academic institutions from which they have traditionally been excluded.
(DePalma, 2008)

It is with these words that I started to engage with my minority voice to ensure diverse voices are reflected in the school curriculum. One way was by designing the activity that encouraged wider community participation. Students brought back several real-life stories of individuals from diverse background and life-experiences. In having to engage with the real world, students were unconsciously led into a dialogic exchange and doing so helped them to make use of their voice and make sense of the information. Two students externalize this as below.

Female 1: Well, basically, it was kind of like the reality of how some people would just have to flee their home and their country, and also because obviously, me and M went and interviewed someone who's family had also done that, it was really hard.

Female 3: And like thinking about how you could solve the problems because it's quite hard to solve problems like immigration.

Student Feedback, Action Research Cycle 1

4.1.2. Values of agency

There was a lot of internal debate that I undertook to position the relevance of agency and to comprehend what it meant to me and my practice. Agency has been associated with taking initiatives, taking action to influence one's life situation or to make a difference. I wanted to understand agency as a living practice and its relation to my understanding of the English education system. Working across organizational boundaries meant that I could be vulnerable especially when travelling across the boundaries without the protection of the organization. It was in such scenarios the importance of agency came to forefront (A. Edwards, 2005). A comparative summary (fig 4) of different approaches to agency (Eteläpelto, Vähäsantanen, Hökkä, & Paloniemi, 2013) helped me to understand agency in a professional setting.

Their work (ibid) focussed on subject-centred socio cultural approach to professional agency and I summarise it as below.

- *Professional agency is practised (and manifested) when professional subjects and/or communities exert influence, make choices, and take stances in ways that affect their work and/or their professional identities.*
- *Professional agency is always exercised for certain purposes and within certain (historically formed) socio-cultural and material circumstances, and it is constrained and resourced by these circumstances.*
- *The practice of professional agency is closely intertwined with professional subjects' work-related identities comprising their professional and ethical commitments, ideals, motivations, interests, and goals.*

- *Professional subjects' unique (work) experiences, knowledge, and competencies function as individual developmental affordances and individual resources for the practice of professional agency at work.*
- *In the investigation of professional agency, individuals and social entities are analytically separate but mutually constitutive of each other.*
- *Professional subjects have discursive, practical, and natural (embodied) relations to their work; these are temporally constructed within the conditions of the work.*
- *Professional agency is needed especially for developing one's work and work communities, and for taking creative initiatives. It is also needed for professional learning and for the renegotiation of work-related identities in (changing)work practices. (Eteläpelto et al., 2013)*

Comparative summary of different approaches to agency.

Approach		Ontology and manifestations	Relationships between the individual and the social context
Social science	Giddens	Agency as individuals' intentional and rational actions, viewed as having social consequences Temporality and identities not addressed	Inseparability Analytical primacy from individual to social (micro to macro)
	Archer	Natural, practical and social reality, and discursive, practical, and embodied relations with the world Agentic actions as intentional and goal-directed processes Personal identity and temporality taken into account	Social and individual analytically separated Internal conversation and emotional elaboration seen as mediating processes between the individual and the social context Historically changing social circumstances
Post-structural	Strong post-structural	Collective discourses: nothing outside texts Agency as rewriting hegemonic power discourses Temporality and identities not addressed	Inseparability: reducing individuals to discourses
	Intermediate post-structural	Agency as people's lived experience of their social relations and their capacity for self-reflection and action Sense of self, human embodiments, and socially and culturally relational subjects Temporality not addressed, identity and subjectivity strongly addressed	Material, cultural, economic, and social forces analytically separated from individuals' self-experiences, identities, and subjectivities
Socio-cultural	Object-oriented	Process-ontology; rejection of individual and collective agency, subjugated by objects and tools of work Temporality not addressed, identity and subjectivity rejected	Inseparability of individual and social: reduction of individual to social processes
	Developmental subject-oriented	Individuals as agentic actors in relation to the social world Temporally constructed engagements Intentionality and subjectivity manifested as participation, decisions as to what problems are worth solving Individual temporality (development) include life history and prior experiences	Analytically separated (inclusively); interdependence and mutually constitutive relations between individual and social Agency seen as closely bound up with subjects' professional identities
Life course and identity		Individuals' ways of constructing their life courses through choices and actions Temporality considered in terms of individual life courses Identities thoroughly addressed	Separated (exclusively); social and economic circumstances and living conditions seen as opportunities and constraints Changing socio-historical circumstances

Figure 5: Comparative summary of different approaches to agency

Reflecting on these I am now able to visualise how the manifestation of my agency impacted my practice. It is fair to say that I now have a nuanced understanding as to why agency is important in my practice. As their (ibid) findings point, the influence of external circumstances does constrain my agency and socio-cultural environment actively dictates the amount and purpose of agency that I can wield. Understanding agency helped me to locate its influence on my identity, my experience, knowledge, skills and competencies.

Manifestation of agency is influenced by contextual, material, physical, power oriented, dominant discourses (Eteläpelto et al., 2013). Particularly in my case there were strong structural powers at play that controlled the workings of the education system. It was thus

important that I develop my understanding of the relationship particularly between individual agency and power structures.

I was able to explore this critically during my second action research cycle when I had to travel to India. There were rigid power structures dictated by hierarchy in schools in India. I recall one conversation with the Indian school trustee to whom I was presenting the purpose of my visit. She seemed visibly impressed with the ethos of the project. I told her that I would like students to look at some of the socio-political conditions that influence cross-cultural understanding. To that she replied,

'Vidya we are really excited about this project and we would like our children to look into politics and debate on them. But we don't want our children to debate on Indian politics. Any other country would be fine.'

RD, Action Research Cycle 2

Another example working in the Indian school highlights how power establishes hierarchy and maintains it.

I requested DH_INDUS (Deputy Head) permission to use the ICT lab to do a skype call as it was the first session with Mainfield students. The students and teachers in Mainfield were excited as they knew that this session would be on skype call from India. As I was walking towards the ICT lab I notice the English teacher (Eng_INDUS) and asked her if she would join in the skype session for a couple of minutes and say hello to Mainfield students. Eng_INDUS was happy to do this but she mentioned that she needs to take permission either from DH_INDUS or HT_INDUS (Headteacher). I was really surprised by this as Eng_INDUS is senior teacher in school. But I needed to follow protocol so I went to see DH_INDUS to request permission. I told her the reason why I was there and asked her if she or HT_INDUS could permit Eng_INDUS to take part in the skype call. DH_INDUS replied that HT_INDUS is busy and will be unable to see me and that she is unable to give permission on such matters and that I have to talk to HT_INDUS directly on this.

RD, Action Research Cycle 2

I truly understood the meaning of constraints to agency at this point. I had the freedom to engage in dialogue but only within specific parameters specified by the power structures. I was unable to challenge or critique it. The influence of hegemony in the education is widely acknowledged (S. Ball, 2013; Freire, 1985). I knew that power is inextricably linked to the wider socio-cultural issue and since I had a limited amount of time, I had to that complete my work adhering to power dynamics and accommodate the constraints it was wielding.

I thus wished to explore and understand my own background and experience relating to power structures and to become critically aware of its presence and use this awareness to shape and strengthen my voice in my practice.

4.1.3. The paradox of power

Educational institutions are places of power as they influence and shape the thinking of the population (S. Ball, 2013). On one hand schools are recognized to be places to empower students, teachers and practitioners but on the other the education system places several constraints especially for external practitioners; the prescriptive curriculum focus, and centralized nature of knowledge production. Working within such constraints I would often find myself disempowered. Through this research I have become aware of the deep rooted nature of power in education (S. Ball, 2013; Delpit, 1988; Freire, 1985; Hatcher, 2005; Hunjan & Pettit, 2011) and its influence in my research journey. For example when I was conducting observations during my initial period, teachers often reprimanded students on their quality of their work by stating ‘What do you think Ofsted inspectors would think of your work when they see it?’ Issues relating to power overtly played out during my research work in the Indian school where people with power designed hierarchy and dictated individual’s role in the hierarchy. Once an individual is assigned a role he/she is not allowed to travel across without the consent of the superiors in their school. What was particularly interesting in English education system is that while schools and teachers are often led to believe that they have full responsibility for education and accountability for practices, the state nevertheless retains control at more central level (Hursh, 2000; Kelly, 2009).

Educational policies in England encourages compliance and discounts the role of diverse voices to shape school curriculum owing to power influences from the center which further encourages a ‘culture of silence’ (Freire, 1970a, 1974, 1985). I had internalized this culture of silence where I believed that I was unable to question or think critically not because I couldn’t but because I did not know that it was possible to do so. Freire (1974) adds that social, race and class dynamic perpetuates the culture of silence and eradicates the ‘language of critique’. It was important for me to be aware of this culture of silence that I had internalized. Becoming aware helped me to ‘unlearn to not speak’ (Paget, 1990).

4.1.4. Brokerage and Boundary Crossing

In order to understand the role of boundary crossers I explored the concept of brokerage to understand how individuals/organizations exist and travel across boundaries. Brokerage has its origins in the social network theory exploring behavior or actions of actors in relation to the position they occupy in a social structure (Marsden, 1982). Brokering to me is a dialogical activity that requires the acknowledgement of the multiplicity of voices. It is only now that I am able to view my practice through the lens of brokerage and my role that of an

educational broker. This learning has helped to appreciate my practice in new light and lift my role from the margins and place it in the center.

Brokerage has its origin in social sciences particularly looking at social relations in networks (Laumann, Marsden, & Galaskiewicz, 1977) explored from a theoretical standpoint. Gould & Fernandez (1989) gave it a formal definition within concrete social systems to ensure that the conception is rigorous and operational in empirical settings. They defined brokerage as a transaction or a resource flow facilitated by an actor otherwise known as broker. They identified five types of brokerage (fig 5) to represent a specific structural position or social roles that actors engage in and are able to perform combination of roles concurrently.

STRUCTURES OF MEDIATION

93

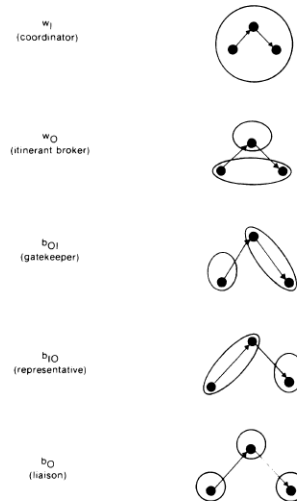


Figure 6: The five types of brokerage mentioned by Gould and Fernandez (1989)

Brokerage in essence brought together two or more complex and diverse parties within a social system. Marsden's (1982) observation on access also seemed relevant to me who mentions that brokerage facilitates exchanges between other actors who are otherwise unable to access each other. He (ibid) highlights the presence of a broker and mentions that a broker or an intermediary regulates the communication channel between the two unconnected actors.

This encouraged me to rethink about the notions of brokerage and its potential to reshape the educational experiences and curriculum delivery within a school setting. Brokerage is in fact a multi-faceted aspect of contemporary learning as it is shaped by agency, context and timeliness. The increasing use of technology in schools seems like the opportune place to explore the intersection of education, digital tools and brokerage and possibly

develop a shared language about the role of actors, their longevity and sustainability who traverse multiple spaces and places.

The role of a broker is particularly important in a large set of population where there is need to maintain large set of connections, the absence of which can lead to significant cost to the entity, particularly if the sub-population of the entity is constantly growing (Aldrich, 1982). I believe a school set-up perfectly illustrates such a place.

Stovel, Golub, & Milgrom (2011) describe brokerage as a social and economic arrangement that exists to facilitate exchange of goods, services and information within a social structure. Brokers are seen to trade over the gaps present within social structures by exploiting resources present in other persons, positions, or groups. They (ibid) illustrate different brokerage processes, like the broker as middleman concept where the broker connects two unconnected actors, or through broker as catalysts where the broker's primary work is to introduce actors to each other and maintain networks are thus seen to be well-connected with a good reputation.

Brokerage within the education sector has been widely recognized as an important aspect particularly within areas that requires interpretation, mediation and negotiation. Within the FE (further education) context, brokerage services are used to interpret the training needs of the employer and the employee and make potential matches, interpret national policy at local level and encourage policy makers to be aware of the local context (Avis, 2009). Within school settings, brokerage has been identified as a significant role to maintain and facilitate school-based learning networks where the role is seen as a space to reflect, evolve and develop one's practice alongside building an understanding of the brokerage work (Kubiak, 2009).

In a school context there are a diversity of stakeholders who influence the learning of the students and deliver services across various setting both within and outside the school. With the growth of academies and MAT (multi-academy trust) there are currently fewer people to do brokerage than they earlier were. This had led to single individuals taking on multiple roles delivering work in multiple sites within a single institution. This movement of people across different sites is discussed within concepts of boundary crossing.

The concept of boundaries have often been used (Suchman, 1994) to explore the challenges in working across diversity of sites within a given institution. Akkerman & Bakker (2011) describe boundaries as a 'socio-cultural difference' that cause disruption to actions or interactions and suggest that including concepts of *boundary crossing* and *boundary objects* would support continuity in actions and interactions. *Boundary crossing*

takes place when an individual traverses and interacts across various sites (Suchman, 1994) and *boundary objects* which are essentially artifacts that aid in boundary crossing by acting as broker or a bridge (C. P. Lee, 2007). Terms like brokers, boundary crossers, boundary workers are also used denote the individuals doing the boundary crossing and their experiences are considered to illustrate the ambiguity of the boundaries (Akkerman & Bakker, 2011). The concept of boundary crossing was personally relevant to me as the earlier construed 'marginality of my role' suddenly underwent a new shift. I now saw my role move from marginality to centrality as a boundary crosser and a broker.

Boundaries are acknowledged as learning spaces and offer learning mechanisms such as identification, coordination, reflection, and transformation (ibid). Whilst brokers do navigate diverse boundaries what would be pertinent is to identify which particular boundary would provide productive route to achieve meaningful outcomes thereby challenging the very notions of boundaries themselves (R. Edwards & Fowler, 2007). Even though brokerage and boundary crossing remain theoretically distinct there are some significant correlations between the two and thus it is safe to assume that brokers can cross boundaries but not all boundary crossers broker (Leat & Thomas, 2018).

Jackson (2003) identifies that within education a broker is seen as a proactive facilitator who connects people, networks, organizations and resources and establishes conditions to create something new or add value to something that already exists. Schulle et al. (1982) identified that teachers mediated their role as political brokers when they delivered the curriculum and adhered to external policy demands within classrooms. Gentemann & Whitehead (1983) explore the notion of cultural brokers within education system. They describe cultural brokers as bicultural actors who convey the links that exist between mainstream culture in a diversity-rich society and the various sub-cultures. The importance of brokerage in school-led activities using EPBL (Enquiry and Project Based Learning) pedagogy has been highlighted (Leat, 2017a). I will discuss EPBL pedagogy in the next section but it will suffice if I mention it here that EPBL approaches are commonly used by schools for activities to encourage real-world engagement with their students. The activities that I have designed in my action research cycles required community engagement and thus realized that the use of EPBL approaches would be ideal in such a scenario.

Engaging communities to take part in school learning is an uphill task. This is because of the visible gaps present in the culture, structure and discourse existing between schools and communities and community-led organisations (Leat, 2017a). Leat (ibid) adds that the

presence of brokerage could help bridge the gap where brokers could aid in building communication and relationships between the two for more effective working relationship.

Brokerage and the intentions of brokers lie on a spectrum. At the risk of being too simplistic, some brokerage just links schools to potential resources and assets in their community sphere, which may be people, places or web-based resources. If brokers get involved in planning and co-delivery of projects they are more likely to be causing the sort of disturbance or contradiction that might be resolved into a transformation or practice. The quality of dialogic processes that are essential for such change are unlikely to occur without the development of strong relationships with a strand of trust woven in.

Identifying my role as an educational broker was key to develop an understanding of my practice. Through the literature review I am now able to view the richness of my role and the value that I bring to schools, students and teachers. I started to make peace with doubts and confusions through critical reflection. The conceptual framework was taking shape as I was reading the literatures and I was getting confident in understanding my role. I still needed to address some of the contextual issues that was impacting my practice and I tackle them in the next section.

4.2.EXPLORING CONTEXTUAL ISSUES

My practice was slowly emerging as was the self in me. Researching within digital civics was a serendipitous encounter for my practice. The mandatory requirement to use new and novel digital technologies was a welcome addition. Previously the use of technology in my practice was limited to sending emails, using presentations in the classroom, using whiteboard in the classroom and the occasional skype conversations. Thus there was only a surface engagement (Chin & Brown, 2000) by the students and deep learning took place only during classroom interactions with the students. This approach was not sustainable and I knew that I had to develop a new strategy to ensure the work that I deliver remains continuous and relevant to teachers and schools. The inclusion of learning technologies arrived just as I was contemplating on new approaches in reshaping my practice. Incorporating new and novel digital technologies addressed some significant contextual issues. This meant that schools that would have earlier considered my work to be extra-curricular started to find avenues to fit it within curriculum. Coupled with this I included aspects like the importance of cross-cultural learning, the significance of deep learning, the emergence and development of peer-feedback all of which was explored through the realms of technology use. In doing so I was

able to tangibly substantiate to schools that my approach of using digital technologies and EPBL pedagogies in cross-cultural context enriches student learning, teacher practice alongside addressing curriculum goals. I summarize the literature review that I undertook in specific contextual areas that I believed are central to my research as below.

4.2.1. Surface and Deep Learning

Biggs (1991) describes learning approaches as techniques for students to engage with their academic tasks, and emphasizes that students' learning approaches can affect their learning outcomes. Marton & Saljo (F. Marton & Säljö, 1976; F Marton & Säljö, 1976) in their seminal work distinguished the differences between deep and surface approaches to learning. The general framework to define the features of deep and surface learning can be attributed to both Biggs (J.B. Biggs & Kirby, 1983) and Marton (Ferenc Marton, 1983). In essence, surface approach is based on external motivation and a student who employs surface approaches perceives the task as an assignment that needs to be completed, tends to memorize facts, reproduces terms and procedures and views the task in isolation away from the real life. In contrast, students who engage in deep approaches are seen to have intrinsic motivation and interest in the content of the task, are able to make connections between various learning material and are able to relate their new knowledge and their previous knowledge to everyday experiences. Marton (1983) highlights the importance of context and Biggs (1987) adds that personal factors such as ability, motivation, attitudes, prior knowledge and situational factors such as nature of task, time pressures, method of teaching, assessment determine the nature of learning approach adopted by the student.

Deep learning helps students to organize and structure dissimilar types of information into a coherent whole (Warburton, 2003). According to Warburton (2003) deep learning is evidenced when students are able to demonstrate: *analytical skills* – ability to visualize a problem, identify relevant and irrelevant information and perceive various outcomes to a single problem; *cross-referencing* – ability to bring their previous learning and make connections with their new learning; *imaginative reconstruction* – ability to use creative skills to make sense of their current social reality and representations of the past; *independent thinking* – ability to make decisions and be engaged with their learning and the environment. Furthermore, empathy has also been cited as another key aspect that stimulates deep learning (Entwistle, 2000).

4.2.2. Cross-cultural learning in English curriculum

As human mobility continues to grow across geographic borders, the need to foster cultural learning and an understanding of cultural differences and similarities also increases. Institutions, particularly learning institutions have a responsibility to improve their understanding of cultural differences and they must be sensitive to interactions that take place where multiple cultures present. Schools in England have recognized the importance of cultural learning as the curriculum is structured to support students to develop sensitivity, appreciation and respect towards the diverse cultures around them (Ingulsrud, Kai, Kadowaki, Kurobane, & Shiobara, 2002). The challenge lies in the fact that the curriculum expects students to develop knowledge, skills, and attitudes but provides little support to teachers as to how they can approach and engage students on the topic (Dogra, Reitmanova, & Carter-Pokras, 2010). The topic in itself is considered so wide that teachers often are bewildered by the choices on what to teach. Although there is an increased interest within the education sector to look at cross-cultural learning this also comes laden with challenges such as adhoc fragmented approaches, unsystematic methods and a lack of clarity (Dogra & et al., 2005; Sarangapani et al., 2016).

Schools in England routinely address topics relating to cross-cultural learning through the Citizenship curriculum and efforts are being made to ensure core subjects like History also address topics that fall within the remit of Citizenship curriculum (Tomlinson, 2009). The changing nature of English education system with the introduction of academies and free schools means that schools don't have to adhere to guidelines prescribed by National Curriculum. Coupled with this, in 2010, Ofsted (Office for Standards in Education, Children's Services and Skills) decided to completely stop inspection for some subjects like Citizenship education (Önal, Öztürk, & Kenan, 2018). Since 2013 Ofsted have reorganised their inspection focus on student achievements and have overlooked the assessment on student voice (Hahn, 2015). This achievement-oriented approaches adopted by school ensures that students succeed in GCSE (General Certificate in Secondary Education) and advanced (A and A-S) level exams by investing considerable resources on core subject like (English, Maths, Science and Technology) sending a message to their students that the learning from non-core subjects like Citizenship is auxiliary to their current and future life. Such tactics indicate to the teachers that certain subject are insufficiently important when compared to maintaining student grades in core subjects and doing well in Ofsted inspections (Davies & Chong, 2016). Current approaches to embed cross-cultural knowledge are explored predominantly through *surface learning* approaches (Chin & Brown, 2000) where the focus is to meet the statutory demand through memorizing facts, regurgitating terms,

looking at a task in isolation and working away from the real world context (F. Marton & Säljö, 1976). My argument is that learning about culture through surface approaches is a contradiction as it tends to reinforce cultural stereotypes and prejudice (Liaw & Johnson, 2001) and has little influence on behaviour and attitudinal changes (Hill & Augoustinos, 2001). Culture is not to be found within cultural products and forms, but is present in the lives and practices of those who use and share those forms (Liaw & Johnson, 2001).

Consequently, understanding people's everyday lived experiences of culture, forms and practices, should be central to the process of cross-cultural learning. Educators need to include approaches that harness students' real-world experiences and transform such experiences into resources (Wilson, 1986). The rise of reports in relating to prejudice, racism and stereotyping (Barker, 2016; Henry, 2018; Talwar, 2012) corroborates my argument that the current methods to address cross-cultural learning in English schools are clearly not working.

4.2.3. Computing in English curriculum

Computing curriculum, a compulsory subject, is designed to get students to be digitally literate, engage in computational thinking and creativity, and develop skills to take part in the future workplace (Department for Education, 2013a). The National Curriculum review in 2012 rebranded ICT to 'Computing' and it was compulsory to teach Computing curriculum to students from ages 5-16 (Department for Education, 2013c). The aim was not to get five year olds to start coding algorithmically but rather to get students in their early years to start their computational thinking and problem solving skills. Furthermore whilst the curriculum may have reformed, the delivery of the curriculum is seen as an uphill task. Several challenges impact the delivery like lack of qualified teachers, decline of students taking A-Level Computing, lack of CPD for in-service teachers and geographical presence of the schools particularly in rural areas (Brown, Sentance, Crick, & Humphreys, 2014). Schools are trying to alleviate these concerns by engaging in various activities and projects that enrich their students' learning particularly within Computing curriculum.

With no clear provision as to how to link the two aspects of curriculum i.e. culture and computing, I decided to explore the use of experiential learning approaches that could bring the two strands of curriculum to demonstrate my practice and its impact on student learning and teacher practice. I decided to choose EPBL (Enquiry and Project Based Learning) approaches due to its apparent benefits to student learning and the flexibility that the approach offers to embrace curriculum demands.

4.2.4. Enquiry and Project Based Learning

Having discussed the curricular requirements on cross-cultural learning and computing, I would like to briefly introduce EPBL (Enquiry and Project Based Learning), a learning approach that I chose to use within my research activity in schools. My rationale to choose this approach lies in the fact that EPBL encourages curiosity, creativity and problem-solving skills where students are required to conduct their enquiry in the real world and present their findings to an external audience usually to members other than their school community. The recurring focus on EPBL suggests that it is an enduring antithesis of a more transmissive curricula (Bell, 2010; Blumenfeld et al., 1991; Kokotsaki, Menzies, & Wiggins, 2016; Leat, 2017b; H. J. Lee & Lim, 2012).

John Dewey, a philosopher, psychologist and educational reformer through his pragmatic pedagogy encouraged education as a tool to solve problems of the real world. Dewey (1986) created instrumentalism which mentions individual experiences gained in practice aids to develop motivation, interest and helps in solving real problems. He is credited to be one of the founding advocate of PBL through his theory of an 'active school' where learning was undertaken through a process of inquiry or as he called is 'learning by doing' (Dewey, 1902). Using EPBL approaches encourages learning beyond school settings by bringing together traditional approaches used by schools to intersect meaningfully with the experiential processes of the world. Entwining relevant digital technologies with pedagogies such as PBL is shown to support the enquiry process (Kahn & Rourke, 2005) enabling dialogue and representation of ideas between students, teachers and the real-world communities. Piaget identified that individuals construct knowledge when their experiences interact with their ideas (Wadsworth, 1996) and their understandings of reality are updated when exposed to new experiences (Piaget, 1957). Lev Vygotsky (1978) put emphasis on the social and cultural conditions present for learning and that individuals construct knowledge through interactions with their social and cultural environments.

EPBL or simply PBL is acknowledged to be an important and valuable addition to classroom learning (Hugerat, 2016) as students are encouraged to engage in real-world problem solving activities that act as triggers for their learning. Within the PBL framework learners are encouraged to take responsibility for their learning, with teachers acting as guides and facilitators to scaffold students' learning (Gresalfi, Barnes, & Cross, 2012). PBL encourages learning to take place in small groups as it is in these collaborative team settings where meaning can be negotiated (Kaldi, Filippatou, & Govaris, 2011). Research has shown

several benefits for students who undertake PBL inquiry as it promotes communication, collaboration, creativity, critical thinking and team-work (Kaldi et al., 2011). Students also show engagement in deep learning which aids in longer information retention and collaborative working is shown to encourage active participation helping students to construct their own learning. The distinctive aspect of PBL is in the creation of an end product, an artefact (Helle & et al., 2006). The artefacts could be either a physical or digital (Holubova, 2008) which embodies the students' new learning, understandings and knowledge regarding the issue that is under investigation. The aim for me to use PBL was to harness the potential of technology and develop students' thinking skills so that they are able to navigate and sort the plethora of information that is widely and freely available. The importance of sorting information before consuming is very topical and schools are actively working to address the dangers of consuming unsorted, misrepresented information or otherwise popularly known as fake news ("Fake news and how to spot it to be taught in schools," 2019; "Teach Your Kids to Detect Fake News and Photos," 2019).

Exploring my contextual issues helped me to better understand the education environment and the role of technology to support cross-cultural learning. I decided to combine all the three i.e. PBL approaches, digital technology and cross-cultural learning as a delivery mode for my workshops and activities in my research. To ensure that the research addressed curricular aims, I focused the activity to address questions relating to deep learning and peer-feedback in cross-cultural context. I leveraged the learning from literature within the above areas to comprehend the work going on in my research space and situate my work accordingly.

4.2.5. Technology and Cross-Cultural Learning

There is a growing awareness on the importance of technology to multicultural education where technology is seen to link culture, knowledge and people to students (Davis, 2005).

Technology is often seen to bridge some of the gaps that exist when working in multi, inter and cross-cultural domains (Chisholm, 1995; Lakkala, Ilomäki, Lallimo, & Hakkarainen, 2002; Munoz & El-Hani, 2012; Sarangapani et al., 2016; Walsh, Brown, & Druin, 2011). Sarangapani et al. (2016) worked with three migrant families and used video technologies on smartphones to see if cross-cultural resources developed by diverse cultural families encouraged deeper ethnic minority parental engagement in schools. The study evidenced strong parental engagement and avenues for increased home-school

communication but did not explore students' engagement on the resources. Popular video games have been used to support science and citizenship education as they support emerging ethical values and identities of students in technology enriched societies (Munoz & El-Hani, 2012). The authors of the above study suggested integration of cultural issues to science education but did not provide any direction on how teachers can facilitate critical reflection or evidence them by using the digital tool. A review of this study (Kwah, 2012) identified that students require several hours of play to develop a narrative and such time-intensive learning activities may not find favor with resource constrained schools. Chisholm (1995) observed 25 children for 16 weeks and evidenced that technology accommodates children's cultural and individual differences due to effective teacher management strategies. The study showed that children were able to bring in their cultural stories into the classroom but no effort was taken to share those stories within the classroom. Lakkala et al. (2002) worked with 14 students from a middle school for seven weeks on a 'culture course' to deepen participants' conceptions of culture, experience distance learning, and introduce them to progressive inquiry approaches. They succeeded in encouraging teachers and students to engage in virtual collaborative inquiry but technology was predominantly used to accomplish practical tasks and the new learning method seemed to be incompatible with the school culture. Social networking sites have also garnered significant attention to foster cross-cultural awareness (Walsh et al., 2011) but researchers in the study opine that social networking websites do not provide space for students to make sustainable, deep connections with their peers.

Hirsch & Lloyd (2005) evidenced technology's impact on students' engagement within cross-cultural learning. Through a combination of personalized field-visit and use of role-play simulation program, researchers showed that students were able to develop a deeper understanding of cultural encounters. Whilst the technology and the learning approaches created opportunities for students to immerse themselves in cultural experiences, the use of technology on its own did not support deep learning aspects such as learning from feedback, applying past learning, and the ability to act on reflections. Sarangapani et al. (2018) used content-creation tools to link two schools across India and England to explore the role of peer-feedback. Researchers were able to establish that content-creation tools supports in the development of critical peer feedback and suggested that future work needs to explore the role of content-creation tools to influence abstract reasoning, a thinking skill that evidences deep learning.

The use of technology provides a medium for cross-cultural learning to take place but it also comes laden with logistical challenges and concerns of evidencing learning. Technology can be used to develop digital artefacts but often they require support from teacher (Chisholm, 1995) , parent or researcher (Sarangapani et al., 2016). I wanted to harness the motivation of the students to ensure that the artefacts they create are shared and used as learning resources. Furthermore building on from the work taking place using content-creation tools in school settings (Sarangapani et al., 2018) I wanted to see if there is an emergence of deep learning when we incorporate digital tools and learning approaches that accommodate the rigid and demanding aspects of school curriculum.

4.3.CONCLUSION

Through this chapter I demonstrate how I took action by researching critical literatures pertaining to aspects of values, agency, brokerage and technology-enabled learning within cross-cultural contexts. In doing so I began to reflect on my research and how I viewed it as something different to my practice. Overtime I was able to understand that my practice is also a form of research, and developed an understanding as to how I could offer explanations and description of my practice. The next three chapters address how I viewed my practice, the actions that I took to reconceptualize my practice and offer my reflections on the actions themselves.

As I move into my first action research cycle, I focused on making the PBL activity to work, in order to ensure that my practice does not shape itself as an abstract representation. The topic relating to voice, agency, power, boundary crossing and brokerage existed in my consciousness to guide my work. There was little emergence of my values in my first action research cycle and that is because I was focused on my practice. In my second and third action research cycles my values of voice and agency come to forth actively. Having an awareness about my voice gave me the disposition to listen to the students and to push teachers to let go of control by encouraging them to give responsibility to their students. This awareness about my voice manifested in the first action research cycle as a general impulse and I was not conscious of it. As time progressed in my later action research cycles I actively acknowledge the manifestation of my values and use them my radar and receptors to see how things are and how things are related to them.

5

Making PBL Work

Chapter 5. Making PBL Work

5.1. INTRODUCTION

This chapter illustrates the action research cycle that took place from Nov 2016 – July 2017. This was the start of my first action-research cycle when I started to work with an unconscious wisdom of an education broker trying to experiment new ways of curriculum delivery. My first goal was to introduce a technology-rich PBL activity at NMS and encourage students to use digital tools such as Digital Mysteries (DM) (Kharrufa, Leat, et al., 2010b) and Thinking Kit (TK) (“Thinking Kit,” n.d.) in their PBL activity.

At this point I was still expecting validation from school teachers for my work and simultaneously trying to move my thinking from being in the sidelines. I was trying to move away to fit my practice into a fixed framework set by others, to a critical practice, where I wished to see my work as something that is evolving and one that reflects my personal and educational values. I understood that this would be a complex undertaking but one that required doing.

The first action research was important in that sense as it helped me to appreciate the centrality of my work within school curriculum. In this action research cycle I was trying to grapple with several things like PBL initiatives, involving communities in schools, use of digital technologies and more importantly my notions of self in relation to my practice. I realized that I needed to develop a deeper understanding of the various topics intersecting within my first action research. The following section is thus focused on literature review that I undertook to deliver this action research cycle.

5.2. IDENTITY

Professional identities are often said to reflect one’s self-concept based on attributes, beliefs, values, motives and experiences (Ibarra, 1999) but they may not always be explicit. To understand the tacit nature of my professional identities I realized that I must embrace a narrative mode of description (Prasad, D’Abate, & Prasad, 2007), as identity creation is dynamic process and is far more complicated than adopting certain traits or values, or even demonstrating competence (F. Wiles, 2013). Another important aspect was that my personal identity of being a mother, a woman, a person from a different cultural background, an artist, a feminist, an activist was also influencing how my professional identity of being a

researcher, a practitioner, an educator and a broker. Bakhtin (1981) talks about the ‘dialogical self’ where the self is composed of multiple I-positions that represents the multiple ‘voices’ that people speak with. I knew that I held various I-positions and as the I positions were interacting through internal and external dialogue which meant that my identity being reconstructed and negotiated. Whilst I was able to reconcile with this multi-voicedness, the contradictions that existed between some of the ‘I’ positions was sometimes unsettling. For example when I would encounter disruptive students in the classroom, the educator in me encouraged me to intervene, but the researcher in me refrained me to do so and instead wanted me to make note of the incident as data and be an observer. Hermans & Hermans-Jansen (1995) recognized this conflict within I-positions and added that ‘the I in one position, moreover, can agree, disagree, understand, misunderstand, oppose, contradict, question, challenge and even ridicule the I in another position’. This dialogicity helped me to reflect on my actions and create a narrative that I could share publicly thereby transforming my thinking into actions.

5.3.PRACTICE

Questions on identity made me think about my practice. Wenger (1999) defines identity as ‘a way of talking about how learning changes who we are’ and practice as ‘a way of talking about shared historical and social resources, frameworks and perspectives that sustain mutual engagement in action’ and the ‘two are deeply interconnected and mutually defining.’ So it was clear to me that what I am, what I am doing or what I want to do, have a direct co-relation. I was unable to articulate this co-relation to schools. In the past I used arts to express my interest to influence the school curriculum but that approach seemed unsustainable. I was keen not to define my practice into predetermined structure that schools were used to. I wanted the schools to try something new that echoed with my values of working with the real-world, bring people closer to schools and getting young people excited about their learning. I was thus struggling to develop a cohesive plan that resonated with all the above values and yet have a pedagogical value for the schools. It was at this point that I encountered Project-Based Learning (PBL) and I decided to stick with it for its socio-constructivist approach to learning.

As I started my first action research cycle I was concerned with my limited understanding in using PBL approaches. But I had previous experience working on projects with schools and testing the methodology to some extent in my MRes dissertation which I realised would

help me to start the work. Simultaneously I read around PBL approaches and action research methodology to develop a deeper philosophical understanding for my decisions. In doing so I was able to ease some of the doubts relating to my competency as an educational broker to engage in long-term projects with schools.

5.4.PROJECT BASED LEARNING

Constructivism, a theory expounded by Piaget identifies that individuals construct knowledge when their experiences interact with their ideas (Wadsworth, 1996). Vygotsky (1978) put emphasis on the social and cultural conditions required for learning and he is commonly acknowledged to be the founder of social constructivism where individuals construct knowledge through interactions with their social and cultural environments (Ackermann, 2001).

Later Piaget (1957) added that an individual's understandings of reality are constantly updated the same time when the individual is exposed to new experiences.

PBL's approach is consistent with the principles of constructivism where learning is driven through real-world, open ended questions and collaborative working (Blumenfeld et al., 1991; Hmelo-Silver, 2004; Nariman & Chrispeels, 2015). PBL is acknowledged to be an important and valuable addition to classroom learning (Hugerat, 2016) as students are encouraged to engage in real-world problem solving activities (Al-Balushi & Al-Aamri, 2014) to act as triggers for their learning. Within the PBL framework learners are expected to take responsibility for their learning with teachers acting as guides and facilitators to scaffold students' learning (Gresalfi et al., 2012). PBL facilitates learning to take place in small groups as it is in these collaborative team setting meaning can be negotiated (Kaldi et al., 2011). Research has shown several benefits for students who undertake PBL inquiry as it promotes communication, collaboration, creativity, critical thinking and team-work (ibid). Students tend to engage in deep learning which aids in longer information retention and collaborative working stimulates active participation helping students to construct their own learning. The distinctive aspect of PBL is in the creation of an end product, an artefact (Helle & et al., 2006). The artefacts could be either a physical or digital (Holubova, 2008) which when presented embodies the students' new learning, understandings and knowledge regarding the issue that is under investigation and considered as a crucial strategy for success in the twenty-first century (Bell, 2010).

Whilst there is ample research to indicate the benefits of engaging in PBL approaches, schools in England have been slow to integrate this approach within their core curriculum. Leat (2017b) identified three factors that have impeded the integration of PBL within school curriculum. The hardships of educational change, the performative nature of school assessments and the perpetuating inequity of social and cultural capital distribution. Leat (ibid) further professes that traditional schooling can embrace both didactic convergent teaching and divergent PBL approaches within their curriculum to impact student engagement and learning. He (ibid) particularly lauds the role of community curriculum to flexibly interweave PBL approaches in classroom learning.

5.5.COMMUNITY CURRICULUM

Within the community curriculum model the understanding is that local communities are regarded to contain resources and assets that can help shape the school and its curriculum. Although schools acknowledge that they share a symbiotic relationship with their local communities this is not actively reflected in the school curriculum. Schools thus ought to embrace communities as an ‘explicit intentional and programmatic component’ of school curriculum (Starratt, 2002). The ever changing socio-political situations across the world has had impact on local communities here in England. Students can only develop an understanding of the issues and opportunities in the wider world, if they can comprehend the opportunities and issues that are prevalent in their local communities. Whilst it is difficult to describe what exactly constitutes a community, Leat (2015) mentions that the immediate locality where is school situated should be welcomed to develop some of the school curriculum. He (ibid) goes to add that there is an ‘unnecessary gulf between in-school and out-of-school learning’ which further contributes to the fencing-off resources, opportunities and assets and highlights the benefits of engaging in community curriculum which are; stimulating student engagement, supporting students to build healthy complex identities and providing a meaning to producing work. The community curriculum thus emphasises on real-world issues that affect the local context. Students engaging in real-world inquiries have a wider social capital, informed labour market choices, and greater social justice (ibid). Infact community curriculum has been recommended as an ideal approach for exploring EPBL activities (Leat & Thomas, 2015). One of the key issues of designing community curriculum is the lack of knowledge and understanding by the schools on how to work with their communities. Leat & Thomas (2017) mention that for a meaningful community curriculum to

take shape mediators are required to bring together the different worlds of the school and the community. These mediator or brokers are considered vital for community curriculum to take shape in school.

5.6. TECHNOLOGY, PBL AND DEEP LEARNING

It was important that I intertwine the role of technology to meaningfully address my research needs. Thus I chose to explore the role of technology to aid deep learning within PBL activities.

The use of PBL approaches and technology have found favor particularly in US schools (Ravitz, 2010; Wurdinger & Rudolph, 2009) as they are shown to enhance creativity and develop critical skills (Bell, 2010). Jones et al.(2013) worked with 40 students for 11 weeks in an after-school club and used mobile-based inquiry learning to understand food sustainability. Researchers were able to establish that the use of mobile devices supports learners to choose their inquiry and have a degree of control on their inquiry process, but were unable to evidence (a) the nature of information flow between the individuals, (b) the benefits of technologies to link learning from semi-formal and informal contexts and, (c) information on knowledge gains or collaboration. Kollar et al.(2007) conducted two studies with a total of 83 students from secondary school to investigate the impact of argumentation competence and computer literacy on acquiring domain-specific knowledge. Their research was through a web-based collaborative inquiry-learning system and they found that students with higher argumentation competence and lower computer literacy acquired more domain-specific knowledge. This meant that students with higher computer literacy were seen to rush through and use technology for completing their work rather than to engage with the topic. This raised the question of students using technology to ‘game the system’ (Baker, Corbett, Koedinger, & Wagner, 2004) where the goal was to complete the task rather than to engage with the learning. One way to alleviate this concern is to ensure that technology affords to create meaningful artifacts as a result of the students’ work (Van Joolingen, De Jong, & Dimitrakopoulou, 2007).

The above literatures identifies empirical gaps around PBL and deep learning that I sought to address in my research. I realized that addressing student motivation would help to move beyond the notion of ‘gaming the system’. Research that has looked at the use of creating physical artefacts (Blumenfeld et al., 1991; J. W. Thomas, 2000) indicate that students use passive approaches to create artefacts and once the artefact is complete they

don't seem to engage with it further. If we need to motivate students to engage with the curriculum, I realized that my activity must create avenues for students to invest their affective and cognitive skills.

5.7. TECHNOLOGY SUPPORTED PBL AND PEER FEEDBACK

If PBL can be considered as a series, feedback usually forms its final stage (Bell, 2010). Published work on peer feedback through PBL approaches (Ching & Hsu, 2013; Wauck et al., 2017) have been predominantly on passive content, with no hands-on engagement with the digital content. Wauck et al. (2017) explored the impact of peer-feedback and external feedback in a project-based design course. Working with 127 undergraduate and graduate university students for nine weeks they looked at feedback from classroom peers and external crowds on their website prototype. Classroom peers provided feedback via emails whereas feedback from external crowds was amassed through social networking website/online communities or through a paid task master (MTurk). Authors mention that the study was unable to detect the perceived quality of the feedback or any actions being taken as a result of the feedback and call for research to explore on process-oriented and conceptual feedback.

Similarly, Ching and Hsu (2013) worked with 21 geographically dispersed master's level university students looking at the role of peer-feedback in an online PBL environment. Participants collaborated on the online learning platform Moodle to solve instructional design problems. Feedback was provided on the design-document and participants were required to respond to the suggestions, questions or comments received. Authors highlighted that students were mostly supportive of their peer's work and rarely criticized it. Even in areas where they had to pinpoint problems they used disclaimers or gentler tones. Authors call for more work on constructive feedback through tasks and implementation of feedback received to evidence its impact. Shannon et al. (2016) worked with 53 graduate and undergraduate university students through a project-based innovation course where students provided feedback to their peers on group presentations and their business model document regarding a web-based evaluation system for in-class peer feedback. The study reported challenges relating to quality issues on feedback received and called for future system to address task-focused peer feedback.

The literature review in this chapter helped me to steer my evolving practice and identity and design activities that were relevant and encompassing. Recognizing my various I positions and reconciling with the multi-voicedness helped me to navigate and negotiate my

multiple identities. The readings pointed out that it was possible to define my practice with the value of my working of inclusivity and equality. Designing my work to helped me to live closer to my values as I was able to use technology-mediated PBL that offered me the freedom to flexibly interweave communities into classroom learning.

5.8.DIGITAL MYSTERIES

To ensure meaningful technology integration into my activity I decided to use mobile based digital applications due to the portable nature and collaborative capabilities that the device affords. I chose content-creation digital tools, Digital Mysteries (Kharrufa, Leat, & Olivier, 2010a; Kharrufa, Leat, et al., 2010b; Kharrufa, Olivier, & Leat, 2010) and Thinking Kit (TK) (“Thinking Kit,” n.d.) to feature through my research. I offer my explanation for choosing these digital technologies in the next section.

Mysteries was created as a tool for the development and assessment of students’ higher-level thinking in which students’ cognitive processes were made evident through the manipulation of data slips that they were given in order to solve a mystery. Students are given a mystery with an open question, and a number of paper slips containing clues. The information on the slips can be facts, background information, abstract ideas, or red-herrings. The tool focuses on the physical manipulation of the slips of paper and the cognitive skills associated with these actions.

The tool was originally developed using paper slips which students manipulate on a table (Leat & Nichols, 2000). Kharrufa et al. (2010) took the paper-based mysteries and built a digital interpretation of mysteries to combine the affordances of digital technology and that of the mystery task itself. Thinking Kit (TK) (“Thinking Kit,” n.d.) works within the same premise as that of DM but with an added functionality where the application provides space for users to create their own mystery using a web-interface and the created mystery can then be downloaded and solved on tablets. In simplistic terms, TK can be described as a content-creation tool or the authoring component of DM.

5.8.1. Digital Content Creation Tools

Digital Mysteries (DM) (Kharrufa, Leat, et al., 2010a) is a multi-user, computer based learning application designed to promote collaboration and higher order thinking skills. As a web-based application, TK can be accessed on any device but TK created mysteries can only be downloaded and solved on a tablet through Thinking Kit App.

Three key features present within DM and TK helped us to decide on this technology for our research activity.

Content-Creation: The prospect of students being able to create their own mysteries (Fig. 1) was a key consideration for our work. By creating their own mysteries, students had to come up with an open-ended question relating to the task. In trying to develop the mysteries students had to undergo a learning where they gather information in coherent and concise manner, interpret the information to demonstrate their learning and, share their learning with their peer.

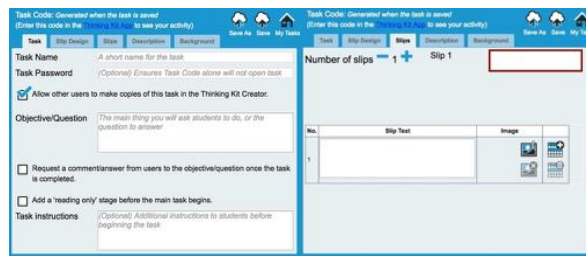


Figure 1: Students complete form-like interfaces to describe their mystery and to generate the open-ended question. They can generate 'clues' for the mystery and personalize them by adding images and pictures when completing the form

Collaboration: The mysteries themselves can be treated as a learning resource and can be used between groups of students for teaching and learning purposes. Moreover, when solving a mystery, the parallel input options available ensures that more than one student can interact with the slips at the same time. Another feature is that of collaborative interactions supported at key decision points like when naming a group (Fig. 2) or moving between stages of the solving the mystery. Collaboration support aids in discussion, debate and decision making which in turn evidences students' thinking process.



Figure 1: A set of 'clues' clustered into a 'group' called Family. Also visible is a 'post-it note' with some notes about the 'clues'. The 'arrow shaped sticky-tape' shows a causal relation between the two clues and the 'normal sticky-tape' shows normal relation between the 'clues'.

Externalization of Thinking: The use of digital mysteries ensures that students are able to explain their actions to their peers or teacher. The use of normal and arrow shaped *sticky*

tapes (used to link slips and highlighted normal, causal or temporal relation between slips), the *post-it notes* and the *named group* tools (prompts students to explicitly classify and name their slips) makes the layout on the screen accessible (Fig. 3). This also triggers task-related discussion thereby making the student’s thinking more visible and accessible.

The final mystery (Fig 3) is available as a download that requires the specific code attached to it. Students can share this code and those who wish access the mystery can do so by typing the code in the TK App on a tablet. Students can solve the mystery and provide feedback on the mystery to their peers. The content-creation tool ensures that students can incorporate feedback from their peers by revisiting their mysteries and making any changes if required.

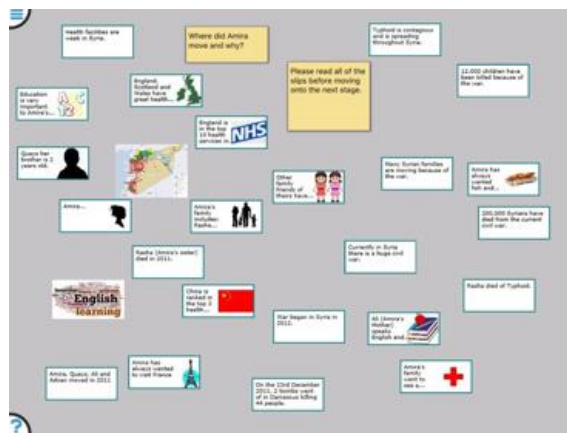


Figure 1: A completed digital mystery with an ‘open-ended question’ and the ‘clues’. This completed mystery has a specific code attached to it and can be downloaded by using the code.

The above literature guided my efforts to reflect on my first action research cycle. Reflection is seen to draw upon one’s epistemological approach whereas reflexivity draws upon one’s ontological approaches to understand their practice (Johns, 2017). As I started to understand my practice I tried to engage in reflexive approaches (Attia & Edge, 2017; Berger, 2015) and episodes of my reflexivity surface during the first action research. Whilst reflection was deliberate, reflexivity was incidental.

5.9.ACTION RESEARCH CYCLE I

5.9.1. First steps

I had built sufficient traction with the headteacher (HT_NMS) and deputy head (DH_NMS) at NMS during the MRes activity. This helped me to start my action research cycle 1 at NMS.

As I progressed through my PhD studies, I realised that I was doing more but I was not sure what this meant. I had questions relating to the legitimacy of my role in research and brought this up with David. Conversations with David always helped me to explore my role beyond the confines of legitimacy. David helped me to see that my legitimacy had been established with my past experience in working with schools and that my current associations with the School of Education and Open Lab only strengthened that legitimacy. What I had to do now was try and understand what my practice really is and for that I needed to engage in reflection of my actions. This led to the start of my AR Cycle 1.

5.9.2. Face-to-face meetings

I organized individual face-to-face meetings with the school head to build trust, instill confidence and showcase the strength, credibility and scale of the partnership. To strengthen the relationship, I organised further meetings that included the schoolheads, teachers and my supervisors– HT_NMS, DH_NMS, Head of Humanities (Hum_NMS), Head of Geography (Geo_NMS), David and my second supervisor – Ahmed. These meetings accelerated decision making and ensured collective responsibility for decisions taken.

The meeting also highlighted some of the tensions existing within a complex ecosystem like a school. HT_NMS and DH_NMS were completely absorbed in the spirit of the project. The subject heads, Hum_NMS and Geo_NMS, were still unsure as to how the activity would feed into the curriculum. Knight (Knight, 2019) mentions that when there is pedagogical shift being implemented in a school, it undergoes a period of tension centered on autonomy, innovation and collaboration. Considering we were going to try a new learning approach, the school heads had the difficult task of trying to maintain the balance between external motivators and internal drivers for change.

In the meeting we discussed the big vision and logistics required to roll out the activity. David articulated the benefits of the activity but Hum_NMS seemed unconvinced and asked ‘But how does the project address curriculum goals?’ At this point HT_NMS interjected to say ‘There is no Ofsted police that will hold us accountable if we don’t follow the curriculum.’ This exchange exposed the prevalent tension ultimately getting Hum_NMS and Geo_NMS to hesitantly take part in the activity. Hum_NMS and Geo_NMS were keen to understand the project within the remit of curriculum whereas HT_NMS and DH_NMS were looking at the project with a strategic lens to fit within the wider school curriculum. Whilst it was imperative for me to have senior management buy-in, I was also keen to gain

the trust of the teachers as I knew they would be the ones on ground delivering the project with me. I realised this tension was due to several factors like the culture of conservatism found in schools (L. Shulman, 2004), where day-to-day pressures dilutes the ambition to try new things. Coupled with this teachers who are habituated to hierarchical working may find it difficult to embrace ownership during change (Knight, 2019). I noted that trust was a pre-requisite in such scenarios especially when deviating from standard practices, greater trust is required in school head's decision making (Hargreaves, 2005).

I wanted the teachers to know that I acknowledged their fears and thus later when I met Hum_NMS I told him 'Please could we try this. Even if it fails atleast I will know how to work this better in the future.' It was important for teachers to know that I have factored failure as an outcome in this activity and also that I have realistic expectations from the activity. I agreed to provide a project plan to Hum_NMS and Geo_NMS to ease their worries on project management (Appendix 2). One of their key concerns was that lack of a detailed lesson plan regarding the activity. Teachers are trained to develop lesson plans at the start of each term. Infact a teacher who teaches 32 lessons a week is expected to fill around 1,200 lesson-plan forms over the course of the academic year (Clarke, 2015). Teachers are thus compelled to develop long-term teaching plans required by Ofsted known as 'schemes of work', where a year's worth of detailed plans are developed for a class at the start of the academic year. Teachers feel that if they don't develop and stick to their scheme of plans they will be accused of dereliction of duty. This perception has been debunked by Ofsted (Ofsted, 2018) who mention that inspectors are interested in the effectiveness of the planning rather than the form. Infact Ofsted (Ofsted, 2018) highlight that during inspection, schools will need to establish their curriculum vision and ambition and there is no benchmark or single route to the successful implementation of a curriculum. HT_NMS and DH_NMS seemed to be aware of this information, where as Hum_NMS and Geo_NMS were still working to the assumption that detailed planning would help them to offer explanations during Ofsted inspections.

So to appease everyone I developed the project plan and presented it to Hum_NMS on the overall vision of this project i.e. bringing communities into classroom. We did not refer back to this plan as the project progressed and this made me wonder on teachers' reliance for plans. I organised further planning meetings to sort logistics like times when I will be in the class, classes that I will be working and the agreed start date was in Feb 2016.

The raised importance of digital technology within curriculum meant that schools found this activity relevant and timely. Relevance can be widely interpreted but within the

scope of this project it brings together student interest and societal interest (Stuckey, Hofstein, Mamlok-Naaman, & Eilks, 2013) and this was validated by school heads and department heads. Furthermore HT_NMS and DH_NMS in their discussion mentioned that the school is investing in their students to ensure they become a part of future workforce equipped with necessary skills and competencies and creative use of technology in my project would help the students to develop the skillsets to address that goal.

5.9.3. The activity before the activity

I wanted to develop the traction built from the initial meetings and thus requested the teachers if I could sit in their classes and familiarize myself with their work. I realised that observing how teachers deliver their lessons could give me insights as to how I should plan the delivery, build rapport with teachers and foster relationship with students. Being a visitor in the class meant that I could capture, develop, reflect on ideas that emerged during the process of my observation.

I sat through two observations per week for two months and predominantly in Hum_NMS's class. Initially I was worried about teachers' participation in the project which I feared could also impact student engagement and the research outcome. Considering that I was an external entity I was also looking to the them for help to integrate myself in the school system. I found this support from Hum_NMS who would often try to bring me into conversations when I was in the classroom or ask me questions to know my opinions on a topic that he was teaching the class. These gestures established to students to view me as a valuable and knowledgeable resource in the classroom. As I reflect on this episode I think this was one form of legitimacy that I was seeking for my practice and Hum-NMS's behaviour was a response to his teacher agency (Biesta, Priestley, & Robinson, 2015) where his quality of engagement in the project was due to the temporal-relational contexts-for-action. Agency can be described as a teacher's personal capacity to act in relation to the contingencies of the environments they are part of where teachers may exercise more or less agency depending on the setting (Leat, Reid, & Lofthouse, 2015) as their contexts and experiences do not remain fixed. This became apparent to me as I started my observations. During the initial meeting I was of the opinion that Hum_NMS was reluctant and as we started to engage more during observation sessions I saw him helping me out a lot which I think would attribute to teacher agency in action. Trust is important for agency (Leat et al., 2015) and I believe that I was able to build this trust relation with him during my observation sessions. The prevailing tensions between the school head and the subject teachers was due to the differing cultures of 'activity systems' (M. Jones

& Stanley, 2010) where the teachers wanted to stick to existing frameworks and the school head wanted to try something innovative. So I had to make extra effort with Hum_NMS and Geo_NMS to establish that the project is about encouraging democratic approaches to learning.

5.9.4. Observations

One observation that made an impact on me was Hum_NMS's lesson delivery on 'black death'. Hum_NMS walked into the classroom wearing the robes with a music player in his pocket playing the hymns and addressing everybody in the classroom as 'My child.' This changed the atmosphere in the class and got the children were really excited and ready for their learning. This was really important for me as I was able to reflect on the importance of taking children on a learning journey as opposed to just delivering the lesson plan. This helped me to absorb all the information (visually, auditorily, and kinesthetically), which otherwise would not have been possible to gain if I had not sat in the class for observation.

It encouraged me to think of new and interesting ways to excite students and teachers through my work. I was able to appreciate the need for a lesson plan here as it was only with effective planning Hum_NMS was able to deliver engaging activities in the classroom. Earlier I had downplayed the importance of lesson plans ascribing its value to an administrative need. Working on this research helped me to comprehend the importance of a good learning plan. I acknowledge this point again in this action research cycle. I knew that lesson plans contained teacher-led activities. I wished to explore if it was possible to design similar engaging and stimulating activities that are student-led as opposed to teacher-led? I was about to find some answers and more questions as the work progressed.

The observations created opportunities to interact with the students which strengthened my confidence to create engaging and challenging tasks for them. My past projects have been of extra-curricular in nature and thus schools were relaxed regarding its impact. This activity was entwined within curriculum and had to address performance and assessment needs. Interacting with the students early-on eased my nervousness in handling the responsibility to deliver assessment goals. Students would greet me as they lined up to enter the class, ask me questions regarding my weekend and approach me for help with their class work. All of this bolstered my confidence especially since I was working with a group of teenagers for the first time on an extended project.

The observations also helped me to see how teachers and students responded to the needs of Ofsted. Teachers used Ofsted inspections to nudge children to do their best. In one

of the observations with Hum_NMS, students were required to draw straight lines and Hum_NMS instructed students to use a ruler. Some students were using free hand. Hum_NMS looked at the work of these students and mentioned 'There is a need to use a ruler as it will look neat and Ofsted do actually notice this if children take pride in their work. Although our Ofsted is over and we don't have one for another three years, it is important that you do your work neatly as Ofsted do look into it.'. There was an implicit understanding on the importance of Ofsted both by students and teachers. I realised that the fear of Ofsted percolates to students who are also required to shoulder the responsibility during inspections.

The observations came to an end by the first week of Feb 2016 as we were soon to start the activity. I present my experiences from the research activity as below. Maintaining the temporal tone of the activity was important as it aided in the authentic representation of my learning that took place as time went by and experiences accumulated accordingly.

5.9.5. PBL Activity

Launch Assembly

22nd Feb 2016

David, Ahmed and I went into the school to introduce the project to the students in the assembly. DH_NMS mentioned that Hum_NMS and Geo_NMS were still unsure as to how this project would work and asked us to reassure the teachers regarding the project. I had my doubts too but I didn't have the luxury to say it aloud here. Several questions kept looming around. What if the teachers are not receptive to this idea? What if the children don't engage? What if they find it boring? What if the technology doesn't work? What if the iPads don't work. I was nervous but I reassured DH_NMS that there was nothing to worry. We went to see Hum_NMS who was still unsure about the activity. He wanted to know how were we going to introduce the activity to the students. I told him that Ahmed and I would talk in our home languages and introduce the project. Finally David would step in and will contextualise our act and introduce the project to the students. Hum_NMS listened but he had more questions. I asked him if he still worried about this activity to feed into curricular learning. He replied 'HT_NMS has asked me not to worry about the activity's role within curriculum and so I am not thinking about it. I am sure that the students will definitely learn something from this activity. Whether that learning will fulfil curriculum needs or not will have to be seen. Usually this topic of migration is taught within Geography as opposed to History or RE. I will need to see what inquiry the students will come out with to know if the

learning has addressed the History and RE curriculum.’ He further went to add that he likes to be ‘in control’ and this project has made him feel not in control.

The launch assembly went ahead as planned. Following the introductions, Hum_NMS showed a video regarding the concept of migration and why people move. Looking at the immediate response of the students I could tell they were very excited. Hum_NMS told me later that he spent nearly two hours, the night before to create this video, editing clips relating to migration from YouTube. Later in the class Hum_NMS asked me ‘Vidya, do you know what was the background score of the video? I said no. He replied ‘It’s Led Zepplin’s Immigrant Song’. This video again got me to re-evaluate my position on the need for lesson plans. I felt that lesson plans are too restrictive and I preferred a flexible approach to learning. But the video that Hum_NMS showed contextualised the project well and set the tone for the children to get interested in the activity.

The students seemed excited about the prospect of taking part in the project. They liked the autonomy that they were given to choose their own groups. They took the lead in setting the goals for the project and reminded the students that this is a PBL activity and children must take initiative to find out things and ask for things that they need. Similarly Geo_NMS got tucked into the project. She reminded the students that they must be aware of the audience to whom they are creating the final product. DH_NMS added that it could also be anybody in the community who could be interested and students should thus work to develop their project for an external audience. The assembly thus brought everyone together physically and metaphorically.

The Activity

22nd Feb 2016

The first session was in Hum_NMS’s classroom where year 7 students were working with him. The sessions lasted for 15 minutes as students had just got back from the assembly and were getting organized. There are four sections of Year 7 that I was going to work with 7A,7B, 7W and 7D. I was allocated 3 hours of contact time with each class, for a whole term (3 months).

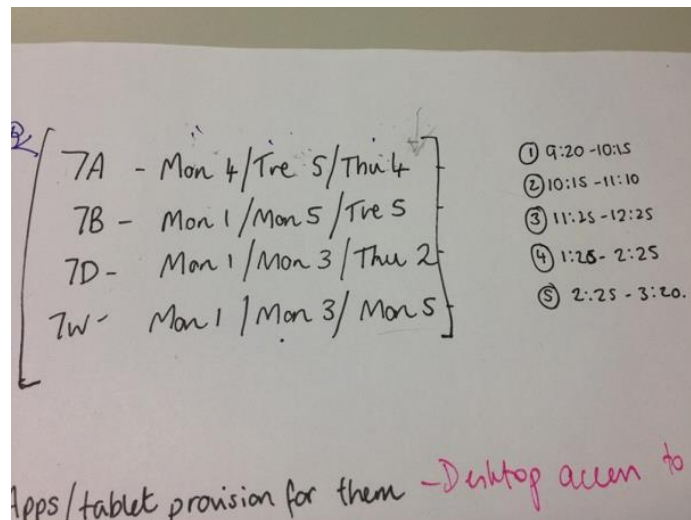


Figure 7: Schedule of my visits to each class

In the class I briefed the students regarding some ground rules for this activity. Students had to work in groups of 4. They have to think about creating a physical and digital artefact and finally they have to use a real-world resource to feed into the project. Students were given the autonomy to choose their group members. Hum_NMS mentioned to me that he never does this i.e. get the children to choose their own group members and that this was the first time he was doing it. He passed around a solo taxonomy sheet to the students. The sheet is commonly used as a guide to help students to achieve the learning targets they set themselves from the project. The students seemed confused regarding what they should fill in as I had not given them any objectives. I panicked if the instructions that I provided were abstract to interpret it in the skills sheet. At the back of my head there was a little voice that reassured me that Hum_NMS would handle it and he did. Students in Geo_NMS's class were also doing a similar activity. As I walked between the two classes, I could hear students engaging in an animated discussion of what their end product would be. So there was a buzz in the classroom with respect to the activity.

My learning outcome is:		You must include:
Language		- A definition of Migration.
		- A 'What?' question.
		- A 'Why?' question.
My next step is to do:		
Describe	where do we	- Some 'where?' questions.
		- Some 'how?' questions.
My next step is to find out:		
Explain and compare	relating to each other.	- Some 'Why?' questions.
		- A link to somebody in the real world.
My next step is to produce:		
	I know this knowledge, what can I make / product?	- An informative resource aimed at young people.

Figure 8: Solo taxonomy sheet

The classroom had diverse student population and I felt the students themselves would serve as excellent real-world resources. I started a discussion in the classroom regarding the topic and asked the students if they had any migration stories to share. All of them replied no. I reframed my question and asked them if they knew of anyone like their parents, grandparents or aunts who came from another country to this country. At this point some students started discussing about the stories from their families. I shared my migration experience with the students and later some came to find out if they could interview me as a part of their project. I was happy to note that students were identifying avenues and resources to shape their project.

I had built a rapport during the observation sessions with the students and this encouraged them to approach me for help. One group was making plans to create a video using their own devices from home and emailing the video content which they can access from school. A few students talked to me about bringing cultural artefacts into the classroom like a babushka doll from Russia or food from Pakistan. Children were finding enterprising ways to collect and share cultural resources amongst each other. One child mentioned that his dad was an ex-councillor and his father knows several other councillors who could come and give a talk in the classroom. Children were exhibiting skills and knowledge that teachers were otherwise unaware of. On reflection I realise that I have a natural ability to create platforms for young people to externalize their innate abilities. I realized that teachers are teaching in convergent ways to ensure there is a fixed outcome and hence are unable to discover the talents in children. Hum_NMS substantiated this feeling. He mentioned to me that he found one boy in the class interested in politics. He added that if it wasn't for this project he wouldn't have known that child's passion for politics. He used this boy as example

in the classroom and urged the rest of the class to focus on topics that they are passionate about.

At the end of the day I met Hum_NMS and Geo_NMS to get their feedback. They mentioned that the first day has gone well and I was so relieved to hear this. As I was heading out I ran into HT_NMS and DH_NMS. They mentioned that they were happy about the project and the launch assembly. DH_NMS added ‘Teachers need to learn how to let go and only then would children will come out with bright ideas’, HT_NMS chipped in and said ‘Teachers usually like to be in control and this project will challenge that’.

Another observation was regarding the conversation around parental engagement and how school heads and subject heads approach it differently. One key motivator for this project to take place in NMS was the parental engagement focus. HT_NMS was keen to build deeper parental relationship and had a strategic view on parental engagement initiatives. Contrasting this with the subject heads, my conversations with Hum_NMS and Geo_NMS on parental engagement activities would often be centered around parent-teacher evenings or parents’ input into classroom learning.

25th Feb 2016

Walking through the class room, I saw one group of students planning to develop a board game ‘migrantopoly’. The group had spent time and effort creating a prototype but decided to rework on it as they were not happy with the outcome. They were discussing this with Hum_NMS regarding their change of plans.



Figure 9: Student project Migrantopoly, a board game.

Hum_NMS listened and said ‘There is nothing wrong in changing the mind. You know what this shows, that you must have planned it better’. I was relieved to hear the

encouraging words but I felt that this ‘change of mind’ opportunity could have been used to build the learning widely across the class. I am a big fan of failures, mistakes, not getting it right and the ilk. This fascination stems from my learning years where you were expected to know the correct answer all the time and the consequence of not knowing the right answer was failure. I was thus proud of the students that they were able to use their agency to know when to stop and start all over again. But I did not point this out in the class at that instance.

Later in the noon I met the English teacher (Eng_NMS) who was working with the Year 7 group and I was explaining about the project to her. She added that while students had done something relating to EPBL previously but it was not ‘half as exciting as this.’ This confirmed my direction of travel and I was glad to note that it was coming through both from the teachers and students.

29th Feb 2016

I was working with class 7D where I noticed Archie. He had a reputation for getting into trouble and being disengaged in the classroom. I had instructed the students to continue their online research on migration. Archie instead decided to listen to music with his headphones which was not allowed in the class. I was the only teacher in the class so I went up to check and see what he was up to. Archie told me that he is listening to music related to migration. I liked this novel concept and told him that I would be interested to see what he finds out. His friends who were sitting around him got very excited and started to tell me about his interest in music particularly rapping. Thrilled by this motivation Archie opened his book to show me some of the lyrics he had written. At this point Eng_NMS walked into the computer lab and came along to check on Archie. Archie replied to the teacher that he was looking into a music piece and wants to do a song. Eng_NMS asked him for more information regarding the idea. Archie tried to explain but halfway through he mumbled ‘What is the point. you are going to say no anyway.’ I left Eng_NMS to deal with the situation and moved to the next table. As I was leaving I told Archie ‘Your idea sounds interesting you must keep working on it’.



Figure 10: Students working in the computer lab

Later as I was chatting with Eng_NMS she mentioned how Archie gets easily distracted from his work. She added as it was the first time that students were having this form of autonomy to design their own project and some students were having problems negotiating with this autonomy. I was able to sympathise with her. I knew that my role in the school was temporary and that teachers have to deal with all the personality and behavioral issues of the children throughout the day, year after year. Whilst providing free rein to the students all the time would not work, similarly teachers need to realize that students need to be supported to develop their agency and autonomy is key to that. Such an approach would in fact support the overworked teachers who wouldn't have to micro-organise every aspect of student learning.

Later in the afternoon I went into Geo_NMS's class. She told me that children were not as engaged in the project as she would have liked them to be. I realized that she was referring to discipline in the classroom as children were being chaotic. I wanted to tell her that it is from chaos that students will be able to find order but was unable to do so. This phenomenon of self-organization (Dolan et al., 2013; Mitra, Leat, Dolan, & Crawley, 2010) has been explored earlier where students who were given full autonomy to develop their learning have evidenced it. I realized that some teachers are keen to hold on to traditional approaches as they like to be 'in control'. I discussed with Geo_NMS to if there is anything that I could include to motivate the students. She did not suggest any changes and mentioned

that it was a wait and watch scenario for now. I was happy with this outcome and headed back to think about deployment of the technology.

I had briefed Hum_NMS and Geo_NMS regarding TK application. Geo_NMS was drawn to the technology element of the activity as she had an expertise in the area. HT_NMS was aware of David's work, and Hum_NMS was also using resources developed by David in his lessons. Thus the use of TK looked like a seamless addition to the project to complement the teaching that was already taking place in the school.

Meanwhile, I introduced *ThoughtCloud*, an app developed by a colleague at Open Lab that can be used to capture lightweight feedback. I realised that this app could help me collect some preliminary feedback regarding student engagement. Students were required to use a dedicated tablet and provide feedback as a group which could be via voice, video or text. The uncluttered interfaces of the app encouraged student participation who were able to navigate through the app and provide their feedback.



Figure 11: Students using *ThoughtCloud* application

I was of the opinion that using *ThoughtCloud* would help me to gather real-time feedback from the students. Students were encouraged in their groups to take the tablet and leave their feedback using the app and thus the app became popular with students. The downside was the app brought distraction as students found this as an excuse to be outside the classroom. Since I had not set an research agenda for the use of *ThoughtCloud* in my project, its cumbersome aspects of data download, lack of android devices to take into school, coupled with student distraction made me discontinue its use in the activity.

Some students came to mention that they would be like to invite their parents to come into the school and talk about their experiences relating to migration. I went to Hum_NMS to discuss the possibility of organizing a day when parents could come in to talk to the students. Hum_NMS replied 'Vidya I'll tell you what. I hate organizing events. But in this case I am

happy to do it as children are going to do the work of bringing people in'. He added that he has never done anything like this before and by doing this project he is also learning a lot.

2nd Mar 2016

Hum_NMS encourages his students to think more and not to find an easy answer to the question at hand. For e.g. when children mentioned that they wanted to create a PowerPoint presentation as their final product in the project he asked the children 'Is that the most creative idea you can come up with to present your work? Could you think of more interesting ways to present your work?'. Or he would tell the class, 'This is your project and you need to come up with new ideas. Employers and universities want people who take initiative. So take initiative and don't wait for me to give direction'. This was very reassuring to hear. The project started with skepticism but as it progressed Hum_NMS and Geo_NMS were able to see the project impacting the student learning and thus got engaged in the project and responsive to my new ideas.

Hum_NMS and was very excited about the prospect of students creating mysteries using TK application. I went to discuss with the teachers as to how to get the app downloaded on to the school systems. Geo_NMS mentioned that the computers are maintained by the city council and I will have to ask their help to get any application installed on the desktops. A technical support personnel from the council, Tech_Sup is allocated to work one day a week in the school. I was directed to Tech_Sup to coordinate actions related to technology installation. I met Tech_Sup and requested his support to download Digital Mysteries. He looked through the application and mentioned that while DM could be downloaded easily on the desktops but TK on iPads would not be possible as the app had a cost attached to it. He was also worried about the licensing option on the desktop as the application was only free for a month. With all these questions I started to worry about the timelines being shifted. I met Geo_NMS later and discussed about timeline extension and she eased my tension by saying that it should not be a problem.

In the noon I had another meeting with Tech_Sup and he mentioned that he needed HT_NMS's permission to authorize the downloads on all devices. So I wrote an email to HT_NMS copying Tech_Sup in it requesting her to grant permission. As there was a cost attached to the app download on iPads, I agreed to purchase an Apple giftcard that Tech_Sup could use to purchase the app. I went to a nearby supermarket during break, purchased the card and left it with Tech_Sup and went ahead to facilitate the session. Tech_Sup tried using the card but realized he was unable to do so and wrote me an email mentioning that the app

cannot be purchased with the gift card as such purchases needs go through the school credit purchase. At this point I began to wonder about the number of hoops that I had jumped to get the app downloaded. NMS has a fairly easy-to-deal administrative structures and helpful administrators always willing to help. The senior management have very supportive mechanisms to ensure the project was being well supported. With all the smooth processes and protocols I was finding it hard to get the technology to work on time. I wondered what it would it be like for practitioners who have to work in under-resourced, hostile and unfriendly school settings.

Schools are required to have credit to download apps on their iOS devices. In the scenario the school doesn't have enough credit they need to raise a Purchase Order (PO) for the amount of credit required and send that PO along with the school name, the Volume Purchase Program (VPP) account and the account manager's email to an accredited Apple vendor to purchase the app. It was long winded process but I wanted to document this to externalize the complexity of the eco-system that I was working in.

4th Mar 2016

Students were at varying stages in their project. Some of them were building the physical product, some others were still wondering how to go about. A few others were able to find a real-world contact and were developing their work around that link. One such student was Imran. He mentioned that he wanted to create a video and put it out on YouTube. He asked Hum_NMS if he could do that and Hum_NMS replied that due to safety policies he would advise not to put any information on YouTube.

I went to Imran to find out more about his project. I wanted to know why he was keen to upload the video on YouTube. He told me that he wanted to share the learning with the everybody. He didn't know why the teachers were hesitant in making the video public and I told him that due to the anonymous nature of the internet he could invite unkind comments to his work and this was a way to protect him from having to face the unkind behaviour. He replied that he would ignore it if it came to that. It was an interesting conversation and I was pleased to see his resolute to share his learning. He told me that his dad is currently visiting Mecca and that's why he has to stay with his grandparents. I was really pleased to note his confidence to link his learning to real world and create a learning resource too.



Figure 12: Students creating videos for their projects.

Students like Imran, Jan and Syed, have a diverse cultural heritage and were confident and excited to share their migrant life journeys with me. I also noticed there were some ethnic minority students who refused to talk about their backgrounds or heritage. I sensed that they did not want to invite attention to them. I sensed this and was mindful about it. I think being a broker requires the capability to read these subtle signs and develop your interpersonal and cultural understanding. These are skills that can't be taught but can definitely be learnt through real-world encounters.

10th Mar 2016

I spoke to Hum_NMS today about an incident involving some boys from the class standing around a bus-stop and smoking. He thanked me for sharing this info and he said he was worried knowing that his students who were only 12-13 years and have taken to smoking.

It was here that I was in a dilemma about my role. Was I their teacher? Could I have questioned the students? Would that go against me? Even if I were to be their teacher how could I stopped this incident and prevented it from happening again? I wondered if I should tell the school heads about it? Would the students know that I had complained? Would this cause them to disengage in the project? I decided to first share it with Hum_NMS who thanked me for looking out to for the boys. After my session as I was walking out, I ran into DH_NMS and I recounted the episode to her. She eased my dilemma and told me that I had done the right thing by telling the teachers and that if I hadn't told her, they boys will be unable to access the help that they need right now.

There were a couple of things I wondered, one about the pastoral care within school, and getting students to acknowledge the privilege of attending a school where teachers are invested in. By speaking to the relevant teachers I thought I had addressed the first aspect. I decided to address the second aspect by showing some of my travel pictures to the students. I

had recently been to Tanzania and visited a school in Zanzibar. I showed the pictures of the school and encouraged the children to reflect on the resources that they have. I showed them what ‘resources’ meant to the children in Zanzibar and how despite the lack of resources students were motivated to go to school everyday because they knew that the only way to have a good life was through education. The students sat quietly through the presentation. We did not have time to discuss the presentation as it was getting the end of the lesson. I wished that I had more time with the children to discuss their views. But the incident with the boys compelled me to do something and I hoped that the presentation would get the students to do some thinking on their own.

14th Mar 2016

I introduced Digital Mysteries to the students today. Archie was in the class and he was being difficult. He had music playing on his desktop and I asked him to turn it off. He replied that he was unable to do that. I went to his system to turn the system out and as I was using his mouse to turn the computer off, he pushed my arm away telling that he doesn’t want the music to be turned off. The teacher in the class intervened and switched the music off. He was being difficult and was distracting his friends. As I was walking past his chair I told him ‘Archie, I have always been kind to you and you weren’t very kind to me today’. I knew that he is used to challenging structures and pushing boundaries to get a reaction. I decided not to react but tried to use my emotional quotient to get him to see my point.

Later part of the day I was in Hum_NMS’s class and he had assembled the students in front of the white board to explain the DM application. He contextualized the application to the learning that children were doing in the class. I made a mental note of his approaches and decided to use them in my practice when working with students in the next phase.

15th Mar 2016

Some students came up to me, to request more time to complete their project as they were making a video and needed access to green screen which was taking time. I told them that I would discuss this with Hum_NMS and get back to them.

As I walked around the class I had brief conversations with students regarding their experiences working on DM. Students mentioned that they found DM hard to understand and would rather prefer to have more time to complete their physical artefact than develop the digital artefact using the TK app. I was glad that students had the comfort and confidence to share their honest opinions with me. I also know that I have to address my research goals and

thus needed to find avenues on how to get the students to create both digital and physical artefacts.

There was a month left and we were getting to the end, I thought it was time to discuss the next phase of the research. I broached the topic with Hum_NMS regarding his thoughts on the next phase of the project and including an international dimension in it. He was excited by the idea and I was glad to note his enthusiasm.

Meanwhile I was still figuring out what my practice was as I was still unsure how to answer that. My focus has always been on the outside, thinking what are the teachers going to get out of this activity, what schools are getting out, what students are getting out, what kind of technologies am I using, how is it serving my stakeholders, how is it impacting them and so on. Working on this activity I have been so focussed on the impact that I have not thought about what I am bringing to it. I was having a hard time wrapping my head around to focus the work on 'me' and 'my practice'. I was still looking through the lens of impact and that was not helping me to understand my practice.

17th Mar 2016

Today Hum_NMS facilitated a discussion on the rationale that students had used to arrive at the solutions for their digital mystery. The mystery was about a family migrating to London. This topic seemed to encourage political discussion and teachers were keen to keep politics out of the classroom. Hum_NMS seemed proactive and pushed boundaries to get his students to think more than the rhetoric that is commonly peddled out in the media.

At the end of the session I talked to Hum_NMS and told him that I would like to focus working with one class to create the digital artefact using TK. Limiting it one class solved several challenges; iPad resource allocation, time inputs by teachers and students and more importantly data collection. This meant that I could focus and work with just one class and encourage all the students to develop the mystery. He agreed to this idea and suggested that I should work with 7D students.

18th Mar 2016

I met HT_NMS and DH_NMS to provide an update on project. They were very upbeat about the project and mentioned that they have received really good feedback from both parents and students. They added that they wish to implement such an activity within their theme-week so that the whole school could benefit. I had an idea to bring community members into the classroom. So we discussed the possibility of introducing external individuals as e-

mediators via skype for a session on migration related discussion. Community members could access skype and talk to the students regarding the topic and answer questions. This approach would also satisfy the health and safety protocols that schools need to think about when inviting external members to the school.

I was keen to organise an event to bring the communities that have interacted with the students to see what the students have done with the information. Through my past experience I knew that having a community showcase helps to raise student aspiration. Knowing that there will be an external audience to their work would get students to take their work seriously and take responsibility towards the work they are producing. I discussed the idea with Hum_NMS and Geo_NMS regarding the showcase event at a cultural venues like a museum. Considering this topic dealt with cross-cultural learning, holding a final event at a place of culture seemed befitting. Since I knew some people at the museum I realized I could use their help to get the event organized there.

24th Mar 2016

I was in 7D today for the first time and was happy to see the different projects students had made to externalise their learning.



Figure 13: Projects produced by the students

Students told me that they are enjoying the project especially working in groups. One group elaborated as to how they would meet on weekends to discuss and organize their work. They added that if someone was unable to join in person they would then organize Skype meetings. Another group talked about their work which was collating information on migration policies from various political parties and they had identified a Syrian refugee to be interviewed for their project. The students had put in a lot of effort developing their project and were keen to present their work to the wider public.

Hum_NMS later told me that the work from his class had exceeded his expectation. He mentioned that in their previous enquiry work they were always guided and this was the first time they were given a free rein and doing so he saw that the work produced by the students was of high quality. He added that the this enquiry project was different as he saw a variety on how students were externalizing their learning through different projects and models. He mentioned that ‘At first you will see very little work being done and wonder what are the students are really up to. But in the end when the product is formed you do understand the work they have all been putting into the project’.

11th Apr 2016

After two weeks of Easter break I was back in the school and found it easy to work with students on the project. My decision to focus on one class to get them to create the mysteries using TK helped me to find the rhythm in the project.

I spoke to Geo_NMS again regarding a finale event at the museum and inviting communities to this event. Geo_NMS seemed reluctant as she highlighted the different logistics to be organized like organizing transport for students, organizing cover teacher, sending information to parents for children to be at the event.

Later that day in the ICT suite Hum_NMS and Geo_NMS expressed their worries regarding students' work being device dependent. The teachers mentioned that students working and using the same iPad through the project would be challenging. They wanted to find out if the project could continue on desktops as opposed to iPads. My research required students to work on iPads and thus I explained to the teachers that as my research is on mobile devices it would be beneficial if students could continue working on iPads. Geo_NMS seemed disinclined and just then the bell rang and we decided to pick up the conversation later. At this point I was unaware that mysteries could be created on desktops and that the information is stored on a cloud server which meant that students need not be tied to a single device. Since I was unaware on this information at that point, I was fretting wondering how I could tackle this challenge. This experience showed me the importance of gathering all information relating to the application alongside the logistics of accessing it. The emphasis to use desktops was due to the fact that the school has only 32 iPads which meant only one class can access the device at an single given time. The teachers were worried that they could come across to be hoarding the device and thus were keen on desktop use. I was able to understand Geo_NMS's hesitation only as I progressed through the project.

I got in touch with Tech_Sup to check on digital mysteries download on desktops and iPads. Tech_Sup has a list of jobs every day to complete and he works through the list depending on urgency. My job-request was relatively non-urgent but I wanted to organize this fairly soon so students could start creating the mystery. I requested him if he could get the TK app sorted on the iPads. Tech_Sup told me that he was going through the purchase protocol and he saw that it was not possible to have direct download and he is still awaiting the VPP credit from their Apple product vendor. He asked me to contact Layla who was the school admin to get the VPP credit sorted. I had emailed Layla previously and followed it up with her today to see the status of the credit. She replied that she has contacted the vendor but

is unable to confirm if the credit has been applied. I then went back to Tech_Sup to find out regarding the credit and he mentioned that he will look into it and will let me know the outcome.

Sorting out technology deployment issues in this activity has been harder than I thought. The sheer nature of bureaucratic protocols set by city council and central bodies creates a lot of delays. I wonder how would it be to work within resource-constrained schools that have very little times to invest time to explore new ways of curriculum delivery. I also see that individuals are trying to make this happen but it is the system that limits the action and this is frustrating. In such a scenario one needs to ask questions regarding the need for limiting systems. How do we make seamless systems that respond to the needs without sacrificing structure, security and safety aspects?

As I was heading out, I saw HT_NMS and she told me that she was happy to hear how things are progressing. She told me that some students had come to interview her for the project. She was with a visitor at that point and these students went a step ahead and requested the visitor for an interview and captured the whole process on a video. She was happy to note their confidence and highlighted how students were sharing information and skills with each other as a result of this project.

My interactions with HT_NMS got me to reflect on the role of interpersonal relationships. I first met HT_NMS during my MRes project and since then we have had a successful working relationship. We have the same aspirations for the students and our world views were similar when it comes to community engagement. As long as individuals are committed to a shared vision, it is possible to develop harmonious working relationships and achieve individual success.

12th Apr 2016

I went to see Clive at the Explorer Museum to discuss the finale activity that involved community audiences. I have known Clive from my previous role and have developed strong working relationship with him. Using a cultural space for the showcase meant that it would provide the right atmosphere for students, teachers and community to come together and celebrate the project.

Later when I was in the school, I updated Hum_NMS and Geo_NMS regarding my meeting with Clive and the possibility to organise the finale activity, the Open Day event at the museum. The teachers were still unconvinced as they were worried on the logistics of taking students out of school, to find a cover for their classes, inviting parents during working

time all of which made it difficult for them to jump at the idea. I sympathised with their dilemma. We then discussed regarding the use of iPads for the activity and Geo_NMS mentioned organising iPads would take time as Tech_Sup was busy and insisted for use of desktops. I decided to talk to Tech_Sup personally to find out why there was the delay. Tech_sup told me that the delay is due to the vendor not crediting the amount and he is chasing this matter.

14th Apr 2016

I was keen to find out Geo_NMS's rationale as to why she was hesitant to use the iPads for the activity. When I asked her about it she said that one of her concern was regarding the availability of iPads as it is shared between the whole school and she thought there could be issues to get the iPads reserved for the activity. Coupled with this she added that the network in the school was very slow to hook all the iPads to the web at the same time and thus she felt that desktop would be an easier and robust option to develop the mysteries. I could see her point. We then discussed the community showcase i.e. Open Day and she said that organising the Open Day at the school would be much better option due to reasons such as logistics of taking children out of school during schooltime. She also mentioned that it is not very often that parents come into the school and this could be a good opportunity to bring parents and the extended community into the school.

I understood her rationale and felt that logistics, administration and rigid structures was proving to be a challenge to navigate. I knew that if I take these issues to the school heads they would be able to make some decision. But I didn't want to do that as the teachers had not identified these aspects as issues.

18th Apr 2016

It was the last session for students from 7W. Geo_NMS was ensuring that students fill in their 'skills sheet'. She mentioned that as students don't have anything to show for their project work this will go into the file to evidence that they have done something. I wondered what she meant by 'not having anything to show'. I asked her if the physical and digital artefact not be used towards evidence. Geo_NMS clarified that schools need evidence in a format that can be presented during Ofsted inspections. Project models didn't seem serious enough and Ofsted inspectors would not have the patience to understand the app and go through all the mystery. In the absence of such proof they would present the skills sheet to evidence student learning. Counter-productive I thought but it was not my place to say this.

The skills sheet is an evaluation sheet used to measure the soft skills that students have developed doing a PBL activity. Students complete this evaluation sheet and file it in their folder. Geo-NMS said that all projects that did not have any written material will have the skills sheet. Here I realised the importance of having written work produced by children.

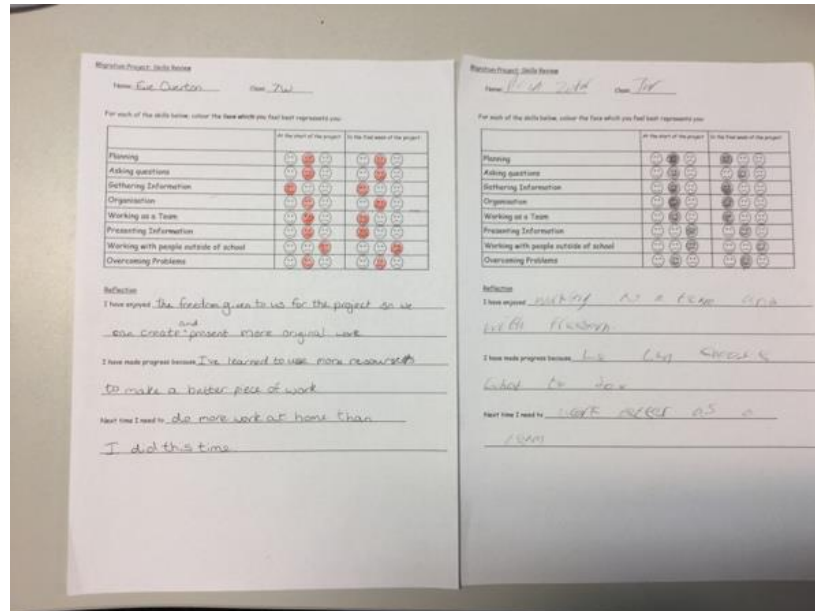


Figure 14: Skills sheet to evidence students' learning on EPBL projects.

I raised the topic with Hum_NMS regarding the next step of my research to a school-linking activity. I discussed the idea of a school exchange of the digital mysteries created by students in the two school possibly even in international location.

28th Apr 2016

I wanted the students to start thinking about building their digital artefact, the digital mystery. I was unsure how to approach this and Hum_NMS took the lead to explain it to the students. He got the students to start thinking about having a storyline for their mystery and build a narrative that could then be broken down into clues. He gave them guidance and examples as to how the storyline could emerge and I was making mental notes of all this. This session helped me to develop my skills on how to contextualise and communicate new ideas to students. I realised the necessity of lesson plans here and the importance to have structures and freedom in equal measures. I recognized that freedom feeds creativity and structure feeds skills development.

Later I went find Tech_Sup who told me that the VPP credit has been approved and he has downloaded TK on all the iPads and desktops. I was so grateful to Tech_Sup who got the work sorted for me. All the hardships definitely felt worthwhile at this point.

Later in Geo_NMS's class and I mentioned it to her that all the iPads have the necessary apps and we could start using the iPads to build the mystery. She reiterated her reservations in using the iPads. I wanted Geo_NMS to give it a go but did not persuade her any further at this point. I went to find Tech_sup to discuss if there are any solutions to the technical issues raised by Geo_NMS and felt that I was going around in circles to get the use of iPads sorted.

5th May 2016

Teachers were away on a school trip and thus I had to facilitate the class session independently. I had watched Hum_NMS lead the session and through those observations I learnt how to communicate my ideas to the students.

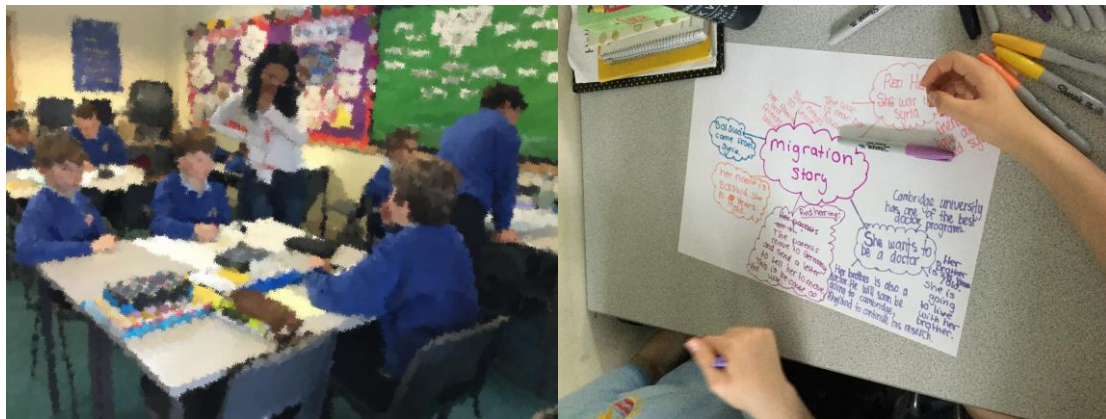


Figure 15: Facilitating session independently. Students developing storyline.

If it wasn't for the observations I would have felt a little lost in trying to get my point across to the students. I realised that my free-form approach was not always conducive and embracing structures and plans encouraged active participation from students in the class.

9th May 2016

I was still negotiating with the teachers to use iPads instead of desktops. Hum_NMS seemed fine to give it a try but Geo_NMS was not keen. She reminded me that the trial version of TK had expired and that a new log-in was required for children to carry on their work.

I had a lot of questions regarding next steps and I went to the lab to have a meeting with Ahmed and discuss all the issues. The meeting with Ahmed added clarity regarding the use of desktops. I realized that mysteries can only be created on desktops but to solve a mystery iPads were mandatory. Regarding trial versions, the expiry is applicable only when creating the mystery but once the students had downloaded the mystery the information

would be on the device and students can access the information anytime they wanted. I wish I had known this earlier. It would have saved me the worry of trying to sort out the use of devices and the numerous negotiations conversations with the teachers. I was glad that I will be able to go back and tell the teachers that desktops could be partially used in the activity. It felt like a win-win situation and I was glad to move on to the next stage of the research.

12th May 2016

With the debate around use of devices settled, I went back in the class to facilitate the session. Students were creating their story and taking feedback from the teachers. Later students used the storyline and generated their mystery on paper. Once the teachers were convinced on the coherency of the mystery, students proceeded to create it on the DM application using desktops.

I had my own iPad and it required internet access in the school. Tech_Sup was working next door and I requested him to connect my system to school's internet. Some of the students had finished creating their digital mysteries but since the iPads were not in use by the class they were unable to see what it would look like. At this point I used my iPad to download those students' mysteries and showed the students the digital artefact they had created.. This activity created a buzz as students were excited to see their digital artefact in action.

20th May 2016

I was facilitating Geo_NMS's class in the IT suite and the students were finishing their work on the desktop and were keen to view their mystery on the app. I needed an iPad for this and went to see Geo_NMS to request some iPads for students to view their work. She replied that iPads weren't working as the charging boxes had gone out for service and the devices that are in the class may not have charge for use. I was disappointed to note that with all those resources available, students were unable to access them when it was needed especially now as it was the final stage of the activity. I had my own iPad and it was connected to the school's network. I decided to use my iPad to download the students' work but due to network issues in the school I was unable to do this too. As I was walking up the corridor, I saw Tech_Sup and requested his help to fix my iPad so that I could use it in the classroom. Tech_Sup fixed it and I used my iPad rest of the session for students to interact with their mystery. It was important from a project perspective as this was a key experience for students to view the culmination of their efforts in the form of a digital artefact. It defeats the purpose

of the project if children were unable to view their artefact in real-time as that is one of the greatest affordance of using this specific digital technology.

23rd May 2016

It was last project-work visit to the classroom and I was in Geo_NMS's class. Some of the students were still working on their projects and they requested her for an extension. She replied that it will not be possible to provide an extension and students have only this class to complete their work. Working on this project I have witnessed the amount of effort that teachers put in to ensure students have a good experience in their school learning. This also made me reflect on students expectations where they expect to be spoon-fed to get their work done. I wondered if this could be the reason that is making students complacent about their work.

24th May – 15th June 2016

In the days leading up to the Open Day I contacted the marketing team at the University to find out if they could help to spread the word about the event. I also wrote to political representatives, VC's in the University and heads of departments and sent them invitation, requesting their presence at the event. I wrote to several news outlets to see if they would pick it up and/or send a reporter to take some photos and do a story about the event. I took help from my colleagues in the lab to design the flyer and doing all this, I was able to see how much effort goes into organising an event for the school.



20th June 2016

I realised that having an Open Day brings a closure to the activity. Particularly for schools as they rely on parental support to understand how they are doing and an event like this in the

school would bring the parents into the school. Such an event not only helps the school to achieve their academic aims but also has a societal impact where they are able to bring communities closer to curriculum.



Figure 16: Open Day event at NMS.

Students brought in their physical artefacts and I was coordinating with Hum_NMS and Geo_NMS to ensure enough devices would be made available for parents to try the digital artefacts i.e. the digital mysteries. I carried my own iPad just as a contingency with the mysteries downloaded into my iPad. The event saw several representatives from the community. We had two councilors, Cllr Dipu Ahad and Cllr. Jackie Slesengar who came along to support the event. We had an MP who had confirmed to attend the event but due to parliamentary recall and was unable to make it. We had community leader OBE, Hari Shukla attend the event along with professors, lectures and research staff from Newcastle University. We had an overwhelming response from parents and grandparents who turned up on the Open Day to see the project and engage with the students and their work.

The event lasted the whole afternoon and I spoke to the school heads briefly after the event. They were really glad to note the turnout at the event and how well it had all come together. At the event I was talking to DH_NMS and mentioned it to her the possibility to have held this event at a museum. She told me that she would have really liked that and if I had come to her with the idea first she would have made it happen. I wondered what would have been the outcome had that happened. But on its entirety the event was success to both, teachers, parents and students. The room was abuzz with activity and excitement. I was standing next to DH_NMS having a conversation on the success of the activity. DH_NMS turned to me and told me ‘ Look around Vidya, this is all because of you. Thank you for this’.

Timeline Action Research Cycle - 1

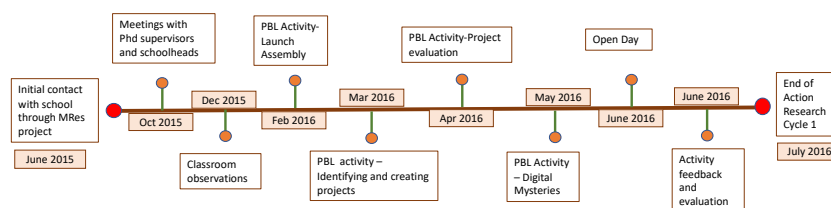


Figure 17: Timeline of AR Cycle 1

5.10. CONCLUSION

As I reflect on the work that has taken place in this cycle, I realise that there are several components that needed to come together to make PBL activity work. I present my reflections in two parts; critical incidents and making PBL work. Critical incidents focus on a few chosen interactions with teachers and students that helped me to understand my role in the activity. Making PBL work identifies specific components that influence a successful PBL activity in a school.

5.10.1. Critical Incidents

I recall certain incidents chronologically to map the emergence of my confidence in my role.

1. The first incident was at the start of the activity when we I organized an all-hands meeting to discuss the project and its delivery mechanism.

David articulated the link and the benefits but Hum_NMS still seemed unconvinced and asked 'But how does the project feed into curriculum goals?' At this point HT_NMS interjected 'There is no Ofsted police that will hold us accountable if we don't follow the curriculum.' There was obvious tension here and everyone waited quietly. Hum_NMS and Geo_NMS reluctantly agreed to take part.

The head teacher's belief in the project and her support to get this project off the ground was crucial to me. I had spoken to the school head on previous occasions but it was at this meeting that I was discussing the research project. The subject teachers were skeptical as they were used to the protocols of addressing Ofsted aims. It was at

this comment by HT_NMS who downplayed the role of Ofsted and thereby encouraged the teachers to think beyond Ofsted. Her support helped me to understand the importance of my role and added validity to my work. I was able to deliver the vision of the head teacher and address subject teachers' curriculum goals through this activity.

2. The second incident related to notions of control.

DH_NMS mentioned that Hum_NMS and Geo_NMS are still unsure as to how this project would work and asked us to reassure the teachers regarding the project. Later when I met Hum_NMS he mentioned that he likes to be 'in control' and this project has made him feel not in control.

This was during the start of project at the launch assembly. David and I were discussing the launch and things we were going to talk. At that point DH_NMS told us that the teachers were still unconvinced about the project and requested us to talk to them and reassure them. This made me reflect on my skill sets. The senior leaders were requesting me to assure experienced teachers of the project and its outcomes. This motivated me and I went to see Hum_NMS. He was in the classroom and I asked him if he was confident regarding the project. Hum_NMS at this point told me that this project has made him feel out of control. These conversations assured me that the approach that I taking would impact teacher practice.

DH_NMS added 'Teachers need to learn how to let go and only then would children will come out with bright ideas', HT_NMS chipped in and said 'Teachers usually like to be in control and this project will challenge that'.

HT_NMS and DH_NMS realised that the project would impact aspects relating to teacher control. In one of our conversations later, the school heads pointed the above information. They were happy for the project to address control issues and in turn help teachers to embrace creative approaches in their practice. This conversation once again confirmed my confidence relating to my role and its value within the school eco-system.

3. Students immediately took to the project due to the unconventional approach to learning. At the start there were a lot of confused looks and I was worried if my approach was working. As time progressed students started approaching me with ideas as to how they could contribute into the activities. Students talked about bringing in their contacts into school to help others in the activity. It was here when I

went to discuss with Hum_NMS if we could organise an event for community members to come into the school.

Hum_NMS replied 'Vidya I'll tell you what. I hate organising events. But in this case I am happy to do it as children are going to do the work of bringing people in'. He added that he has never done anything like this before and by doing this project he is also learning a lot.

Hum_NMS's reply helped me to appreciate the value of my role to teacher practice and my personality to build strong relationships with individuals. This conversation highlighted how the teacher was happy to go the extra mile as he saw value in the initiative. His emphasis about learning from this activity also boosted my confidence as I was able to get teachers to evidence that my work was adding value to their practice.

4. As the activity progressed I realised that my role in the school is not just impacting the student learning but also school practices.

The school heads were very upbeat about the project and mentioned that they have received really good feedback from both parents and children on the project. They added that they wish to implement such an activity within their theme-week for the whole school to benefit.

RD, AR Cycle 1

In one of the feedback meetings the teachers highlighted how the activity has positively impacted the student learning and that parents have also noted this impact. To sustain this effect, the school heads decided to implement similar approaches across the curriculum. What struck me was the feedback from the parents who told HT_NMS they are now watching their children work in a manner that would benefit a university student.

5.10.2. Making PBL Work

Summarizing how to make PBL work has provided me the opportunity to view my practice with increased critical awareness. I summarize my learning under three categories – Resources, People and Risk that I deem are key factors which impact the effectiveness of a PBL activity.

Resources

Through my research I was able to recognize how the allocation and use of digital resources impact PBL activity. I had some knowledge regarding the challenges relating to technology deployment as a result of my MRes work. This knowledge helped me to understand that

access to resources was key to the success of technology-mediated activities. When the opportunity arose to work with NMS I was fairly confident that I would be able to handle the challenges. Hum_NMS and Geo_NMS were interested in the use of new technologies for learning and I had seamlessly used desktops and iPads for classroom learning. Hum_NMS's proficiency in video editing and Geo_NMS's proficiency in coding came to light during my observations sessions in the school. Having teachers who were enthusiastic to use new digital resources and applications was definitely helpful. It was some of the challenges relating to access to resources that I felt seemed to impact the teaching and learning experience.

The first challenge was regarding application download on to the iPads. The apps had minimal costs associated and thus I assumed that it would be a straightforward download. But this wasn't the case. The computer systems in schools were maintained by the local city council and I had to liaise with Tech_Sup allocated by the council to address all aspects of technology use in the school. As the app had costs attached to it, Tech_Sup could not download it as he needed authorisation from HT_NMS. Once he received the authorization the school then needed to raise a purchase order to an external vendor who would then provide credit on the iPads to download the application. The purchase order had to be raised by the admin department and I had to ensure that this process was completed within a specific time period due to my research timelines. Whilst the download of the app seemed straightforward and easy, it was not the case in a complex eco-system like the school that is managed by the council, is answerable to Ofsted but also needs to run like a business.

The second challenge was about resource allocation. Hum_NMS and Geo_NMS were initially happy for the students to work with iPads. As the project progressed the teachers realised the lessons will need significant use of the device and thus were reluctant to use iPads. Their worry centered around two reasons, a) that their department would come across selfish if they booked out the iPads for this project as they only 32 iPads to share around 400 students, and b) the unreliable school network if students have to develop their work online simultaneously in real-time as the network may be unable to support this. I was able to sympathise with their worries, but it did frustrate me that I could not get a negotiating ground on the use of iPads. It was only when Ahmed clarified the use of desktops could be integrated in the activity, did the teachers agree to include iPads in the project. I guess this could be a resourcing issue for the school as opposed to the technological challenge. Yet there are challenges that arise due to resource allocation and one needs to be aware of that. It is not enough if you have the resources. One needs to understand how the resources are being

shared, and how long it is shared for. Expertise can only develop with time and students needs sufficient time with their tools to develop their skills and master them.

Once the above two challenges were addressed the project went ahead smoothly. It was important for me as a broker to understand the underlying issues of resource allocation if I intended to build on this activity. Earlier I wouldn't have looked into aspects of timetabling to deliver my activity. But with this experience I have realised that timetable impacts resource allocation and that I had to be mindful of some of the school practices like classes that were scheduled to ensure that there is effective resource use.

The school heads acknowledge the importance of resource scheduling and how the timetable constraints impacts resource allocation.

It could have been bigger, with greater thought about how we might tap into resources, about guiding the children. So it's, again, about them creating the opportunity, but then saying, "Well, I want to do it tomorrow," so we can't be that responsive in terms of flexibility and timetabling. So there are some constraints, but I think perhaps a greater push on using outside resources in the next wave that we do this will reap a greater reward.

DH_NMS, Teacher Feedback Interview, AR Cycle 1

People

As I reflected on the breadth of people that I had to interact I also recall the different forms of interaction that I had to perform. It was in managing these interactions that I was able to deliver a successful PBL activity. Working with senior leaders my interactions required strategic outlook. Working with the subject heads meant that I had to focus on the curricular linking and working with the Tech_Sup meant that I had to centre my attention on the technology issue at hand. Developing information to parents meant that I had to focus on student learning and interacting with my academic team meant that I provide research updates of my work. So diverse interactions called for diverse approaches. Central to all this were the interactions with the students that established the success of the PBL activity.

Student engagement

The feedback from the students marked the activity as a success. Students were asked their thoughts on this activity and the learning from the activity. The following comments summarises their experiences well.

Female 2_NMS: I really enjoyed how independent it was, so you could make your own decisions.

Male 3_NMS: Because it's been better than any other project we've definitely done because it's been completely different. To be truthful I didn't know anything at the start and I've learnt so much. I would say that I'm an expert on the topic now.

Female 1_NMS: We've done inquiries, but we're given a topic...Like this was a topic but it was very open ended, and we'd be given a topic, like maybe the Battle of Hastings and we'd find out about that and then we'd put it on like a big sheet. But with this, we got given any option.

Female 3_NMS: That we get to learn like with our peers and by ourselves without a teacher going "Do this, do this, here's a sheet of paper, write some stuff on that" It's like better, to just be allowed to go and do our own research and make our own stuff and then to perform it and to show other people.

Student Feedback, AR Cycle 1

Independence and freedom feature strongly through these comments and how these two factors seem to have impacted the students' learning in the project. Although students were used to the PBL format of learning yet they found it 'different' to work on this project when compared to their previous PBL projects. The 'open-ended' approach encouraged students to choose their learning topics and in some cases even master it.

This convinced me that for a successful PBL activity two factors were key; freedom to choose their topic of enquiry and, independence to evidence their learning. This meant that students were thinking about creating their work not just for their teachers but also for external audiences. The teachers also shared their thoughts as to how well the students took to the project.

Hum_NMS: I was generally impressed with the year 7s. I thought they did very well. There were kids who were just being dragged along or sat there and were spoon-fed but there were kids who surprised me.

Geo_NMS: I don't do that sort of project with that sort of freedom, usually, until year 8.

Teacher Feedback , AR Cycle 1

Students were working hard, researching and finding information. They worked on their projects not only during school times but also during the weekends. Their commitment to the project highlighted their potential to perform beyond their years. This head teacher discussed her thoughts on students engagement as below.

One thing that did happen as a knock-on effect of it was that children actually willingly did homework on the weekends on the migration project without anybody telling them to do so, and met as little groups. So, children did meet outside school and say, "Right, we want to do more on our migration topic." Which was brilliant, because parents were saying they normally had to nag them to do anything. And then they were going off in study groups. So it had a bit of a university feel about it at times.

HT_NMS, Teacher Feedback , AR Cycle 1

The headteacher's observation highlighted student engagement and the extra effort that students were taking to complete their work. Giving the children the freedom to control what they can learn and how they can evidence their learning in a supportive environment, made PBL activity a success with the students.

Teacher Engagement

Interactions with teachers highlighted how the PBL activity had impacted their teacher practice. Teachers were made aware of the capabilities of their students that they were previously not privy to.

Hum_NMS mentioned to me that he found one boy in the class interested in politics. He added that if it wasn't for this project he wouldn't have known that the child's passion for politics. He used this boy as example in the classroom and urged the rest of the class to focus on topics that they are passionate about.

RD, AR Cycle 1

Teachers reported that the project had exceeded their expectations. In one of the feedback interviews Geo_NMS admitted that when she first heard about this project she was very skeptical about it. But watching the students take to the process so easily helped her to see that freedom did encourage the students to produce good work.

Geo_NMS: I was apprehensive at the start, because I thought that we hadn't done enough. I didn't feel ready enough. But, actually, the kids just ran with it. Whatever you give them, they run with it.

Teacher Feedback, AR Cycle 1

The teachers reflected on their students' work at the start of the project and contrasted it the work that was developed at the end. This reflection helped them to refine their own practice.

Hum_NMS mentioned that 'At first you will see very little work being done and wonder what are the students are really up to. But in the end when the product is formed you do understand all the work they have all been putting into the project'.

Teacher Feedback, AR Cycle 1

Once the teachers saw that their students were actually learning without the control they were able to come around and embrace the new PBL format. The teachers saw that their students did not require the immense amount of scaffolding that they had imagined they would need and this revelation seemed to have impacted their teaching styles.

The school heads believed that this project would certainly impact teachers and students and were pleased to note the outcomes. The headteacher added that one of the reason for the success of this project was familiarity to the PBL approaches.

HT_NMS: You know, a lot of those structures I think were familiar to staff and children. Not all of them, but I think the basis of how it was set up was quite similar in some of their approaches in humanities. So children weren't suddenly faced with complete newness, and I think that's important for projects to succeed. I think if you hit a really new methodology to staff and children, I think they can be caught in the twilight zone a little bit, and it's all too much.

Teacher Feedback, AR Cycle 1

The PBL approach in school was already being used in the classroom in a very structured and set format. The new elements that were introduced was relating to freedom, independence and community collaboration. The headteachers emphasised that the success of the activity was partly due to the fact that the students and teachers had an idea about the approach and tried new configurations that challenged their potential and practice.

Educational Brokers

The project has thrown light on the crucial role of educational brokers to develop and deliver a successful PBL activity. Developing trusting relationship with the school heads, teachers and students helped me to align the PBL to respond to some of the curriculum and school goals. The following conversation summarises the role of educational brokers to deliver a successful PBL activity.

Vidya: I'm just looking at the researcher as a broker in this whole scenario. Do you think there is value for a broker/researcher?

DH_NMS: I think there is a value but I also think that the person is critical, so it couldn't have been any researcher, Vidya, I think you being you.

Vidya: Thank you, you're kind.

DH_NMS: No, seriously. I think you being you have been crucial and your enthusiasm.

Geo_NMS: The children responded really well to you.

DH_NMS: Your constant presentation is upbeat and smiling and encouraging and coaching and questioning and in such a lovely way, has been so important to the project. I don't think that that could be classed as a researcher. It think it's got to be down to the person and I think you've contributed enormously.

Geo_NMS: I think you're right. I think, if it had been someone- The kids felt they wanted to share things with you and they wanted to speak to you about things. They wanted to ask you about things and they might not have been like that with someone else.

Hum_NMS: It makes it different from just another school.

Geo_NMS: Just us asking, "We need to do something again."

Hum_NMS: If it's just a classroom with me, who they see all the time, they say, "Right, we're going to do this project and we're going to be reaching out into the community and we're going to present-" But the fact that there is someone there, different, they are not normally used to seeing work with us makes it just that little bit, "Oh, this is something a bit different."

Geo_NMS: You can tell because, when you weren't there, they would ask where you were.

Teacher Feedback, AR Cycle 1

This conversation highlights the importance of a broker to impact the success of the project. The teachers discuss the importance of a certain attitude, a personality that made my presence enriching to the students. This made me reflect on my personality from a distance, looking at me in third person. My personality encourages me to engage in relational approaches as opposed to transactional approaches. This meant that I was able to work with individuals across boundaries and seek their help when required.

As I was walking up the corridor, I saw Tech_Sup and requested his help to fix my iPad so that I could use it in the classroom. Tech_Sup fixed it and I used my iPad rest of the session for students to interact with their mystery on the app.

RD, AR Cycle 1

It was important to note here that Tech_Sup was busy with his own list of things to do. But when I approached him for help, he did oblige my request and sort the issue out. I took the relational approach to work with individuals and acknowledge their unique skills and expertise to build rapport. A transactional approach would have meant that I engage in discussions based only on work at hand and that does not help one to build social capital. At a relational level individuals go the extra mile. When I engage in conversations with teachers, students or the support staff, I am mindful of the challenges they face and sympathetic to their efforts even when the outcome does not address my needs. However there have been times when even with the best of my intention the other party has failed engage. I touch upon this experience in my next action research cycle.

Another incident that I would like to touch upon is the open day activity. I was able to draw on my links and contacts like local councilors and community leaders to come into the school and engage with the students and the community. This open day activity cemented the school's vision to develop deeper community links and parental engagement initiatives. The governors who were present at the open day event celebrated the confluence of communities coming together into the school. The open day event was held at the end of a PBL activity and this acted as a closure to all stakeholders. Parents were able to see how the information they provided to their children were used and felt that their participation has been valued. I stood next to DH_NMS discussing the event. She made the following statement.

I was standing next to DH_NMS having a conversation on the success of the activity. DH_NMS turns to me and tells me ' Look around Vidya, this is all because of you. Thank you for this'.

RD, AR Cycle 1

At this point I told DH_NMS that it was a team effort. It is important to remember this. The challenges that I faced whilst setting-up the project all seemed worthwhile when I heard that feedback from DH_NMS. As I reflect on this, I realise the value of my role as an educational broker. I am unable to speculate if any other external researcher/broker would have been able to achieve the same result had he/she followed the same trajectory. I suspect not. I understand there is something about me that makes it work. I would like to figure out what is that, so that I can share it across the community. The answer to this is elaborated later. At that moment, I thanked the school heads and the class teachers for providing me an opportunity to make this happen.

On a practice level I was still struggling to accept my capabilities as inherent strengths. I wasn't fully acknowledging the innate value that was in me. Even though the teachers had very encouraging words to say I was still struggling to see myself in that world.

Risk

This activity demonstrated the important role of risk to build an engaging PBL activity. I would also go as far to say that the it was the element of risk that contributed to the success of the activity. Students were able to engage in real-world research but that skill was seldom employed in classroom learning. New format of teaching with less structures meant that teachers could forego control and remove extra scaffolding to facilitate independent and self-directed learning. Injecting risk in this project was accidental as I had not planned it deliberately. Only on hindsight I realised that it was a big risk for the school to have embraced this project in the way that I had presented. I now wonder what would have been the outcome had I deliberately designed an activity with an element of risk? Would I have been able to convince the school to join me on the journey? Would schools be able to embrace the change and foster innovation? I was able to explore this in my next action research cycle, where I facilitated a PBL activity across two continents.

I explore how the evolution of trust from an individual interaction moved to become an organisational condition, less vulnerable to individual experiences. My next chapter provides an in-depth insight into this international activity particularly through the lens of risk.

6

Taking Risks

Chapter 6. Taking Risks

6.1. INTRODUCTION

This chapter covers the period from Mar 2017 – May 2017 which constituted my second action research cycle. In this cycle I examined my practice within a cross-cultural setting through a learning exchange activity organized between two schools, in India and England. Doing so helped me to understand the influence of context and the role of technology to embed my practice in diverse cultural settings. In this cycle, I started to become more conscious of my living educational theory as I was able to offer explanations to some of ontological and epistemological interrogations. I examined my work through two lenses; one with relation to my practice, the role of digital tools and learning processes to impact students' learning, and the second was in relation to my own evolving pedagogical values where my role moved from being classroom-bound to community-centered. This process helped me to open up my practice and explore its emancipatory and democratic form.

As I reflect on my first action research cycle, I saw that I had begun to question my values and the choices that I was making in my work. However I was still following conventions and embedding previous pattern. In this action research cycle I have consciously used the tools and methods to critically inquire my practice.

I worked with two schools; NMS in England INDUS (India United School) in India and linked the two schools in an international cross-cultural learning activity. At first, this proposal seemed unsettling to teachers as they had to make significant changes to their teaching practice (S. K. Howard, 2013) and this meant it could possibly put their identities at stake. Working on an international project also meant that significant time, money and resources had to be invested and there was an element of risk involved to the two schools and to my research lab. This risk was more of a perceived risk i.e. a prediction of what the actual risk might be (Renn & Rohrman, 2000) rather than an actual one. Understanding the nature of risk helped me to recognise the importance of risk mitigation strategies. Through risk mitigation I was able heighten the perceived benefits of the activity as I knew that I will be unable to impact an individual's attitude towards risk (Weber, Blais, & Betz, 2002). The issue with risk-mitigation is that it engages cognitive and experiential aspects where the cognitive looks at benefit and utility and experiential aspects focus on emotion and trust (Finucane, Peters, & Slovic, 2003). I knew that I could address cognitive requirements as my

PBL activity previously had done it. It was the experiential aspect that of trust that I was keen to foster with the teachers.

Working with NMS in my first action research cycle, had made it possible for me to build significant relational trust and social capital with the senior management, class teachers and students. Tschannen-Moran & Hoy (1998) highlight that trust is a key and necessary ingredient to build effective schools. Thus this time when I presented my idea for the second action research cycle to the senior leaders, the senior leaders embraced the project with all the risks that it entailed.

6.2.RISK-TAKING AND TRUST

Risk-taking has become an integral part of the 21st century teaching and learning discourse (P. Howard et al., 2018). Embracing a risk-taking attitude not only helps students to be open to failures and but also impacts teaching and teacher identity (Brooks & Holmes, 2014). I had witnessed this at NMS where senior leaders seemed to embrace risk far more easily than the class teachers. Therefore orienting my second action research cycle to explore the role of risk seemed organic and relevant. Risk-taking has also been acknowledged as an important theme in teacher professional development as it relates to emotion, identity and agency (Lasky, 2005). Risk taking with positive emotional outlook is seen to encourage innovation (Ponticell, 2003) and teachers have shown to take risks when they feel safe enough to open themselves to the likelihood of embarrassment and emotional stress to promote learning and build deeper student-teacher relationship (Lasky, 2005). Particularly within education, risk has been discussed through the lens of *risk and change*, *risk as struggle and self-doubt*, and *risk as finding a path* (P. Howard et al., 2018). I chose the third lens, where I have harnessed the role of risk to find a path for my role and establish my practice. My approach was unconventional and Hum_NMS and Geo_NMS had highlighted this to me. Nonetheless I wanted to follow it and started to develop an international linking activity as my second action research cycle. I knew that the international activity would encompass elements of risk which could be mitigated through trust as risk is the psychological, sociological and economic framings of trust.

Currall & Epstein (2003) discuss the interdependent relationship that exists between trust and risk. Risk is referred to the possibility that the trusting party will incur costs or damage if the other party proves untrustworthy (ibid). This understanding was important to me because I knew that significant resources would be deployed in this activity. I was

worried regarding stakeholder disengagement half way through the project which could then impact learning and research goals. Whilst I could persuade my research team at Open Lab to embrace this risk, I wondered how should I broach this with NMS.

Walker et. al. (2011) define school-based trust as a reciprocal relationship where there is willingness to be vulnerable, assume risk with the belief that the other party will also hold values of honesty, competence, openness, respect, care and educational ideals. So trust had to be built on two conditions that of interdependence and risk (Rousseau, Sitkin, Burt, & Camerer, 1998) and the connection between trust and risk arises from a reciprocal relationship of opportunities as trust leads to risk taking and vice-versa (Walker et al., 2011). Any variations in the factors can alter the level and the form of the trust that take place between two parties over the course of their relationship. I had developed trusting relationships upwardly with the senior management team and laterally with the subject heads. Whilst students were not directly involved in the process of building trusting relationship with the school, I realised that the effect of a trusting relationship with teachers would also affect the students. Trusting relationships, once established, are considered to be reasonably robust, and despite being fragile and prone to breaking, can be restored and renewed through honest efforts (ibid). NMS follows a distributed leadership model where group of individuals are working as a team to create organizational culture (Woods, Bennett, Harvey, & Wise, 2004). To strengthen organizational culture, schools need to operate through trust rather than regulation and leadership must be based on knowledge and not position (ibid). In reading about educational discourses on trust I began to recognize the difference between leadership and power. Hatcher (Hatcher, 2005) mentions that distributed leadership is always 'delegated, licensed, exercised on behalf of and revocable by authority – the headteacher.'

6.3.CULTURE

Another important facet of my practice and research has been the links to culture. Working in cross-cultural environment encouraged me to situate my research in similar context. Reading works within cultural anthropology I saw that 'culture is the human-made part of our environment' (Herskovits, 1948) or that 'culture as the social cement of all human relationships; it is the medium in which we move and breathe and have our being' (Scovel, 1994). Education researchers have often explored bringing culture into classrooms (Steinmetz, Busch, & Joseph-Goldfarb, 1994). It is important to note here that culture should not only look focus on customs, institutions, and artifacts but it should also encompass

learning about people's values, beliefs, and attitudes and how they influence interactions among people (ibid).

Schools in England often discuss culture with respect to geographical context where language and cultural practices that are visible are highlighted and celebrated. This approach causes the issue to reduce culture to all that can be seen, touched and heard. The 'cultural iceberg' (Edward.T. & Hall, 1990) model explores the seen and unseen aspects of culture and discusses that the invisible and unseen aspects constitute a greater part of the culture and it is usually the less noticeable aspects that often impacts students and their learning (Oxford & Anderson, 1995).

For the purpose of this research I have used Hofstede's work on cultural differences (Hofstede, 1983, 1986, 2011) as a starting point for discussion. Whilst there are criticisms for his work (McSweeney, 2002), I believe that despite its flaws Hofstede's work on cultural dimension framework has helped our understanding of national culture and its influence on teaching and learning activities (Eldridge & Cranston, 2009)

Learning is a form of social interaction that is culturally mediated (Hofstede, 1986) and it is only in accepting the impact of cultural differences on teaching and learning can we develop work effectively in cross-cultural context. Hofstede (ibid) asserts that within a cross-cultural learning situations the onus of adaption should be primarily on the teachers. He attributes six universal values that influence our cross-cultural understanding: individualism, power distance, uncertainty avoidance, masculinity, long-term orientation and indulgence to influence individuals in decision making and

- Power distance refers to the extent to which the less powerful members of institutions/organizations within the country expect and accept that power is distributed unequally. Higher the power distance, higher the acceptance of hierarchy and top-down structure.
- Individualism refers to the degree of interdependence a society maintains among its members. Lower individualism values refers to high preference for belonging to a social framework where individuals are expected to conform and act to the framework.
- Masculinity contrasts with femininity. A low score on masculinity means the society encourage feminine dimensions of expressions of care and quality of life and societies that have high masculine scores are seen to value competition, achievement and success.

- Uncertainty avoidance refers to how members of the culture feel when threatened by ambiguous or unknown situations and have created beliefs and institutions to try and avoid them.
- Long-term orientation refers to how the society maintains its link to the past which dealing with challenges of the present and future.
- Indulgence refers to the extent to which people try and control their desires and impulses.

As I was hoping to deliver the work in India and England, I decided to understand the cultural differences and similarities that exist between the two countries. A lot of my cultural learning has been anecdotal or experiential. I was now trying to find relevant academic literatures to support my practical knowledge that would further help me with critical understanding of the subject. The following graph (Hofsted, 2019) provides an insight in the value comparison between UK and India.

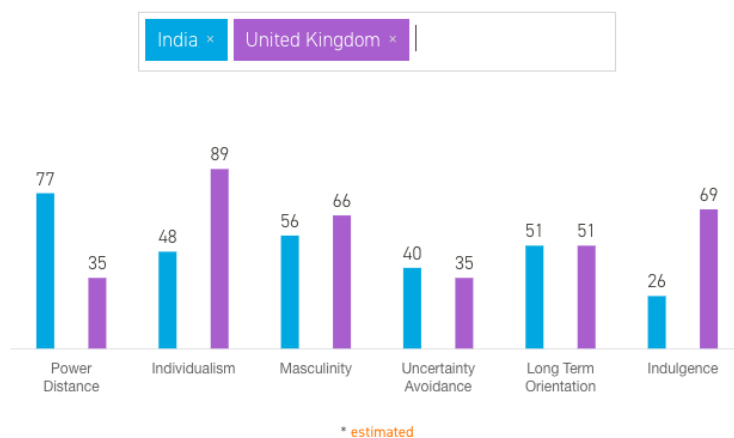


Figure 18: Cultural value comparison between England and India

I particularly look at attributes such as power distance, individualism and masculinity to situate my experience as practitioner working in cross-cultural context.

6.4. TECHNOLOGY, CROSS-CULTURAL CONTEXT AND PEER FEEDBACK

Technology deployment was key within my research. Hence I decided to focus the use of technology to impact student learning and where the findings could inform the future trajectory of my practice. I particularly looked at the role of technology to support feedback processes within cross-cultural context. There has been significant work taking place in this topic (Cheng, Yang, & Andersen, 2017; L. Lee & Markey, 2014; Ware & O'Dowd, 2008).

Cheng et al. (2017) worked with 68 American university students through a virtual reality game Crystallize to help them learn Japanese language. This study reported that the use of technology-led activity was unable to evidence any learning outcome and called for more work to explore how context and feedback could support learning of cultural behaviors. Lin & Yang (2011) worked with 32 second-year university students in Taiwan looking at the role of technology and peer feedback on English writing skills. Students were required to write a short piece between 120-150 words and publish their writing on a wiki-based online platform and seek peer feedback. This single institution study looked at passive online content and called for more work to understand student motivation to provide peer feedback and how peer feedback could aid in the development of reflective skills. Ware & O'Dowd (2008) conducted a year long, two-phase activity investigating language development in post-secondary students in Spanish and English. Through a tele-collaborative project across two-phases in US, Spain and Chile, 98 students (ages 19-22) were required to write at least 300 words in their second language and share it with their peers for corrective feedback. Students used Blackboard, an on-line course management system to collaborate and provide feedback. This study also focused on peer feedback on passive content with a authors calling for future work to explore how feedback impacts technology mediated tasks alongside exploring the role of tasks to promote intercultural learning. Lee & Markey (2014) developed a three-week intercultural exchange project with 28 university students from USA and Spain. Students produced a blog and a podcast and sought peer feedback on the content and language used in the blogs and podcasts. Through Blackboard, Moodle and emails students interacted with their cross-cultural peers. Likewise, this study also focused on peer feedback on passive content with the authors calling for more work in looking at native informants to be a part of intercultural exchanges and to ascertain how feedback improves skills of the learner. Bradley (2014) worked with 42 Swedish and American university students on a intercultural peer reviewing study to improve students' technical writing on a wiki platform. Students shared texts between each other and sought peer feedback. Authors highlight how participants found the peer feedback exchange in intercultural environment a challenging experience where comments were withheld or paraphrased to maintain relationships. Authors mention that in designing learning environment for intercultural exchange thought must be given to support feedback formulation and feedback engagement through action.

Based on the above literatures I identified that my evolving practice needs to be tested against my personal values. Risk was key to understand the sustainability of my evolving practice. The role of trust and culture was key in this action research cycle as I was working

with new collaborators in new cultural and geographical setting. Furthermore with respect to technology existing systems employed in cross-cultural contexts have employed narrow types of interactions between students. Through this work I wished to look at the creation and consumption of interactive content in cross-cultural contexts and establish how cross-cultural student interactions can enhance critical peer feedback, support deep learning and address challenges related to intercultural learning.

6.5.THE ACTIVITY

The second action research cycle helped me to examine my practice in relation to my personal values and knowledge which in turn opened up my practice into a more emancipatory form. In this cycle I show the emergence of my critical understanding as I probe my ontological and epistemological perspectives in a more explanatory manner. This cycle took place in two different location across two different cultural context. Working in new cultural context led to a new dimension in my understanding of the purpose of my research, my role and practice. My reflection process translated into evolving pedagogical values and informed the way I looked at my practice and thus my role. I specifically reflect the importance of my practice to facilitate a technology-enabled PBL activity linking two schools across two diverse cultures.

This chapter is presented through two phases. In the first phase I worked at INDUS, a school in New Delhi, India and in the second phase I worked at NMS school in England. The aim was to get students in the two schools to develop a project and give feedback to each other via the digital application TK. As with my previous cycle, I present this action-research cycles as a chronological account to maintain the authenticity of the work and to establish and evidence my learning as it occurred through the specific time period.

6.5.1. Phase I - Activity in India

At the end of action research cycle 1 I had indicated to the school head at NMS my interest to work on an international school linking activity. NMS already had links with a school in Kenya developed through the British Council's Connecting Classrooms programme. NMS teachers undertook visits and learnt about the culture, the curriculum, the community and the country and a similar reciprocal visit from their Kenyan counterpart was also organized. HT_NMS mentioned that whilst the students benefitted immensely, the teachers were unable to use this interaction to expand their professional expertise. Coupled with this, the learning

to the students regarding another culture was relayed through the teacher and student-student interaction usually took place in the form of a skype call which had to be organized meticulously to coordinate time-zones with school times in the two countries.

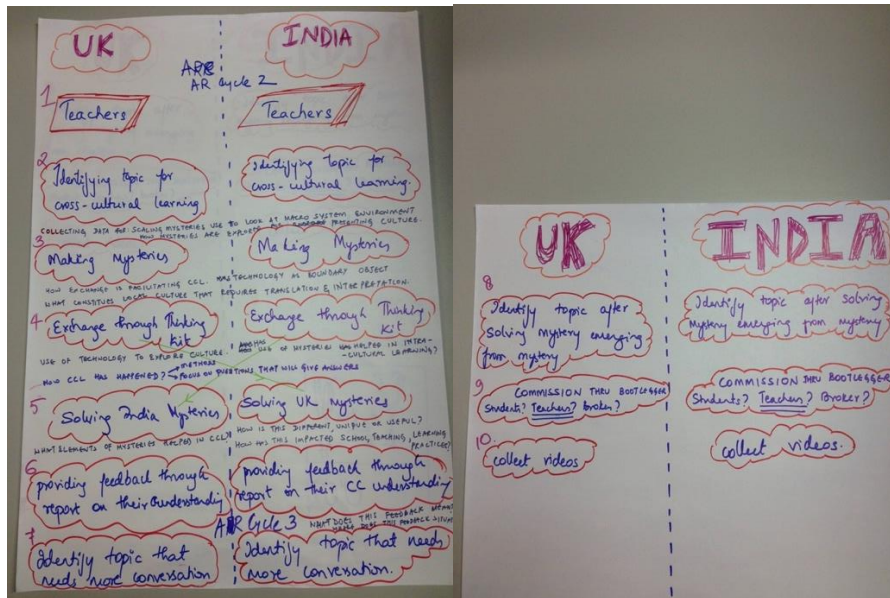
Due to this prior international experience NMS head teacher and deputy head were relatively aware of the risks and supportive to explore my idea of an international school linking activity with India. Whilst I had the commitment from NMS I wanted to ensure that the partner school would also bring in the commitment to maintain equity. I had witnessed in the past how good international school collaborations have failed due to waning commitment for one of the partners as curricular needs got in the way. So I was keen to bring in a committed school. Additionally aspects such as time constraints, budget constraints and personal safety were something that I had to be mindful of prior to finalizing the international school linking activity. Whilst I was open to travel and stay away from home during the length of the project, being a mother to a young child meant that I needed to consider the impact of my absence from home. So this activity was definitely seen as a risk both at a personal as well as professional level.

My familiarity and knowledge about India, its culture and its education system encouraged me to choose a school there. Open Lab had an on-going research link with IIIT University in New Delhi, India and my lab director encouraged me to collaborate with them to identify a school. I liaised with Indra, Associate Professor at IIIT Delhi who agreed to come on board and support the international linking activity. I scheduled initial skype sessions with Indra to discuss the project and he agreed to identify a school to take part in the activity.

First Steps

In our initial email and skype conversations, Indra shared some of his reservations regarding engaging in this activity due to his past experience. He mentioned that in the previous activity researchers did not provide any feedback to the school and the participating schools felt let down as no closure was provided. I assured Indra that this activity would be well designed where feedback sessions to stakeholders would take place at specific intervals and appropriate closure documents would also be circulated to them. Indra suggested a preliminary visit to the school before the start of the project and I agreed to this visit to gauge the school's interest and commitment thereby allocating our resources wisely in the activity.

I drew up an initial idea of the activity that I would be presenting to the school heads in India and discussed it with my supervisory team. The aim of this activity was to choose two topics that would complement each other and encourage student interaction. Thus the topic ‘India and its culture’ was chosen for NMS students and the topic ‘UK and its culture’ was chosen for Indian school students.



Preliminary school visit – Nov 2016

As my flight landed in Delhi I witnessed that the whole city was filled with smog. Air pollution had been on rise in Delhi and there were reports of this in the media which I was aware of. Only when the flight landed in Delhi, I was able to fathom the gravity of the issue. Reported as the ‘Great Delhi Smog’ in the media, this unexpected environmental issue also created challenges to my preliminary research plans. The state government had issued orders for school closures until the smog had subsided. Indra had organized a school visit but due to the smog issue we had to re-schedule our plans. The closure lasted for 2 days following which we went to meet the school head at INDUS International School. The Deputy Head of INDUS (DH_INDUS) listened to my plans and agreed to take part in the activity. The following day as I was preparing to leave Delhi, I woke up to the news that Indian government had decided to roll-out a demonetisation programme. This meant that most commonly tendered currency bills of Rs.500 (£5) would be discontinued from use. India predominantly is a cash economy and this overnight political decision caused some issues to my travel. My familiarity to the place, language and culture helped me to adapt and respond to the unforeseen challenges. I realized that one of the key risk in an international linking

activities, is the manifestation of external unforeseen challenges. The only way to mitigate this type of risk is to develop local knowledge to build resilience and to creatively respond to such challenges. On my return to England, I briefed my supervisors regarding my trip, the challenges that I encountered and sought their counsel on next steps. My supervisors listened to my plan and agreed to support the activity. Following this meeting, I started to facilitate conversations between teachers at INDUS and NMS.

Initial meetings with key decision makers and stakeholders has always proven to be valuable prior to the start of a partnership activity. Such meetings elicit commitment and trust from all parties involved, and it was important that the two schools consider the risk element and agree to deliver the undertakings.

Following the meeting in Nov 2016, I did not receive any communication from INDUS for two months. It was Jan 2017 and the project was due to begin in Apr 2017. Several paper work needed completion prior to my travel to India. I started to worry at this point as I was running out of time. I wondered if I should reorganize this action research cycle or find another school. As I was contemplating on other options. I received a reply from DH_INDUS apologizing for her delayed response and I then started to work on the necessary paper work to schedule the activity. I attribute the communication delay partly due to work-load and partly to the cultural approach to communication. Having an in-depth understanding of the Indian culture I can safely attest that email communication is not considered a priority in India. Phone calls are preferred to email communication. However no record trail can be maintained in phone conversations so accountability is an issue. Thus I decided to continue to use emails for communication and followed it up with a phone call if the matter was urgent. Following more email exchanges DH_INDUS finally confirmed that I could start my activity in Apr 2017 with INDUS students.

6.5.2. Phase I - Activity in England

PBL activity at NMS

I started the project at NMS to explore the topic 'India and its culture'. Students discussed their idea and focused on creating scrapbooks to evidence their learning. I was a little surprised by this as in the previous project students had creatively represented their learning with models and other artefacts including scrapbooks. I mentioned the projects created from first action research cycle and encouraged the students to think beyond scrapbooks. At this point Hum_NMS mentioned to me that that this was an assessed module and the project

outcome had already been agreed at the beginning of term and that's why they have focused on scrapbooks. This did not make sense but I did not challenge it at this point.

I was keen that students conduct research in the real world for this project as they had done previously. Students in this research activity similarly took initiative to find real-world resources and use that information within their scrapbook. Some students interviewed me as the real-world resource and the PBL activity seemed to go well at this point. Students felt confident to write their project goals and identify real world resources to feed into the project. All the digital applications were now available for use on iPads and I did not have to seek out to Tech_Sup for IT related help. Whilst the project aspect of the activity seemed to progress well, there were other aspects that needed attention. One student chose to create a project model for the activity. It was a slum-dwelling behind a railway line in India.



Figure 19: Project work – Indian slum dwelling behind the railways.

I was worried on this stereotyped image that was peddled through the media and wanted students to think beyond the single narrative (Adichie, 2009) that stereotyped culture and communities. I wondered what led him to choose this topic and I found the answer to this question at a later stage of the project. I did not want to demotivate the student as he had worked hard on the project. However I wanted students to do more than regurgitate facts that they found on the internet and was hoping for children to pick up nuances through their projects.

In the previous cycle teachers made it compulsory for the students to develop physical artefact and a digital mystery. In this phase teachers wanted students to focus on their physical artefact i.e. the scrapbook. Creating a digital mystery was thus made optional. Hum_NMS mentioned that not all students could develop the digital mystery as some students needed support to develop the digital mysteries and lack of time meant that not

everyone will get to produce a mystery. I was again disappointed by this decision but it was not something that I could influence so I decided to go ahead with what was on offer.

Hum_NMS discussed with the class regarding the aspect of developing a digital mystery and added that it was an option. He mentioned that those students who commit to developing a mystery should complete their work in the given amount of time and no time extension would be provided. Ten students agreed to develop a digital mystery along with the scrapbook as a part of the project and I was really proud of these students for choosing to go do the extra work.

I started working with these students encouraging them to think about a story line that they would like to develop. Since we had established a pattern in our first action research cycle, students were able to identify the topic that they wanted to work on. The challenge in this project was aligning their real-world information to feed into the digital mystery. I concentrated and worked with these students for two weeks. I was scheduled to leave to India shortly and wanted the mysteries to be ready for use in India where I will be facilitating international linking between the two schools. It was getting close to Easter break and I was worried regarding school closures, and monitored the work closely and requested Hum_NMS to ensure students complete their task on time.

6.5.3. Phase II – Activity in India

PBL activity at INDUS

Sunday, 1st Apr 2017

It was a weekend when I landed in Delhi. DH_INDUS had indicated in an email that I could call her when I landed and I spoke to her on my arrival to confirm the start time which was agreed for 8:30 AM on Monday.

Prior to my departure I met David and sought his help to create a paper mystery and introduce the concept of mysteries to students in India. We created a mystery on air pollution in Delhi as this was topical and students could engage easily in the activity due to the real-life experience that they have had with the topic.

Monday, 3th Apr 2017

It was my first day at INDUS and I was in the school at 8:30 AM as discussed with DH_INDUS. When we met she asked me why I was late as she was expecting me at 8:00AM. I replied that we had agreed for an 8:30 AM start and apologized for the delay.

This was my first cultural lesson, to put everything in writing and not just rely on phone communication. She mentioned that a 7:30 AM start would be ideal as the first hour of the school is ear marked for non-curricular activity and I agreed to this change and told her that I would send an email to confirm to this decision.

I was then taken to the auditorium room where students had gathered. I spoke to the students and explained my reason for the visit. I wanted to introduce the paper-based mysteries to students but did not have the time. I told the students that we will start our activity from tomorrow and dismissed the class. A history teacher, Hist_INDUS was present in the class. She told me that she was covering for Eng_INDUS who would be joining the activity from the next session. I started a conversation with Hist_INDUS to understand how projects are used in the school. She replied that students are expected to work on projects but it was usually around science topics and students develop individual projects as a response to the topic.



Figure 20: First meeting with INDUS students

After the session, I went to see DH_INDUS as I wanted to organize a skype chat with students at NMS. Students at NMS knew that I would be in India for an similar activity that I had conducted with them. I thought this skype chat would give NMS students an impetus to finish their mysteries if they knew children in India were waiting for them. I wanted NMS students to understand the impact of their mysteries and realized that a conversation with INDUS students would do that. I knew that the skype session would excite INDUS students equally and will motivate them to be a part of this project and deliver their best. So I discussed with DH_INDUS on the possibility of organizing a skype chat. INDUS school had an early start at 7:30 AM and school finished by 1:00 PM. A lot schools in Delhi adopt this schedule to avoid rush hour traffic. DH_INDUS agreed for this skype chat and I realised that I needed to tackle the hurdle of coordinating school times with Hum_NMS to make this chat happen. The clocks in England were on daylight saving which meant that the time difference

was GMT – 5. So the earliest time to bring NMS students in the skype chat would be 9AM in England which was 2:00PM in India. This meant that students at INDUS would need to stay back after school and parental permission was required for this. It wasn't a straightforward activity as I had thought. I discussed this with DH_INDUS and offered to look at dates towards the end of the week so that parents had enough notice to organize their schedule.

I later met the headteacher, HT_INDUS and a school governor to provide a background on the activity. After my presentation the governor seemed pleased and said that the project would definitely enhance their students' learning and added that students could expand their knowledge on politics and culture from different countries. I agreed with her and told her that the project will offer opportunity for students to engage in debates and discussions. The school governor added, 'Discussion regarding politics of another country should be ok but not on politics of India as we don't want to get into any controversy.' I realized the gravity of my actions and assured her told her that the project will not cause any inconvenience to the school. I knew that the purpose of my visit was to link the two schools, NMS and INDUS for the purpose of cross-cultural learning through a digital platform. I knew that I had to focus on this and gather data about it. As I reflected on the day, I wondered about my role, whether I was researcher, teacher or activist? I wondered if I should assume one role or all the roles. I reflected on the nature of politics in the country that did not allow healthy debates? How could one teach with fear? Was this behavior normalized that no one questions it anymore? I did not have answers to these questions. But I was learning the different facets of how learning is imparted across cultures and wondered what kind of individual would such an education system nurture? I had only questions at this point, questions that I did not vocalize.

Following my meetings with the senior management I went into the ICT lab to organize the installation of Digital Mysteries on the desktops. I thought it would be a fairly straightforward process as the systems and network are controlled by the school so there would be no administrative processes to stall the process. Apparently this wasn't the case. The system administrator was having issues downloading the digital mysteries on to the desktops. The system admin at INDUS is an external contractor who comes into the school on specific days. He mentioned that he was unable to do so and he thought a .NET framework is required. He mentioned that the school's Windows OS is running on a pirated version and this could sometimes cause an issue too. It was interesting to note the clash of values in the school. On one hand the school espouses excellent infrastructure and positions itself as premier, value-based institution. On the other it charges hefty school fees and uses

pirated version of the software on their systems. I wondered on the dichotomy of values that the education system in India espouses.

Tuesday, 4th Apr 2017

The school was closed due to a local holiday. I had not taken this into account when planning my activity in England. School closures differ in different parts of India depending on the cultural tradition prevalent in that region. Whilst this closure did not hinder my research significantly, it was a learning for me to understand the importance of intracultural diversity. There is often a tendency to homogenize a culture and this incident highlighted the pitfalls albeit one that did not significantly interrupt my work.

Wednesday, 5th Apr 2017

I was in school at 7:30 AM and introduced the paper-mystery to the students. With some brief introduction, I gave the mysteries out and asked students to start working on them.

The English teacher, Eng_INDUS joined us in the activity. She told me that she would be with me through the length of the activity. One observation today was regarding the role of hierarchy and power structures in school especially when addressing or greeting the teachers. Culturally a suffix 'ji' is added to the first name to denote respect. The melding of the two cultures that I represent was apparent when I had to address the teachers. For example if the name of the teacher was Jyothi Shinde I was expected to address her as Jyothi mam as opposed to Ms. Shinde. Culturally first names are routinely used to address an individual even in professional situations. So a name like Vidya Sarangapani would be addressed as Ms.Vidya.

Later I went to see DH_INDUS regarding the skype chat and she told me that letters to parents have been sent out and the skype chat had been organized for Friday 7th Apr. I sent a WhatsApp message to Hum_NMS to confirm the date and enquired on the status of the digital mysteries. He replied that he was chasing the students and was hopeful that students would complete them on time. The mysteries developed by NMS students were crucial for the purpose of my research especially in evaluating the role of digital technology to facilitate student interactions internationally. Schools in England would be closing soon for Easter so the activity was time bound. I did stress the importance of having the mysteries completed to Hum_NMS and he assured that he would get them sorted. It was risky proposition but I had no other option but to trust Hum_NMS.

Thursday, 6th Apr 2017

I was told today that the school auditorium was allocated to run my activity. I was relieved to hear this as I was losing time everyday trying to organize a classroom to meet. Students organized themselves into groups and started to work on their paper mystery.



Figure 21: Students and Eng_INDUS working on their paper mysteries.

There were other logistical issues that I still had to take care of especially the use of iPads. In my early conversations with INDUS teachers I gathered that the school did not have any mobile devices for use. This meant that I had to look at organizing iPad devices for students to work on. I had sorted this issue by coordinating with Indra who introduced me to a vendor to hire devices. I had completed the necessary paper-work to get the devices delivered to the school. I realised the various challenges relating to use of iPads only when I was at INDUS. The school for all practical reason is well resourced but the resources are not available for everyone. INDUS has 30 desktops and several printers but none of the desktops could be used by the students on this project as they were not connected to either printers or internet. I realised that I had not checked this information in my preliminary meeting with DH_INDUS. I had just asked her if there were desktops in the schools and had assumed that presence of devices meant internet connected devices.

In one of the conversation with HT_INDUS, she mentioned that the school is not keen to provide internet access to the students as they are unable to monitor internet usage by students at school. So technology access was proving to be a challenge. Coupled with this I was trying to coordinate the delivery date for iPads. Very few vendors in India hire out iPads so it was helpful to have Indra's support on this aspect. I got in touch with the vendor and

requested him to supply the iPads with Digital Mysteries app downloaded on them. He obliged to this request and I was awaiting for a confirmation on its delivery date.

Friday, 7th Apr 2017

Every morning, I witness the school rush and see how students and parents have found order in chaos. I think this is a remarkable human trait. On second thought I think some animal species also exhibit this behavior so humans are not that unique after all.

A school bus usually drops the children to school. There are taxis, scooters and assortment of all vehicles that people use to drop their children to school.



Figure 22: Morning rush hour

I sense a feeling of hope and hopelessness within me. Hope because of the children and their excitement and chatter. Hopelessness on the behaviour of the parents and in general the adult population. The focus for the adult here is on dropping their children inside the school premises on time. There are consequences for coming late to school. Depending on the school the consequences could be mild, severe and even inhuman (Nagaraja, 2018; Sandesh, 2018). No wonder parents seem to flout traffic rules to ensure their children get into the school premises on time. I witnessed parents driving on the footpath, parking in a no-parking zone and these actions have been normalized not only in Delhi but across India. In one of my taxi ride, the driver tried to break one of the rules and I objected to this and instructed him to obey traffic rules. The driver replied 'But madam everyone does this' and I retorted 'Just because everyone does it, does it make it right?' He didn't reply to my question but he did heed to my request and followed the rules till the end of my journey. It was my conversation in the local language that made the taxi driver heed to my instructions and I realized the power of local knowledge to impact change.

Later that day the students gathered for the skype session with NMS. HT_INDUS, DH_INDUS and Eng_INDUS agreed to take part in the skype session. There were initial technical glitches but that was sorted quickly. I noticed that DH_INDUS and other teachers were using their personal mobile phones to take images of the activity for documentation purposes. I wondered how the school implemented their privacy and safety policies in such a scenario. But I didn't raise this issue as I was unsure how it would be received. The photos below were taken by the ICT lab support teacher (ICT_Sup) through her mobile phone that she then shared it with me through an email.



Figure 23: Skype meeting with NMS students

Hum_NMS, DH_NMS and the students were present for the skype session. Students and teachers interacted with each other briefly. I reminded Hum_NMS for the completed digital mysteries and he assured me again that the mysteries would get completed in time. The skype session had injected some energy and I could see INDUS students were buzzing and were excited to start the activity.

As we were clearing the room after the Skype session, DH_INDUS came up to me and told me that I have to wear long kurtas (long tunic) to school as it was the expected attire for teachers in school.



Figure 24: The short kurta that I wore to the school

I am extremely aware of the cultural sensitivities as I am born and brought up in India. For this reason I found the request unusual. I was confident that my clothes (short tunics) were appropriate for the activity but I wanted to respect the norms and rules and agreed to wear long kurtas,. DH_INDUS specifically added that the tunics must be graze over the knee or longer and I took the conversation at face value and reasoned it to myself that this could be to a professional requirement. I knew that I had to respect the cultural sensitivities and welcomed the suggestions with an open mind.

Following the skype activity I had an idea to run an Open Day in a similar format with the two schools. Considering that the two schools were geographically distant, I realised that technology could be incorporated to organise an e-Open Day. I needed to get the dates organised before NMS went on a break for Easter. I wrote an email to Hum_NMS regarding the e-Open Day requesting some dates.

Monday, 10th Apr 2017

The students completed their paper-mystery and this activity helped them to grasp the concept of a mystery. I knew this learning would further help them when they are building their own digital mystery. Two groups engaged in manipulating the clues through relational aspects and I highlighted this to the entire class. I wanted students to develop their concepts regarding cross-referencing and incorporate it within their digital mystery that they would soon be creating.



Figure 25: Students working on their paper mysteries

Tuesday, 11th Apr 2017

I had planned the day for students to solve the digital mysteries on the desktops. As I was taking the students to the ICT room, I was told that the computers were not connected to the internet which meant that the students would not be able to access example digital mysteries that I wanted them to solve. I took the students back to the auditorium to work on their projects. Eng_INDUS came into the auditorium and noted the buzz in the room and started to enquire more PBL and how to use it within the curriculum. She requested a little write up about the activity that we have been doing so she could use it on the school website to update. I realised that within a short period of time I had a good rapport with Eng_INDUS and ICT_Sup. ICT_Sup especially was extremely helpful in sorting out system issues related to the activity.

Wednesday, 12th Apr 2017



Figure 26: Students in the ICT lab

The example digital mysteries were finally loaded on the desktops and I got the students into the ICT lab to work on it. As I walked into the lab with the students, teachers in the lab pointed it out to me that I must take permission to get the students to use the desktops in the

ICT lab. I mentioned it to them that I have been authorized permission from the school head. But there were protocol relating to hierarchy that had to be followed. So I waited outside while the teachers in the ICT lab coordinated to grant permission. It took some time to sort the permission after which I took the students inside to start on the digital mysteries. The students were working on a digital mystery relating to Holocaust and started to ask me questions relating to the mystery. I was unable to answer their queries and I could not get them to do a search as the computers were not connected to the internet. So I decided to bring out my personal mobile phone to find the information. It was here I realized the importance of accessing timely information and the role of internet to impact student learning. Access to devices in the school did not equate access to the internet and access to the internet did not mean access to timely information. Whilst the school had access to internet none of the desktops were connected to the internet and thus it made the fact redundant that the school was well networked.



Figure 27: Using my personal device to access internet for information

The aim of this activity was to get students to see the similarities present in a paper mystery and in the digital version. This experience helped the students to develop a good understanding of a digital mystery. Eng_INDUS continued to join in the sessions. She confessed that she felt out of depth in the project but was excited to be a part of it. She added that she would gain her confidence as time progresses but at this point she is still unsure on her ability to lead such an activity all by herself.

I finished my session and as I was walking out of the school I crossed path with HT_INDUS who has a stoic personality. When I met her for the first time in her office she seemed friendly but outside her office she ensured to maintain a distance and did not display any emotions. DH_INDUS exhibited similar traits and I put this down to hierarchy and the

school culture. I would also partly attribute it to cultural attitude where a friendly disposition could signal familiarity and equality. The only way to establish hierarchal boundaries is by maintaining emotional distance.

I was in the reception area and HT_INDUS walked past and I greeted her. She stopped to talk to me and asked me about the progress on the activity. She added that she has received feedback positive feedback from students and teachers regarding the activity. I was really glad to hear this and thanked her for it. She noticed my attire and complimented it. She added ‘Glad to note that you have started wearing your dupatta (long scarf worn across the chest). We are a school with boys studying in 11th and 12th standard (14 and 15 year olds) and that is why we need to be mindful of what we wear’. I was shocked to hear those words from her. I did not respond to that comment. I smiled and nodded and she walked away. There was a loud internal dialogue within me. I couldn’t believe what I just heard. Patriarchy governed her thinking and her words. It was not just the words or the thinking that disappointed me. What let me down was that it came from HT_INDUS. I had the deepest respect for her and for agreeing to work on this activity in her school, for holding the school together and making a change in ways that she could. With those words, it reinforced my belief that Indian education system needs a systemic overhaul. A part of my activity was to challenge some of the patriarchal norms. I knew that I couldn’t do extreme things but in my own way I wanted to push the envelope in the school and challenge the prevalent narrative of teachers are unfriendly, students cannot be self-directed learners, students need negative reinforcements to do their best.

However the conversation with the head teacher left me upset beyond words. I wondered how teachers could entertain a thought that 15 year-old students walk around the school holding sexualized notions of their teachers. How are they going to raise confident and compassionate men if they treat their boys with so much disappointment? What kind of learning institutions call themselves international schools and yet perpetuate patriarchal thinking? Why is the onus on women to cover up and be moral compasses for boys and men? Why don’t we teach the boys to not objectify women’s body? Well I had all these questions and the best I could do was ensure that children start thinking for themselves and learn to challenge patriarchy that is actively normalized in Indian schools. My shock and bewilderment manifested into a disappointed smile and I walked away.



Figure 28: Left: My attire without dupatta, Right: My attire with dupatta

Thursday 13th Apr

Students started their work on developing physical artefact as part of their PBL activity. My rationale for this was that working on their physical model prior to developing the digital model would give them internal feedback (both from the self and from the students in their group), stimulate their creative thinking and motivate their abilities when they start to build their digital mystery. The research they would use for the project would also help them in their digital mystery. The aim of the research was to get students from the two schools, NMS and INDUS create mysteries for each other and provide peer-feedback on the digital mysteries.



Figure 29: Students working on their project models

Friday, 14th Apr 2017

Today I had to coordinate the delivery of the iPads. The vendors assured me the delivery but working in India has taught me that things change without prior notice. So assurances are only conditional until the product is in your hands. The vendor mentioned that the delivery of the devices would happen on Monday evening. I was negotiating with the vendor to get the

delivery done at an earlier time to coincide with INDUS' school times so that the reception staff could collect them and safely store them in school. However the vendor was unable to confirm the delivery time so I hoped and prayed that the iPads turn up before the school closes.

The non-availability of internet in the school was proving to be a challenge. Students were unable to conduct necessary research and were required to take their work home to complete their work.. The penetration of mobile phones and data access is unprecedented in India (Economic Times, 2019). The presence of mobile is hardly an indication of wealth as those living in poverty may have access to a mobile phone as opposed to healthcare or education. The school is blind to the presence of digital divide (Livemint, 2019) which is not just about accessibility but also about usage. This could be due to the factor that the school caters to specific demographic of individuals who have socio-economic mobility. The school thus believes every child should have access to internet in their homes. Creative learning requires students to have access to varied resources in timely manner. Schools in India still employ rote approaches to learning and such didactic approaches require students to memorize and regurgitate information. In such a scenario access to varied resources is redundant as teachers make the decision where and what to learn. The issue is particularly relevant to me as in the case of a digital mystery I needed internet connection on the iPads. I wondered how to organize this in the school. I reflected on the Wi-Fi connection in the school and questioned if the signal strength could support 18 iPads. I spoke to the teachers in the ICT lab who confirmed that wi-fi strength would not support 18 iPads. I thus decided to organize my own wi-fi connection through personal hotspots and connect the iPads to the internet. As I was thinking through all this I realized that I needed more time to organize the infrastructure set-up. Several logistical issues were cropping up and I was charting out my plans as to how I was going to manage all these challenges. The risks started to seem real and I started to think about worst case scenarios.

Saturday, 15th Apr 2017

Students started to work on a storyline for their digital mysteries. We were running out of time and I requested the students to complete their project models in their own time. They were very happy to take the work back home and complete it. As I reflect on my experiences working with the education sector in the two countries I think working with students in India and with teachers in the UK excites me thoroughly. Whilst I have had satisfying experiences with students in England and teachers in India, I feel these two sections of the population

demand more motivation and sometimes the pay-offs may not be worth it too. But with students in India and teachers in England it is always a sure shot winner for me. I think these two sets of population are so motivated and involved and it positively impacts my enthusiasm and morale to work harder and do more.

I had a meeting organised with HT_INDUS and DH_INDUS to collect half-way feedback to understand their vision for the school. In the interview DH_INDUS seemed to focus on her role as a teacher and her vision for the project seemed very focused on a single goal. She didn't seem to be particularly excited on the benefits of a PBL activity or the use of digital technology to impact student interaction and peer feedback. HT_INDUS on the other hand was able to view the project and its impact strategically. She seemed to grasp the vision of the project and how it could help the students. She seemed to be open to new learning approaches and looked at the project as a whole as opposed to one element of the activity. This feedback interview also helped me to gather how teachers and students across the school are responding to the activity.

Sunday, 16th Apr 2017

DH_INDUS suggested that we meet for a coffee during the weekend and I thought that this would be a good way to build rapport with her. I found her less stoic and easy to talk to and this could be due to the fact that we are meeting outside a professional environment. We discussed her projects and her experiences working on British Council projects. From our conversation I realised that she is still new in her role as a deputy head. I realised this could be one of the reason why her vision for the project seemed very narrow.

Monday, 17th Apr 2017

Students started to work on a storyline for their digital mysteries.



Figure 30: Students working on their storyline

I was liaising with the vendor to confirm the arrival times for the iPads. As the delivery times were still unfinalized I went to DH_INDUS to see if iPad collection could be accommodated after school hours. DH_INDUS obliged to this request and mentioned that she has informed the school security to collect the iPads should they arrive after school hours.. This was an interesting shift in her stance considering last week when she insisted that I ensure delivery takes place only during school times. Much to my relief the iPads arrived at 3PM which was within school working time.

Mid-way during the feedback meeting HT_INDUS had indicated that other teachers were keen to see what the project was all about. I got in touch with DH_INDUS to find a date where I could give a short presentation to the teachers of Year 6, 7 and 8 and spike their interest in the activity. My idea was to train DH_INDUS and Eng_INDUS as champion teachers who could further support other teachers to adopt this approach should they wish to employ it within their curricular learning.

Tuesday, 18th Apr 2017

Students started to work on their mysteries with some groups setting ambitious plans to create two mysteries. Once they had developed their storyline students realized that it takes a lot of effort and thus reigned back their enthusiasm and decided to create only one digital mystery.

Later in the noon I was due to give a presentation to some teachers on how to entwine PBL within curriculum. I met the teachers and explained the activity, the project and its approach.



Figure 31: Workshop with teachers on 'Entwining PBL within curriculum'

The teachers were aware about experiential learning and some of them were excited to hear about it. I gave a short presentation and told them that if they wanted to know more

then can come and talk to me personally. Two teachers stayed back to chat more. One was a history teacher and other was a geography teacher. The geography teacher told me that she had approached HT_INDUS and had requested permission to be part of my activity as she had heard good feedback on the activity from the students.

Wednesday, 19th Apr 2017

Students started to create the digital mysteries on the iPads. I faced a lot of technical hurdle to get the iPads connected to the internet. The activity was taking place in a classroom adjacent to the ICT lab. I thus requested help from the teachers to get the iPads connected to the school internet. The teachers tried to connect the device but realized that they had forgotten the password to the network. When they retrieved the password, they realized that the network strength only works in the lab and not in the adjacent classroom. Furthermore when the Wi-Fi did connect in the adjacent classroom, I realized that the strength of the network was unable to support connection to 18 iPads and only a few iPads were able to get on the school network. At this point I knew that I had to step in and decided to use my personal hotspot to tether those iPads that were unable to connect to the school's internet. After a lot of trial and error we got all the iPads connected to the internet and students started to work on their mysteries and upload it.



Figure 32: Students creating their digital mysteries using Thinking Kit

Thursday, 20th Apr 2017

Students were tasked to solve the mysteries created by NMS students. I took 5 pairs of students to the ICT lab to work on the mystery while the rest of the students were in the auditorium looking at their mysteries created by their classmates.

I organized feedback interviews with the students to hear their thoughts regarding mysteries created by NMS students. Students mentioned that whilst they were happy to solve the mysteries they felt that the information in most of the mysteries showed India in poor light. I wanted them to elaborate more on this and asked them what they meant by that comment. Students mentioned that all the mysteries followed the same storyline of poverty in India. I replied 'But isn't poverty a reality in India?'. I was aware of their sentiments but I wanted them to take control of it through words. One boy answered 'Mam whilst it is true that there is poverty in India but the country also has much more than poverty to focus on. Most of the mysteries focused on that and we were not happy about that'. The session was nearing an end and I told the students that we will discuss this again tomorrow.

Friday, 21st Apr 2017

Today's highlight was regarding a broken iPad. One of the boy Yuvi in the class accidentally dropped the iPad and cracked the screen. He came to me and apologized and added 'Mam it is my fault. You asked us to carry only two iPads but I carried 3. Sorry I did not follow your instructions and I damaged the iPad'. Whilst I was shocked by the accident, I was also very happy to note how Yuvi had taken immediate responsibility for his action. I talked about this incident and highlighted the responsibility taken by Yuvi. I shared with the students that taking responsibility for one's mistakes makes the situation better for everyone even though it may upset the person in the short term. Yuvi was initially distraught and shocked when he came to me to tell me that he had cracked the screen. Whilst I did tell him that he had to be more careful, I praised his thinking for owning his mistakes. When he heard me say this he had smile on his face. I wanted to encourage children to not be scared of making mistakes and build their confidence to take responsibility when things go wrong. Schools in India do not focus on that. Failure is never encouraged or acknowledged. I wanted students to respect failures and accept that making mistakes is human and it is in the realization of the mistake that makes them better. I wanted to normalize failure and mistakes by highlighting this incident. I did remind them that they have to respect people and things and have to show care but sometimes accidents do happen and when that happens one must take responsibility for those actions.

It was nearing the end of the session and I told the students the we would be working on presentation skills next week as they would it for e-Open Day.

Monday, 24th Apr 2017

I was feeling a little ill for the last few days with a blocked nose and irritable throat. I was hoping that the symptoms would recede sooner but it hadn't done so for a week and I was getting very tired. I was unaware as why it was taking so long for a cold to subside but I had the research to complete so I kept working.

In the morning I went to the school to help students with their presentations for the e-Open Day. I invited HT_INDUS and DH_INDUS to view the rehearsal presentations. HT_INDUS told me that she will be unable to join as she had another meeting and DH_INDUS mentioned that she would drop in when she got free. I contrasted this scenario at NMS and knew that the heads would have come along to see their students do something exciting and new. But at INDUS I felt the school heads did not view this activity to be important and thus felt that it did not deserve their attention.

The students were making presentation to Eng_INDUS and myself and it was a relaxed atmosphere where the students were enjoying the process. Once DH_INDUS walked in the atmosphere went tense. I could see the stiff postures in the students and those who were presenting started to become nervous which was not the case before. I encouraged the students through their presentation and applauded their efforts. DH_INDUS sat through one presentation. She did not engage with the students or ask any questions. Once the presentation was over, she started to leave the room. I asked her what she thought of the students presentation and their work. She replied 'its ok' and walked away. This episode reinforced my belief regarding the need for change for teaching practices in Indian schools. The mood in the auditorium relaxed and students started to enjoy their presentation after she left.



Figure 33: Rehearsal presentations with students

Later I wanted to get some print-outs from the ICT lab. I needed to print 4 pages and I requested one of the admins in the ICT room if she could help me to print the sheets. The

admin told me that HT_INDUS needs to authorize all printing requests and I should give a written request that she has to sign to indicate she has given permission. When I asked the staff why was this measure was implemented they mentioned that this reduces the need for unwanted printing. To me it seemed like micro-management which was again based on asserting power and control rather than embedding eco-friendly initiatives,

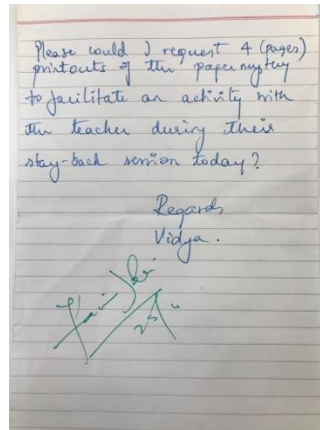


Figure 34: Permission note from HT_INDUS authorizing printing request

I saw that the school had employed technologies like digital sign-in/sign-out systems to record attendance of staff. I wondered why did the school not expanded this into other areas like to monitor printing requests.

Eng_INDUS was helping me coordinate and organize the e-Open Day and mentioned that students would be taken to another venue in the school bus for the activity. This venue is owned by one of the trustees of the school who has an auditorium with AV setup where large skype sessions consisting of a whole class would often take place in this venue.

Tuesday, 26th Apr 2017

It was the e-Open Day. Students seemed very relaxed. One group had created a board game as their project for the activity. I got the whole class to play this board game in the classroom. This sparked a lot of excitement in the students as it was unusual to engage in games during a class.



Figure 35: Students playing the board game that they created for the project

I then got the students to write feedback to their NMS peers on the mysteries they had worked on. I wanted to explore the notion of peer-feedback as a part of this activity and thus worked with the students on how to give feedback. We first discussed as to what constitutes a good feedback and developed an outline as to what information to include when providing feedback. We designed an outline and students used this outline to write their thoughts and provide their feedback on the mysteries they had solved.

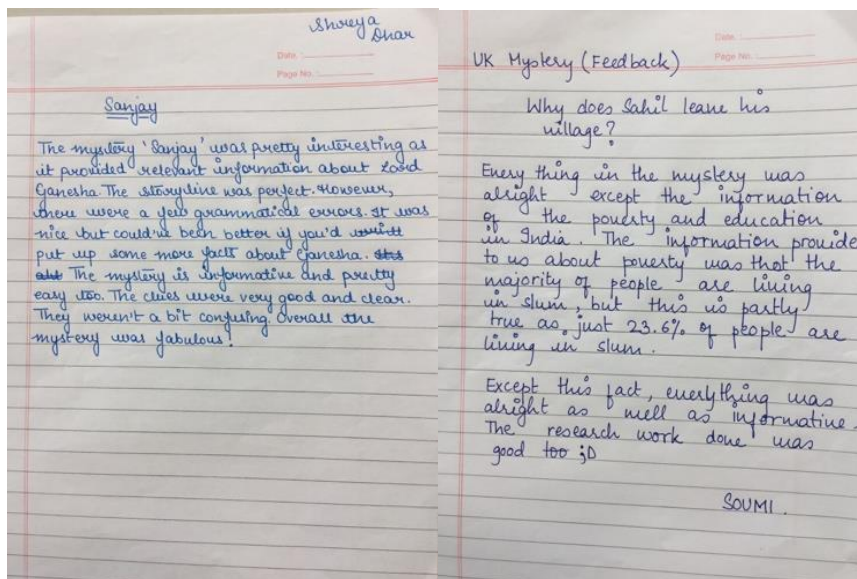


Figure 36: Handwritten feedback from INDUS students

Following the feedback activity we headed out to the conference center for the e-Open Day.

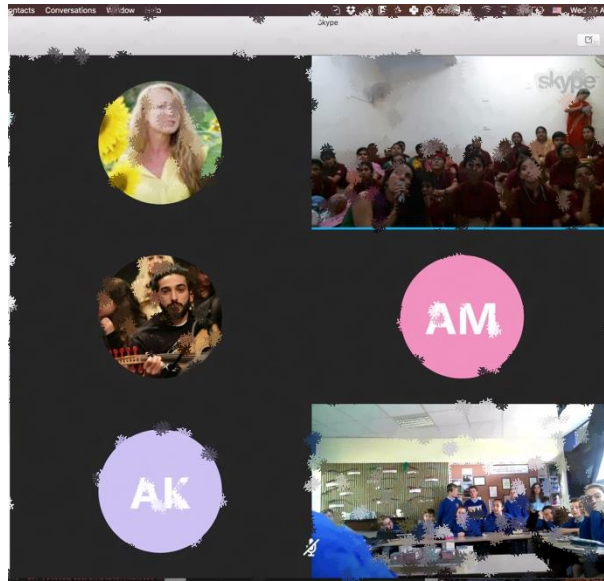


Figure 37:e-Open Day between INDUS and NMS school

The conference center seemed liked an office space with people working in different areas of the building. We were all taken into a large room that had tiered seating and a large screen. A technician was at hand, helping us with the digital/IT set up. It took a couple of attempts to log in and once the connection was set, I used my laptop to connect to skype. I had my doubts regarding the internet connection but the technician helped us when we faced any obstacle. I had circulated the information across my lab inviting other researchers to take part in the activity. I had 5 colleagues from my lab who signed in and requested participation in the group call. Once the call started everyone got really engaged.



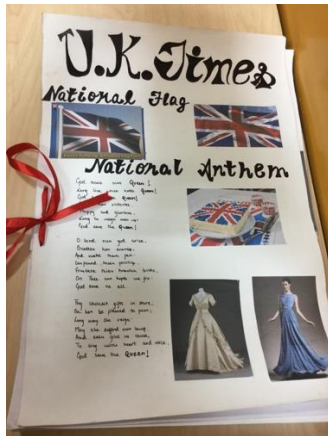


Figure 38: Completed project models by INDUS students

The students presented their work and took some questions. There were issues with the connection. Hum_NMS was aware of the issues and he waited patiently with his students for us to reconnect and his friendly candour won over both teachers and students. INDUS Students presented all their models and NMS students presented two of their models one which was regarding the slums in Mumbai and the other was the travelogue.

The e-Open Day ended on a high note for students in the two schools.



Figure 39: End of e-Open Day

Wednesday, 27th Apr 2017

It was my last visit to the school and I came by to tell my goodbyes to the students and teachers. Students mentioned that they had enjoyed the project and were sad to see it end. Following our conversation in the classroom I requested Eng_INDUS if I could take a picture with the students. She asked us to take the pictures quickly as she was worried incase HT_INDUS or DH_INDUS passed through the corridor. This reiterated my belief that hierarchy was entrenched in the school.



Figure 40: Final goodbyes

I requested Eng_INDUS for a feedback meeting and she invited me to have dinner at her house and do the interview there. I was really touched by this. I was still feeling poorly when I went to meet Eng_INDUS in the evening. She noticed my poor health and took me to the local physician and even paid for my medical bills. I insisted to pay her back but she refused to accept the payment. I guess some bonds that you build are more than just professional. I realized that the poor health was due to allergic reaction to the dog hair at my Airbnb accommodation. I was glad to get through this activity and to realize that I was allergic to pet hair. I finished the interview with Eng_INDUS and had dinner at her place. She mentioned that the students have a little surprise for me and when I am in the school tomorrow, she would give it to me. I was really touched by this gesture from the students.

Thursday, 28th Apr 2017

I was in the school to collect final feedback from HT_INDUS and DH_INDUS. I came in at 10AM and HT_INDUS told me that she is busy and asked me to come back later in the afternoon. As I was heading out, I asked at the reception if I could see Eng_INDUS. She came down with a little bag that had thank you notes and chocolates. I was really so touched by this gesture. Eng_INDUS told me to keep them in by bag and not talk about it aloud as she did not want to attract attention towards it. I has mixture of happiness and despair. Happy that my students were so thoughtful and despair as to how hierarchy has stifled teachers and teaching practice in India.



Figure 41: Thank you cards from INDUS students

Later in the afternoon I came into the school to interview HT_INDUS and DH_INDUS. I met DH_INDUS and she told me that HT_INDUS was not in the school and that she was busy to sit down for an interview with me. I requested her permission to use the ICT lab to catch up some work. It was my first session with Wakefield students today. Wakefield School is a secondary school in the Northeast of England. I was facilitating my third action research cycle with NMS and Wakefield School. I had been to Wakefield School before my trip to India and told the teacher Lang_WS, that my first session with the students would be a skype call from India and they were looking forward to it.

As I was walking towards the ICT lab I saw Eng_INDUS and asked her if she would come say hello to the students at Wakefield. Eng_INDUS said she was happy to do this but I have to take permission either from HT_INDUS or DH_INDUS for her to do this. This information shocked me. But I needed to follow protocol so I went to see HT_INDUS to request permission. As HT_INDUS was not available I asked DH_INDUS if it was ok to take Eng_INDUS in the skype call. DH_INDUS replied that she can't decide on this matter and I must take wait and take permission from HT_INDUS on this. I realized that she was not interested to permit Eng_INDUS to be a part of the call and thus was prevaricating. I thanked her and left. INDUS is regarded as one of the best schools and if they have such unhealthy and unsupportive atmosphere towards teachers, I wonder how suffocating it would be for schools with resource constraints. No wonder a large number of teachers in schools face demotivation in their work.

This marked the end of my PBL activity in India and I was looking forward to continuing my work with students at NMS for the next phase.

6.5.4. Phase I (continued) – Activity in England

PBL activity at NMS

Tuesday, 2nd May 2017

It was my first session back at NMS after my trip to India. My plan was to get NMS students solve the mysteries created by INDUS students. As I walked into the classroom, I was told that the iPads have been booked out to another class which meant I couldn't do much today. I had to readjust my thinking on device scheduling here. In India devices were available and all you needed was to seek permission to use the devices. In England, you have book the devices for them to be made available for your work. So I had to realign my working process and check on the availability of the devices before I organize the activity. Another worry that was looming in my head was regarding school closures in India. Summer holidays were fast approaching in India and schools were due for closures in three weeks. I was keen to get the feedback exchange completed before INDUS went in for their summer break. The aim was to get the NMS students write a feedback to INDUS students. Once the INDUS students had read the written feedback I would schedule a Skype interview to collect their thoughts on the it.

Working with students in India was a real pleasure. I would always look forward to the session and interactions with the students. The active participation from the students encouraged me to do more and bring in new ways of teaching in the classroom. Contrasting this attitude with students at NMS I felt they were less enthusiastic. There was a form of lethargy in the classroom and children seemed to not be completely engaged with their learning. This used to take up so much of my energy and time just to get the students motivated. I wondered if the choice of so many exciting opportunities made them to undervalue new opportunities that came across their way. The constant stimulation provided to students could make the mere act of thinking or engaging with their learning materials as a chore.

Thursday, 4th May 2017

I ran into HT_NMS as I was walking to the classroom. She enquired about my trip to India and updated me regarding the activities that took place in the last month. She mentioned that she spent over 102 hours during the Easter break reworking on timetable trying to incorporate more PBL aspects into the curriculum. As a result of this rework, she said that the humanities subjects, History and Geography were going to be delivered in tandem. She added that earlier

such tandem working was accidental but now they have deliberately put the two lessons at the same time so they are able to share resources. She also told me that she has concerns with PBL approaches especially when SEN students are involved. She thought they often get left out as the higher ability students would give them the easy work to do or the SEN students themselves choose what they are comfortable with and in doing so don't push their potential. Coupled with this she saw that PBL does not encourage writing work and that she would like to get more writing to be included in the PBL activity. She updated on the decision regarding the PBL Space*, and added while she is committed to the PBL approach she is unable to justify the expenditure to rebuild such a place and thus has decided to not go ahead with it.

**[In parallel, due to my research taking place in school, Hum_NMS and Geo_NMS were interested to design their classrooms into a purpose-built space for PBL learning. In one of my activity in the classroom I reorganised the classroom layout inspired by the Bridge21 project in Dublin. Hum_NMS researched on that activity and was inspired to redesign the classroom spaces with non-tethered devices and relaxed learning spaces. They were seeking permission from senior management to get a purpose-built space and had worked out a plan as to how such a space would look. When they received an estimate to recreate the space, the senior management found the project too expensive to fund.]*

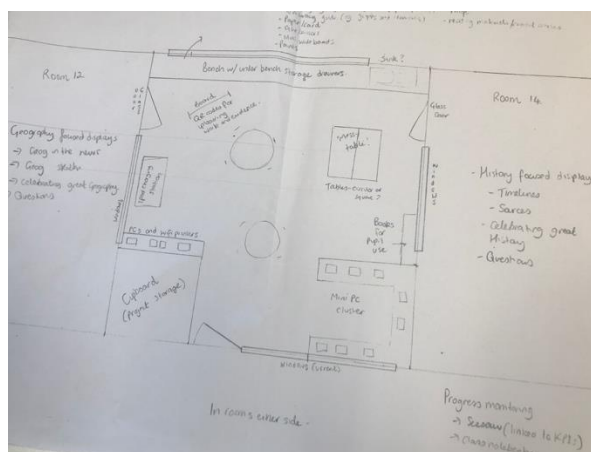


Figure 42: PBL space as imagined by Hum_NMS and Geo_NMS

Tuesday, 9th May 2017

Students were required to fill their end-of-project forms as they had done in the first action research cycle. These forms aided in self-evaluation of the skills and knowledge that students have learnt while working on the project. Depending on their progress students give

themselves medals for what they think they have achieved and express their ‘missions’ that they could develop in the next activity.

Students had solved the mysteries created by INDUS students last week and I was in the class trying to get the students to provide written feedback on the mysteries. As we started the activity I realized that some of the students could not recollect the mysteries and requested to look into the mystery and its content to write their feedback.



Figure 43: NMS students solving INDUS generated mysteries

I had not booked iPads for this session as I fathomed that it would be a writing activity. Only when the students started to ask me questions on the mysteries I realised that having iPads would have helped some of the students. Thankfully I could manage to find two iPads, Hum_NMS’ and mine. Students took turns and used the two iPads. Timely access to devices was establishing itself as a recurring challenge.

Having refreshed their memories students sat down to write the feedback. I discussed with the students regarding the notion of feedback and developed an outline for writing constructive peer feedback. Once all the students had completed writing their feedback, I circulated the feedback that INDUS’s students had written. Hum_NMS started to read the feedback from the INDUS students in the classroom and half-way through he stopped reading as he seemed to be taken aback by the honesty in the feedback.

He also came across to be a little disappointed with his students as he felt that his students should have done better research. We had a discussion in the class and I asked the students why did the majority of the mysteries focus on the poverty issue. To this students replied that the video Hum_NMS showed in the classroom talked a lot about it. Hum_NMS was upset by this and replied ‘Don’t turn this on me. You all had to do your research and you didn’t do it.’ I stepped in at that point and mentioned how media portrayal may not always be the truth and as students they need to take responsibility to research beyond the media

narrative. I told them how this activity exemplifies the importance of critique and conducting your own research. This conversation also got me thinking regarding teacher's role in a PBL activity. How do we get reliable resources for teachers to use in classroom that are free from stereotypes, vetted by community experts? It has always been a challenge and it still continues to be one.

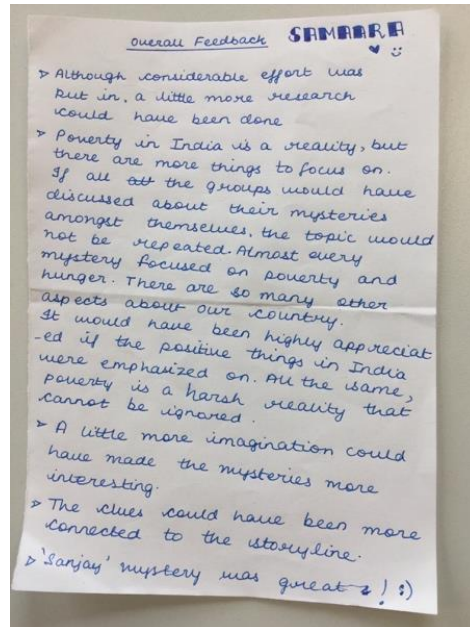
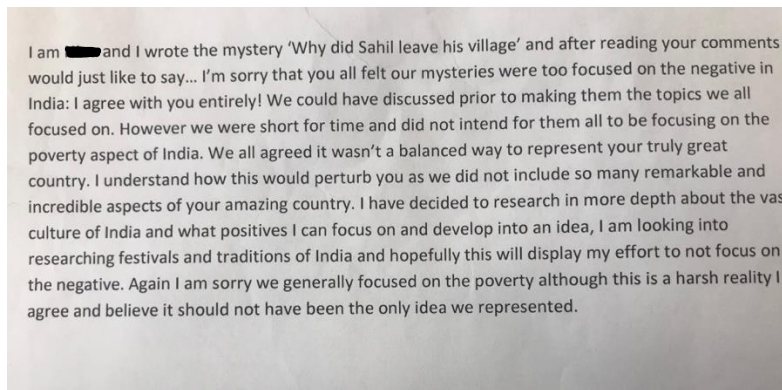


Figure 44: Feedback from INDUS student

Students had a look at the feedback they got from INDUS students and some of them seemed upset by the honesty. One of the student told me 'They think I am rubbish'. This was the first time students were receiving critical feedback especially from the same age group and those who are considered experts. I worked with the students and explained on how one could receive a feedback. Giving and receiving feedback is a skill that students are required to develop but is hardly addressed in the curriculum. I discussed the mystery and told them that criticizing the mystery does not mean that the person is being criticized. It is an opinion and students have the right to take it or not. I emphasized on the fact that they should not take feedback as a personal criticism and focus as to how the feedback has impacted their work. The importance of peer feedback was highlighted when one group did not receive any written feedback and they seemed disappointed by this. Following this session, two students walked up to me and told me that they would like to offer their apologies to the Indian students for focusing their work on the poverty. They typed a letter as a response to the feedback they received.



I am [redacted] and I wrote the mystery 'Why did Sahil leave his village' and after reading your comments would just like to say... I'm sorry that you all felt our mysteries were too focused on the negative in India: I agree with you entirely! We could have discussed prior to making them the topics we all focused on. However we were short for time and did not intend for them all to be focusing on the poverty aspect of India. We all agreed it wasn't a balanced way to represent your truly great country. I understand how this would perturb you as we did not include so many remarkable and incredible aspects of your amazing country. I have decided to research in more depth about the vast culture of India and what positives I can focus on and develop into an idea, I am looking into researching festivals and traditions of India and hopefully this will display my effort to not focus on the negative. Again I am sorry we generally focused on the poverty although this is a harsh reality I agree and believe it should not have been the only idea we represented.

Figure 45:NMS student response to the feedback from INDUS students

This activity highlighted the importance of peer-feedback and how it seemed to impact student learning and teacher practice. Students seemed to really engage with peer feedback and some students even chose to act on the feedback that they received.

Thursday 11th May 2017

I had an early morning skype session with INDUS students to hear their thoughts on the feedback they received. It was a whole class in the session. They mentioned that they were very happy to receive the feedback and added that they will use it to see how they could improve their mysteries. I was hoping to make some deep conversation but it was not possible as it was the whole class and other teachers were also present in the ICT lab. The presence of a large audience meant that student were just giving me surface information and some of the answers to my questions were mono syllabic. DH_INDUS was present during the session and I would attribute some of the hesitation to her presence too. As I was unable to get deep information I dismissed the students thanking them for their time. Eng_INDUS later sent me a message on Whatsapp telling me that students really enjoyed seeing me and talking to me on skype.

I wanted to conduct a final interview with HT_INDUS and DH_INDUS and sent them emails requesting their time to a final feedback interview. DH_INDUS asked me to send her the list of questions and she will try and run it by HT_INDUS. When I sent them the questionnaire, they changed their mind and agreed for a skype interview.

Friday 12th May 2017

The interview with HT_INDUS was scheduled for 4AM GMT. It had taken a while to organize this meeting and I was keen to wrap this episode and thus agreed even if it meant a 4AM start. The interview was going well but I often found DH_INDUS hurrying me to

complete the interview quickly and she mentioned that she was doing this as HT_INDUS had other place to be elsewhere. It felt odd that HT_INDUS who was in the same meeting didn't seem she was in a hurry to leave. Overall their feedback was positive and I was glad that I got this completed.

I went into NMS later as it was my last day of the project and took in some chocolates for the students. I thanked the students for their cooperation and for enthusiastically working on the project. I highlighted the thoughtful gestures of NMS_1Girl and NMS_2Girl, who wrote a reflection note on their action for their under-researched mystery. The class appreciated the girls and I could see that the conversation had impacted the students. Later NMS_1Girl came to me and thanked me personally and told me how much she had enjoyed the activity. I was really touched by her actions and realised how much the children had taken to the activity. One of my learning from this project is understanding student engagement. In India the engagement is very visual and you can hear it and see it. In England it is very subtle. Earlier I took this subtlety as disengagement. But after today's interaction with NMS_1Girl, I realised this aspect of cultural influence and was thankful for this cross-cultural learning. Communication in cultures are varied at different points in life. Having lived across two cultures this is what I have realised. In England children seem to restrain their opinions and expressions but in India they seem to express it openly to trusting adults. This attitude seems to shift as students age. In India adults are expected to restrain their opinions whereas in England adults are respected for voicing their opinions.



Figure 46: The end of the project at NMS.

Wednesday 17th May 2017

I went into NMS to get the final feedback interviews from the students. They had a look at the peer-feedback this time and were able to look at it objectively and provide their thoughts on it. They were very calm and in some cases even empathic in receiving the feedback. Students mentioned that they will respond to the feedback either by working on their own mystery or by creating another mystery. NMS_3Girl mentioned that that she would like to respond to the feedback by possibly conducting more research on other topics and incorporating that information in the mystery. NMS_4Girl didn't get any feedback on her mystery but she was still keen to rework on her mystery anyway. She mentioned that she could take the generic feedback by looking at grammar and punctuation and maybe even adding some images to her mystery and rework on it.

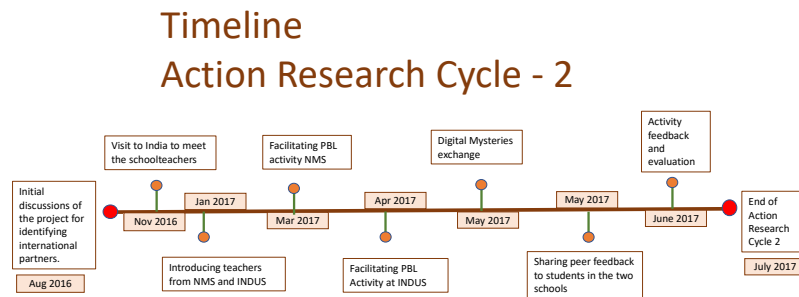


Figure 47: Timeline of AR Cycle 2

6.6.CONCLUSION

This cycle helped me how to harness the potential of risks by working within and across boundaries (Akkerman & Bakker, 2011). Building trusting relationships with teachers and senior leaders at NMS helped me to garner their confidence in this activity. By embracing the project senior leaders at NMS have demonstrated to their staff that they need to embrace risks. Teachers were being encouraged to experiment with their teaching practice by trying new approaches that was otherwise not familiar to them. Senior leaders at NMS felt that teachers needed to relinquish control and one way to address that was to encourage teachers to take risks. Along with risk-taking, I looked at risk-mitigation too. Whilst my ethics application was essentially a process to mitigate all risks, and other risks that were not within the purview of ethics application were perceived risks as opposed to actual risks (Renn & Rohrman, 2000) like student disengagement, teacher apathy or loss of teaching time. I

mitigated some of these risks by undertaking the preliminary visit to India and by identifying a school that would commit to the activity. I organised Skype meetings at the start of the project to ensure teachers in the two schools were aware of their roles and responsibilities and committed to the ethos of the activity.

Another key aspect of the activity was about embracing my vulnerability by accepting that I may not have answers to all the questions. I expressed this vulnerability to teachers in my first meeting and added that I am learning as I facilitate this project and sought their support to guide me through the activity. Exposing my vulnerability was a risk but doing so helped me to develop trust with teachers. The gesture was reciprocated by Eng_INDUS who mentioned it to me during our initial interaction that she is not an expert in using technology and thus may take a little time to understand the activity. This openness helped me to build strong working relationships with teachers at NMS and INDUS.

An issue that I faced working within school setting is how leadership is often conflated with power. I experienced this at INDUS where the senior management deployed delegated leadership (Hatcher, 2005) at the behest of the HT_INDUS and DH_INDUS. This highlighted how national culture deeply influences power structures (Eldridge & Cranston, 2009; Hofstede, 1986) and has cascaded down to teachers in schools. Contrasting this with the working environment in English schools particularly NMS, I saw the school reflected notions of distributed leadership (Woods et al., 2004) where the senior management and the teachers were working as team through trust rather than regulation and HT_NMS and DH_NMS often led through knowledge rather than position.

One key learning from this cycle has been the important role of inter-cultural aspects and intra-cultural aspects that seem to influence cross-cultural activities in school settings. Born and raised in India I assumed that I was completely prepared for the cross-cultural working experience. There were times when I experience cultural knowledge gaps like local holidays that impacted my research schedule or the communication attitudes in young people in England. During these times I harnessed my experience of living across two cultures to situate the role of culture and updated my learning. The culture comparison graph (fig 17) (Hofsted, 2019) externalizes how the two countries, India and UK contrasts across the different cultural attributes. I particularly focused on three attributes; power distance, individualism and masculinity, to understand how they helped or hindered my practice in the action research cycle.

The central role of power was very evident in the two schools due to the presence of hierarchy. One incident at INDUS evidences how hierarchy and power is treated differently

in the two cultures. It was my last day at INDUS and I was scheduled to call Wakefield students for a brief chat. When I requested Eng_INDUS if she could join in the call, she mentioned that she can only do so if DH_INDUS or HT_INDUS approves this. DH_INDUS couldn't authorize this and that I had to take permission from HT_INDUS. The whole process seemed time consuming and thus I had decided to not pursue this. Contrasting the same scenario at NMS I am positive that if a similar situation were to arise there would be no discussion on seeking permission for a teacher to be part of a new learning activity. Teachers at NMS could wield their agency to make decisions (Lasky, 2005) and at INDUS they were unaware of the agency component. Power resonated with control. This was validated by HT_INDUS who mentioned that the reason that she does not want to provide internet connection in the school is because the school cannot monitor online activities of the children at school. Thus INDUS school establishes a higher power distance when compared to NMS and the less powerful members accept the top-down structure and submit to performing their roles in the hierarchy without resistance.

Whilst teachers in the two schools had to conform to the framework of working in a school setting, individualism was present in high degrees at NMS when compared to INDUS. At INDUS, all decisions regarding the activity was done either through HT_INDUS or DH_INDUS. In comparison at NMS, I was liaised with the subject heads, Hum_NMS or Geo_NMS for decision relating to the activity. In fact the last day when I had to interview Eng_INDUS, she invited me over to her house for dinner and completed the feedback interview at her house. In hindsight when I look at this incident, I realize that she did this in order to avoid bringing attention to herself in the school. The last day when I visited the school, Eng_INDUS came down to give me cards, letters and memoirs that students had created as a thank you gesture. Eng_INDUS had to bring it quietly, in a little envelope and placed it quickly in my hands and told me to have a look at it later. Power permeated at INDUS which restrained individual expressions even in its rudimentary forms. The low value attributed to individuals highlights how they have to conform and act to the prescribed social framework and any deviation is looked upon unfavourably and could even make one a social outcast.

This leads me to the final attribute (Hofstede, 1983) corresponding to masculinity. India and UK both promote masculine traits such as being competitive and achieving success and the two societies are considered masculine. Whilst the two countries score high on masculine attributes, India reinforces its masculine bias through patriarchy where gender roles are clearly defined and individuals are expected to conform to those roles. I recall my

experience with HT_INDUS regarding my attire on two occasions. She attributed the need for teachers in school to conform to cultural clothing was due to the presence of ‘*12th standard boys studying in the school*’. She did not elaborate on that statement. Being born and brought up in India I understood the inherent meaning associated to that sentence. It meant that the onus was on the women to behave and that women take the responsibility to shape the moral development of boys. It is unfathomable to think of such a scenario would ever take place in English schools. In contrast India also displays feminine attributes of humility, hospitality and abstinence due its strong spiritual history in embracing several religious theologies and philosophies but this has done very little to oppose strong patriarchal approaches that permeate the education system and influence student learning and teacher practice.

Working in cross-cultural context, helped me to realize the crucial role culture plays in my role and my practice. Brokering the activity between INDUS and NMS, helped me to acknowledge my cultural knowledge as something valuable not for my practice but also for academic pursuits. Culture thus has shaped the dialogical nature of my work. I am now able to view my practice through the lens an educational broker, not existing in the margins but in *boundaries*. Working at the *boundaries* meant that there was an immense opportunity to learn by engaging in reflection (Akkerman & Bakker, 2011) which could possibly help practice transformation. The schools vouch that brokerage in this instance has brought additional resources to the schools through extra capacity, or person-power that otherwise could have overwhelmed the institution (Leat, 2017a). Working with the two schools was a mutually beneficial process. NMS leaders have professed that engaging with an external researcher has helped them to shape their curriculum and has provided an enriching opportunity to impact teachers and students. As a practitioner I was pushing my potential by designing and delivering projects that I had not previously done before. Working through my consultancy, I found schools to be very inaccessible as they were unable take up my offer to explore cross-cultural learning or engage my expertise to enrich the curriculum through cross-cultural activities. It was through legitimacy (Kubiak, 2009; Leat & Thomas, 2018) that of working in a world-class university, working with novel digital technologies and with a strong academic supervisory team coupled with my expertise that I was able to gain access into the impenetrable eco-system. In doing so, I was able to offer my expertise to connect schools to their communities. Taking risks has encouraged schools to rethink about teaching and learning as activities that could continue beyond the walls of the classroom. Risk-taking attitude has helped me to identify opportunities for my practice and brokerage skills have

helped me to exploit that opportunity. Having said that I have add here that I had to work very hard to gain recognition for the kind of work that I do. I am not a qualified teacher thus I have very little power when negotiating my role with senior management in schools. What I do possess is a sound understanding of the English education system, its policies and the various challenges in enacting those policies within a school context. Alongside other attributes such as researcher at Newcastle University, affiliation to Open Lab and the School of Education, expertise in understanding new digital technologies for learning and David as my supervisor have all supported me in developing my legitimacy with schools. My connections with the creative practitioner community, my diverse cultural background and heritage, and my community networks have also enhanced my legitimacy. However if there is one thing that I inherently rely upon for legitimacy is trust. The trusting relationships that I have developed with teachers at NMS and schools in general is what makes my work sustainable. I also realize that I have an enthusiastic and positive outlook, and a noticeable passion about my work. I believe all these have aided in developing my role as an educational broker. Leat & Thomas (2018) discuss about an ideal progression route of develop brokering practice in schools. They mention that in this scenario the broker brings a 'level of meta-awareness in the role' so that the decision-making in the practice is deliberate thereby developing a shared vocabulary to articulate the practice and its workings.

I explore this progression as a conscious broker in my next chapter which also constitutes my final action-research cycle where I apply Freirean lens to explore the role of critical consciousness (Freire, 1974) to move my practice from tacit to explicit.

7

Being Explicit

Chapter 7. Becoming Explicit

7.1. INTRODUCTION

This was the final action research cycle and it lasted from Mar 2017 – June 2017. I was journeying into my critical phase with a fair understanding of my values and its impact on my practice. In this chapter I explore with a greater understanding about living form of action research

In this cycle as my practice began to evolve so did my role. I was able to recognize its educative influence on the students and teachers. Previously I would attribute such outcomes to external influences or to the nature of work or to teachers and students. I would hesitate to embrace the notion that my practice is indeed influencing educational change. Through this cycle as I came to recognize some of the tacit aspects of my practice and unlearn previously held inhibiting notions regarding my role. I acknowledged that my ontological values was influencing my educational values. Conversations with David once again helped me to understand the dialogical pedagogy that I embraced thus making my work meaningful to students, teachers and myself. It is these dialogical practices and values that I seemed to have taken for granted as I believed that the decisions and actions that I took were a natural response to the problem at hand.

Some specific actions need to be highlighted here. Ensuring that all stakeholders meet and know each other at the start of the project. Designing activities so that students work in groups. Use of technology that supported collaborative working. Planning work so that students are able to bring real-world resources into their activities. Organizing meeting between teachers from different school to ensure they understand each other's view points. In doing all the above I was embracing the dialogicity of my practice.

I realised that I was engaging in a lot of critical reflection about my practice but I wondered how such critical reflection supported action. This led me to explore 'critical consciousness' that helped me to appreciate how reflection can lead into action.

7.2. LITERATURE REVIEW

7.2.1. Critical consciousness

Paulo Freire, a Brazilian educational theorist is credited for the term critical consciousness (CC) (Freire, 1974). CC expounds that the oppressed, marginalised and under-represented

people are able to act and change their social condition only when they are able to critically analyse their conditions and situations. Along with literacy activities among Brazilian peasants, Freire combined CC and used it as a tool for liberation. He helped people to ‘read the world’ by ‘reading the word’ in order to act on their world that was laden with injustice. Freire is credited for bringing together critical theory, educational pedagogy and social change through which he encouraged *learning by engagement* as well as promoting agency. He highlighted that reading, dialogue, reflection and action lead to the development of critical consciousness which in turn was key to the understanding of the self (Watts et al., 2011).

Reading Freire’s work I started to ask questions regarding how can I awaken my latent CC. Three concepts from Freire’s ideology helped me here that I have used as critical lens to view my practice.

- Praxis
- Power
- Conscientization

7.2.2. Praxis

Freire discusses praxis as ‘reflection and action upon the world to transform it’ (Freire, 1974). He had an absolute belief that it is not mere action but action accompanied with reflection that will create change and empower people. Action and reflection should go hand in hand for thoughtful action is always preceded and followed by reflection (Rosenberger, 2014). When praxis is viewed within the context of practice, we can see action and reflection come together in a reflexive and critical manner (ibid). Being reflexive is all about learning in the moment where the aim is to improve the quality of interaction in that moment rather than wait for the action to take place and then reflect on the interaction. It is being aware of one’s intersectionality of social position, personal experiences and political and professional beliefs. Self-reflexivity is form of advanced self-knowledge that is seen crucial for interculturalists as adjusting what one is doing and saying could help us to organize our inner resources and find an effective approach to communication (Linn Nagata, 2004). Sacrificing action results in verbalism and sacrificing reflection results in activism (Freire, 1970a). Thus the aim of Freirean praxis is to transform the world and applying this to educational context I realized that my practice can support and transform educational goals in the long run.

7.2.3. Power

Freire mentioned ‘only the power that springs from the weakness of the oppressed will be sufficiently strong to free both’ (Freire, 1970a). He talks about ‘false generosity’ where the dominant elites attempt to soften their power by serving the oppressed in their weaknesses. Contextualizing this to education system, I see how power is used in the system to responds to the needs of only those who access the service. Schools have very little interactions with their extended communities. Schools are also places of power and privilege and there is a need for headteachers to think not just about their direct service users but for everyone. Schools are places of power and leaders there are privileged. People with power and privilege need to cede their position and become listeners and learners so those with less privilege can be agents of change. Only then will we be able to identify diverse leadership and support the less privileged to determine their needs and solutions. Within the education system there is an imminent need for such change agents who are able to serve, participate, act and reflect. I propose a theory of educational brokerage where educational brokers are empowered to become such change agents. Freire mentions that ‘truly humanist educators cannot think without the people nor for the people, but only with the people’ (Freire, 1970a). This may require schools to rethink on the role of power and allow the voice of the many to shape their praxis to bring about change.

7.2.4. Conscientisation

Freire refers conscientization as ‘the process in which people, not as recipients, but as knowing subjects, achieve a deepening awareness both of the socio-cultural reality which shapes their lives and of their capacity to transform that reality’ (Freire, 1970b). This focus here is two-fold , where the individual first perceives his/her place in reality following which the individual using his/her capability acts to be the change agent. Freire realised that prevailing conditions and social order influences people and existing oppression creates a blindness where people are unable to realize their own oppression (Freire, 1970a). In order to understand the oppression, one must be able to understand his/her current situation

Teachers, policy makers, senior leaders in schools can be considered to be in relatively privileged position. This position could be because of their education, their power, the socio-economic status, gender or race. Conscientisation here would be recognising this privilege and the conflict that it brings as a result of this awareness. Acknowledging inequities means looking into those privileges that might create an oppression for the under-privileged. In Freirean terms conscientisation in the education system means engaging in reflection about the world and contemplating their place, position and privilege in this unequal world. It also

means that all stakeholders involved in the ecosystem are encouraged to recognise themselves as agents of change and act in a manner so that they are able to transform the system they are part of.

The above literatures helped me to realize that schools in England are acting as conveyors of power as they are stuck in the nexus. A deeper political change is needed to change the working of schools. Freire's vision for educators is about ideal position but we need to be mindful that it is difficult for schools to reshape praxis and practice without fundamental change. When educators employ conscientization I believe it is possible to impact change. Reading critical literatures helped me with my final action research cycle where I began to display the emergence of my CC.

7.3.THE ACTIVITY

My final action research cycle focused in linking two schools in England, Wakefield School (WS), a school in ex-mining town and NMS through a cross-cultural activity to explore intra-cultural aspects the exist within mining and migrant communities.

7.3.1. Early discussions

Sept 2016

It was during my first action research cycle that I started to seek links with other schools who were interested to take part in my cross-cultural research. I was looking for an international school and a local school and link them to NMS. I found my international link with INDUS and Wakefield was the local school with whom planned my final action research cycle.

A casual conversation with my college Ryan in our lab kitchen helped to set the motion in identifying Wakefield School. Ryan had previously worked at Northlake Council and I was keen to make a links with schools in Northlake as the region hosts mining villages and I considered this could feed into another aspect of cross-cultural learning. Ryan introduced me to the Schools Coordinator, Anne at the council who liked my idea of connecting communities for cross-cultural learning purposes. Anne circulated an email to various schools across Northlake and the deputy head of Wakefield School (DH_WS) replied to the email and expressed her interest to take part in the project.

27th Jan 2017

It was my first meeting with DH_WS, and I invited David to join me at this meeting. David's presence in the activity evokes faith from school leaders due to his profile and reputation within academia and his work with schools. His presence added validity to my work and DH_WS was pleased to David. At the meeting we were introduced to the Language lead (Lang_WS) for Year 8 at Wakefield. DH_WS added that Lang_WS would be leading the project and asked us to coordinate with her regarding the activity.

David and I continued our meeting with Lang_WS who highlighted the various international projects that she has been part of at WS. She mentioned that the school was well resourced with respect to IT infrastructure with 60 iPads available for students to use. I had experienced firewall issues at NMS whilst downloading the apps on to the iPads and I wanted to find what the firewall policies were at Wakefield school. Lang_WS mentioned that the firewall is controlled by Northlake Council and a technician comes into the school one or two mornings a week to support the school. She added that the technician can ensure that the necessary apps are downloaded prior to the start of the activity. We discussed a possible meeting with Hum_NMS and Geo_NMS so that the teachers in two schools could plan the project and agree to shared learning goals.

30th Jan 2017

We had the all-hands meeting with Hum_NMS, Geo_NMS and Lang_WS at Wakefield School. Hum_NMS and Geo_NMS talked about the various aspects of the projects that have taken place in their school as a part of the research and mentioned their expectations for the students from this activity. The aim was to get NMS students do a PBL activity around mining and Wakefield students to do a PBL activity around migration. The students in the two schools would use TK app to create mysteries for each other on the topic and receive peer-feedback.

7.3.2. PBL activity at Wakefield and NMS

29th Apr 2017

The first session with students was through a skype call from India . The students were all curious but quiet. Students did not ask any questions and I reasoned this could be because of the use of Skype for interaction. I decided to address this when I see them in person at school. It was a very brief call, where I introduced myself and talked a little as to why I was in India and told them that I will be seeing them in person next week.

5th May 2017

I met the students in person for the first time. I entered the classroom and greeted the students. I received a very lukewarm response to my ‘good afternoon’ greeting. I was reeling with energy working with INDUS students and I wanted the same enthusiasm from Wakefield students. Prior to my experience at INDUS, I wouldn’t have challenged this lack of energy. But the experience at INDUS ensured that I address this as I knew that it was a fair demand to expect students to bring their energy and enthusiasm into their learning. With my new sense of confidence, I replied to the students ‘Well, I have spent a month in India and students always greeted me there with more energy than what you all have just shown. So let’s do this again, ok? Good afternoon everyone.’ And I received an enormous ‘Good afternoon Miss’ from the students. I was proud of myself. This was really important step in using my voice and agency to address that I would otherwise overlooked previously. It was my determination in my voice that resonated with the students who were then able to give me their attention and energy the whole hour.

I showed them a brief presentation about the work that has taken place to date and my plans for the project. Interestingly Lang_WS had already asked the students to undertake some research for the project during the Easter holidays. Some students had come prepared with information that provided a good starting point for discussion. I talked about mysteries and got the students to solve a paper mystery relating to world war.



Figure 48: Working with Wakefield students. Lang_WS helping in the session.

Whilst most students were engaged in the activity there were a couple who were restless and were distracting their peers. Due to the nature of my work which has less structure there are times when students do tend to get excited and disruptive. In those instances I would request the teacher to intervene. In this session even after teacher intervention, disruption continued. I decided to deal with this and walked up to the students and told them ‘If you don’t want to do the activity that’s ok but it would really upset me if

you disturb your classmates when they are working.’ The students disengaged with the activity but did not disrupt the class further. I think my work with INDUS students has definitely impacted my confidence and I was pleased to be using my new found confidence in the classroom.

12th May 2017

I was early for the session and waiting at the reception, a small passage way often used as entry and exit points. The receptionist asked me to wait there until it was my time to go into the school. I waited until Lang_WS came to the reception to collect me personally. Health and safety procedures in schools mandate that visitors are always accompanied by a teacher and visitors must wear a badge to denote they are signed in at all times. I understood these policies and as a parent I have found them reassuring. However the treatment that I faced at WS made me feel it was less about protocol and more about the culture of the school. I don't have a tangible evidence but having visited over a 100 schools in the Northeast I can confidently say that this is first school that has treated with so much wary even after the headteacher and deputy head granting me permission for the activity. The senior management and the teachers were aware of my visit and reception staff have seen me multiple times. Yet there is a sense of unwelcome atmosphere in the school and I was not sure if its personal or if it was just the culture of the school. I decided not to think about it too much but decided to make note of these experiences in my research diary.



Figure 49: Wakefield Students working on their projects

I had shown WS students the work developed by NMS and INDUS students. This encouraged the students to start thinking about their projects. Wakefield students had only one month to work on this activity and some of them were making ambitious plans which I knew would not be feasible. However I let them brainstorm but gently reminded them

regarding the timelines for the project. Students were taking inspiration from the previous projects and were designing their own.

The brainstorm session reminded me of the conversation with Hum_NMS. We were discussing an PBL app that would help students gain inspiration on the types of products they could work towards. Hum_NMS mentioned about the absence of such an application and that he always ends up doing a PowerPoint presentation which tends to get very repetitive and thus a need for such an app aimed at students.

18th May 2017

I was in NMS today to see how the PBL activity was shaping. Hum_NMS had taken the lead to ensure student get their research done in the real world by organising a class trip to a local colliery museum. The work from the first action research cycle had influenced Hum_NMS and Geo_NMS who were now expecting more from their students and were giving them more freedom and increased real-world learning experiences. They encouraged students to conduct real-world research and incorporate that information to develop the project. I decided to focus my attention at Wakefield and come back to NMS when the students were ready to start their digital mystery.



Figure 50: Mining projects developed by NMS students

I facilitated the Digital Mystery activity with the Year 7 students. Hum_NMS and Geo_NMS were using some of the processes that we experimented in first action research

cycle. I was pleased to note this. I discussed with the teachers regarding organising an Open Day with Wakefield School. Due to the schools being situated in different regions I gave them the option to organize the Open Day event as an e-Open Day. They were happy to try this format and provided some dates for Lang_WS to consider.

25th May 2017

I was with Lang_WS conducting the half-way feedback interview. She mentioned that the session organized for tomorrow is cancelled and added that the students were disappointed about this as they were looking forward to my visit. She showed me some of the projects that were created by the students. I was pleased to note the progress and hear from Lang_WS about how much students have enjoyed my class. I was unable to decipher this when I was with the students. I could not interpret if they were excited about the activity or if they were just following instructions. The feedback from Lang_WS was a welcome note. I discussed with Lang_WS regarding the idea of organizing an e-Open Day and she was happy to explore this idea.



Figure 51: Project work developed by Wakefield Students

Having completed two action research cycles, I was aware that I needed to start planning my time ahead as I had to get the students to complete the digital mysteries, facilitate the exchange process and organize feedback interviews. Whilst I was comfortable now navigating timelines I knew that there are external factors that could impact the timelines and this unseen aspect of the work sometimes made me anxious.

7th June 2017

I went into NMS to have meeting with Hum_NMS and Geo_NMS to discuss the logistics for the e-Open Day and conduct feedback interviews. The teachers mentioned that they would

find it beneficial to organize a physical open-day as there were four classes and they would like to invite the parents along to the event. So we decided to organize a physical Open Day and bring students from Wakefield into NMS to look at each other's work. As I was walking out I ran into HT_NMS and exchanged pleasantries. There was another project that some of the staff at the School of Education were working on, researching on physical environments in school. There were European visitors coming in as a part of this project and I had briefly discussed this idea with HT_NMS previously. When I saw her today I reminded her regarding this project and she warmly welcomed this idea and thanked me for introducing the school to new visitors and projects. I contrasted this experience with the senior management at Wakefield. I still haven't met the headteacher and the deputy headteacher does not have the same excitement towards the project even though the students are enjoying it. The involvement and reception from NMS senior management has been so exemplary that I always end up comparing my experiences here.

20th June 2017

I went into NMS along with David to discuss the practicalities of designing a dedicated PBL space. The subject heads at NMS have been championing this idea and had worked on an initial plan to visualize what the space could look like. The aim of the meeting was to identify synergies with the University to see if the space could be made into a reality. There is a significant cost associated to building such a space and the HT_NMS was not sure if it was the right way to go ahead. We finished the meeting and as we were leaving, HT_NMS gave me a hug to say goodbye. David noticed this gesture and mentioned that I need to reflect and write on as it signifies the relational agency that I have employed to work and build close relationships with teachers in the school. I would have never reflected on this if David had not pointed out. I thought this was something organic and part of the process. It is only now as I am working through and bringing my awareness to the nuances of my practice, I am able to see the various facets emerging. These facets together is what makes my work seem easy and practice a success.

29th June 2017

It was the Open Day event at NMS and students were equally excited and were working together to set up the hall and present their projects. Lang_WS came in with her students along with the headteacher HT_WS. I was happy to see HT_WS and a little surprised too. I had made several efforts to meet him during my visit to the school but he was always

unavailable. I had also sent him an email regarding the Open Day activity, inviting him to the event but did not receive a reply. I had thus assumed that he would not turn up but was pleasantly surprised to see him join the students for the event. The Open Day was in NMS school hall. HT_NMS and DH_NMS welcomed the students, parents and the Board of governors to the event. Hum_NMS spoke a few words about the project and invited me on the stage to say a couple of words about the project. I spoke about the project and thanked the teachers, parents and students taking part in the activity.



Figure 52: Open Day event with NMS and WS students along with community members

It was proud moment for me as I saw how invested the students were in the project. I was excited by the enormous effort that students had invested to collect real-world information and shape their work. Students were friendly and confident, inviting visitors walking past their tables to come and view the work. Infact one team had assigned one of their teammember to bring visitors to the table. As I was walking around I met Amir. A friendly and courteous boy who thanked me for organizing the activity and the Open Day event. I was really touched by his gesture and told him that I was glad to note he enjoyed it. As I was talking to one of the school governors, Amir walked up to the governor and told him ‘I know who you are but I can’t remember your name. I just wanted to thank you for coming to this event’. I could tell that governor was very touched by this gesture and he applauded the student and the activity. I realized that it is not very often that school governors get to have direct interactions with the students and this interaction must have definitely impacted

them all. Students were exhibiting their confidence and were showing their skills and knowledge that they have honed as a part of the PBL activity.

As I was walking around the stalls I stopped to have brief conversations with children asking them what did they liked about the project. Students mentioned that the they had ‘not done anything like this before’ as their projects in the past were only for a short period. They added that they never got to go out and talk to people to collect information and had not worked in groups in a manner like how they had done for this project. As I reflect on these answers, I saw how my role and my practice have impacted student learning. In my conversation with Hum_NMS, he added that ‘it is not always possible or even necessary to engage in PBL all the time. But when you do engage in it, structuring it in a manner so that students can collaborate with communities, it will deepen student experiences in the classroom.’

HT_NMS was delighted at the response to the activity. She hugged me and told me ‘thank you for doing this.’ The school governors also expressed similar reactions to the event. DH_NMS had told me later at the event ‘Look around the room Vidya. All this has happened because of you’. Earlier I would very uncomfortable to take all this praise and would find ways to deflect that attention. Today I stood and thanked the teachers for giving me the opportunity to realize my idea. I recognized that to create an impact two agents are necessary; an internal catalyst and an external catalyst. I see myself as the external catalyst in the school eco-system who came inside to collaborate and work with internal catalysts to create a shared experience. Coupled with this I was able to coordinate the visits from community leaders, Open Lab colleagues, university lecturers and professors all of which had an effect on the teachers, school governors and the parents to appreciate and acknowledge the efforts gone into this project. HT_NMS was particularly happy to see the presence of community leaders and added that their presence was key as it highlighted to the school governors that the school was working closely with communities and celebrates community champions. As I was walking around I heard stories from parents and grandparents on how they have contributed to this project. One grandparent who was vicar spoke about his experiences of getting his car searched for hiding rebel miners when he used to go to conduct funerals.

During the project sessions, Hum_NMS would often recollect his times as a child living with his grandparents and the influence of mining culture during his childhood. He made enormous efforts to get the children excited about the project. I sensed that his personal experience had a lot to do with how this project turned to be a success. It goes to prove that personal investment creates success for everyone.

30th June 2017

I went into Wakefield to conduct the feedback interview with Lang_WS. As I entered the school I greeted the receptionist and told her on the success of the Open Day event. The receptionist replied 'So I heard' with a hint of sarcasm. I told her that I had met HT_WS at the event and I will be meeting him later for a feedback interview. The receptionist then replied 'The plan has changed. I think he is coming in later.' I didn't know what to make of this but I could sense an unfriendly atmosphere in the school. As we were conversing the deputy head DH_WS walked into the receptionist's office with some colleagues. I acknowledged her presence by greeting her and asked her if I could come and see her after my chat with her Lang_WS. DH_WS nodded to this in approval and continued her conversation with her colleagues. At this point the receptionist walked to where I was waiting. I was at the reception area that had a wall with a glass window as a separator. She told me 'Sorry I am not being rude' and shut the glass window signaling that she did not want any distractions for DH_WS. I was shocked at this action but I smiled with composure and looked at DH_WS for reaction as she had witnessed the whole thing. All I saw her do was smile at me and continue her conversation. This highlighted the school culture and how it had trickled down to staff in the school. Staff members didn't make effort than that was required. I sensed this attitude with Lang_WS too. On one occasion Lang_WS and I were leaving the class and the lights in the classroom were still switched on. The switch to the lights were on the other side of the classroom. Lang_WS mentioned that I need not worry about switching it off as the caretaker would do it later. I realised how the school culture influences teacher ownership and it is in these small acts that one can see how much the school had invested in their teachers, students and the community.

3rd July 2017

I went into NMS to collect feedback interview with Hum_NMS regarding the India exchange activity. As I walked into the class Hum_NMS told me that he had some news for me about a parent who had called the school to complain about the Open Day event. He said 'I had a phone call and when I went to the phone, the parent on the other end started saying that she had an issue as she thought the day was about mining but you spoke about being racist.' When Hum_NMS asked her to elaborate about that she said 'You were going on about racism.' Hum_NMS replied to the lady that this was part of a cross-cultural activity where children are learning about people from different backgrounds and that's what he had talked

about. He also told the lady that ‘Vidya asked me to mention it and that’s why I mentioned it. The students at Wakefield were learning about it and since we have children from various cultures there could be sharing taking place’. The parent’s reply to this was ‘Aah ok, thats ok then’. Hum_NMS asked her if she was still upset and the parent replied that she wasn’t upset but she just wanted to know. Hum_NMS told me that some parents actually have too much time on their hands and thus are always looking to find issues to complain about.

This made me reflect on parental engagement in schools and how some parents fail to understand and appreciate new initiatives and approaches to learning. It is the fear of parental backlash that some schools refrain from taking risks in their schools. Another aspect that I reflected on was how Hum_NMS defended his position by saying that he was asked to mention it. I felt that Hum_NMS should have stood his ground and owned those words instead of distancing himself from them. I realize that at that moment he might have mentioned it to calm the parent so as to not aggravate the situation. But I think schools are places where the knowledge of civic movement is realized especially through action. If Hum_NMS had used this situation he could have used it as an example in his classroom to show his students that as a teacher he is standing up for the right things irrespective of the pressure that he faced.

I requested Hum_NMS and Geo_NMS for a final student feedback session. Due to summer closing times, Hum_NMS and Geo_NMS were unable to find a date. It was important for my research to organize this feedback activity so I decided to try other options before giving up. I was waiting to meet HT_NMS to try to find a date and I heard DH_NMS’s voice across the corridor. I greeted her and discussed the issue that I was facing to find a date for feedback collection. DH_NMS went into her office looked through the timetable and told me to come back in three days to work with the class. I was so thrilled with this outcome. This was the point that I acknowledged the importance of relational agency. It was important for me to collect the data from the students to complete the technology deployment aspect of the project. I was also in need of a date to interview both HT_NMS and DH_NMS. When I asked for the date HT_NMS offered a date in September. I wanted an earlier date with the senior management too but I had already used my social capital to organize student feedback. So I did not pressurize them further. As I was contemplating this, DH_NMS mentions ‘Let’s do this now and get it out of the way’ and she offered me a date next week.

5th July 2017

I went into NMS to conduct a feedback interview with Hum_NMS. I told him that I had liaised with DH_NMS and organised dates to come back in on Thursday to complete the feedback exchange with the students. Hum_NMS was glad that I found a date and checked with me regarding booking iPads. I told him that I had not discussed that with DH_NMS and so he logged into the online system to book the iPads for the session. The system showed that the iPads were booked out all day. As we are discussing DH_NMS walked into the classroom and we updated her regarding the iPads being booked out all day. Hum_NMS mentioned that the devices were available only for an hour that day and after much consultation and deliberation DH_NMS agreed to reschedule my session with the students to coincide with the availability of resources. I was really glad that Hum_NMS checked on the iPads. Whilst I have experienced the resource allocation issue in the past, I guess I still haven't taken it completely into consideration how crucial resource allocation is in school settings and this was an experience that helped me realize that again.

We were in the class with DH_NMS and Hum_NMS were catching up on the project including comments and complaints made from parents. I was sharing my experiences at Wakefield School with the teachers and mentioned that the atmosphere at Wakefield did not inspire me. At this point Hum_NMS chipped in and said 'You should run workshops for teachers Vidya' and DH_NMS replied 'You know what, Vidya is actually like skype-granny for teachers.'

7th July 2017

I went into Wakefield to share the peer feedback provided by NMS students. I requested Lang_WS if I could conduct group discussion with some of the students. Lang_WS assigned a group of girls and suggested that we go into the adjacent classroom for the discussion. As we settled in, I briefed the girls on the feedback activity and invited their thoughts on the activity. The girls refused to talk or engage in the discussion. Ten minutes on, no one had said a word, I realised that this would be a futile activity. So I thanked the girls and took them back to their classroom. This made me reflect about the school culture. It is very unusual for children at that age not have an opinion of the work they have been a part of. I realized that the learning environment they are in had something to do with their responses. I came back to Lang_WS requesting to work with another group who would like to share their opinions. She mentioned that it was getting closer to the end of the session and requested if I could come back into the school again. I agreed to this and she went to meet another teacher to organize my visit. I was following her as she went across the school into the staff room to find the

teacher. As we neared the staff room, Lang_WS stopped at the door and looked at me and said ‘I am going to look inside the staff room’ indicating that I wait outside. This was the first time that I have been kept outside the staff room. As I was waiting outside, the receptionist walked in and found me waiting outside the staff room. She asks me in a doubtful tone ‘Have you been attended to?’ I told her that I was waiting for Lang_WS and she sighed and walked away. Eventually Lang_WS came out and told me that she has managed to organize a date for me to come in another day.

The lack of enthusiasm in the school is something that is evident. I realized that if I continued working in this environment I would start getting cynical too. I was happy to note that this was my last session at Wakefield. Schools are often seen as places of power structures that control and shape the lives of young people. Some parents are intimidated by these power structure lest they may hinder their child’s learning due to their vocal participation. In such a scenario unhappy and unfriendly staff would further alienate parents and the community. This is one of the key reasons for low ethnic minority parental engagement who have more complex identities, issues and thus find it difficult to navigate school’s power structures. As an educator and an insider of the system at times I have felt intimidated at Wakefield. If this could happen to me, I am able to empathise with those parents and students who don’t engage with their school as I am sure they will have some very valid reasons to do so.

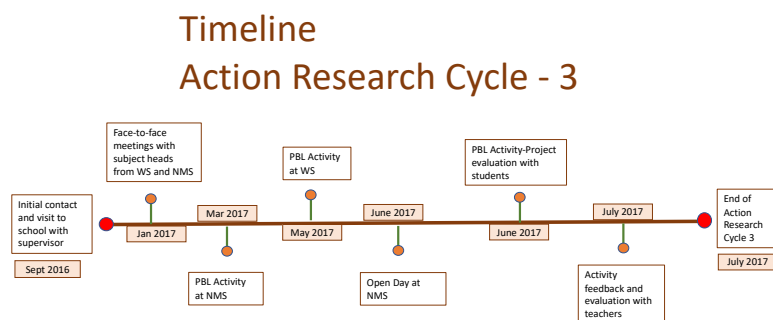


Figure 53: Timeline of AR Cycle 3

7.4.CONCLUSION

Applying Freirean lens to my work, I am transposing his ideas of socio-political and cultural contexts among farmers in Brazil to that of working within the education system in England

today. Freire's work can be used for the oppressed and under-represented everywhere, and can be decoded and appropriated to diverse contexts. Particularly the gap between the disadvantaged and non-disadvantaged children is obstinate (Goodman & Burton, 2012). Without any fundamental political transformation one is unable to change that. Racism, classism, sexism, ableism, cultural, ethnic and language biases, lack of opportunities and economic inequities are experienced by some more than others. Freire believed that when the oppressed recognize their oppression only then change can take place. In drawing parallel, I am able to contextualize the Freirean philosophy in my work as an educational broker. I recall the incident in my second action research cycle in India where the students having solved mysteries created by NMS students asked me the question as to why do all the mysteries have a common theme of poverty running through them. I directed INDUS students to ask these questions to NMS students. It was in this feedback exchange activity that helped NMS students to tap into their consciousness, engage in critical reflection and respond to some of the questions raised by INDUS students. I was able to shape NMS students' thinking beyond the narratives that they were used to. In this cycle I have particularly become aware of my practice as something that is valuable and important to the education ecosystem. Through conscious effort I am ensuring that tacit is made explicit. Whether it is developing the confidence to ask the group of students to give me more energy in the classroom or taking the lead to coordinate with senior leaders to provide time in a busy curriculum, I have made personal strides in acknowledging my role. The raising of my personal critical consciousness has to do with the oppression that I would have faced in the past. There were embedded narratives that I had to be conscious of. It is that of a non-qualified teacher with no native understanding trying to influence the English learning system. That of an ethnic woman trying to direct her white counterparts to rethink their curriculum delivery modes. It was important that I acknowledge these oppressive narratives that were obstructing my 'professional self' in expressing its full potential. It was through action and reflection on action (Marcos et al., 2009) that I was able to explore my personal beliefs, engage in a dialogue with the self and conduct critical internal analysis on my thoughts and actions. Particularly within education Marcos et al. (2009) summarizes that reflection on action as a meta-cognitive problem solving process that is deliberate, personal and generates professional knowledge.

Understanding the three levels of consciousness (Freire, 1974) – intransitive, semi-transitive, and critical consciousness was also particularly useful as I now see how I have moved past from semi-transitivity to critical transitivity states. Operating in the semi-

transitive state whilst I understood all my problems I was only able to engage with only one problem at a time. I realized that the challenges and issues I faced was something normal and within the nature of work that I do. Coupled with this the notions of marginality of my role (Hendry, 1975) meant that the actions I took to address the challenges were often shortsighted. Having worked through three action research cycles, I am now able to see the interconnectedness of the problems in my practice. I actively sought to have a dialogue when things weren't working well. Whether it was seeking out to invite HT_WS to the Open Day or coordinating with Lang_WS for another feedback interview when the first group did not engage. In the past I would I taken a passive approach, relegating such incidents as part of the work. In my current role, I realized that changes can be made if I pursue and keep the dialogue continuous. In doing so I have realized that I am externalizing the collective struggle of practitioners who are working within and across diverse school ecosystems.

Using Freire's pedagogy within my practice has also created tension and synergy. His work was focused on developing the critical consciousness of the oppressed farmers whereas my practice requires raising the critical consciousness of those involved in servicing the education sector be it teachers or external practitioners. Freire's belief was that the oppressors could liberate themselves and in doing so they are liberating their oppressor. The education system in England predominantly serves to the needs of their direct service users i.e. students and I would like to see schools create inclusive opportunities to bring the wider community within their ecosystem. This creates possibility of tension and synergy that we will have to work with. It is important to understand where and how does Freire's pedagogy support educational brokerage. How does my practice contribute to the liberation of the oppressed? How do I recognise the different forms of oppression? There is dialogic and dialectic aspects that needs to be dealt with from a personal and an organisational stance. Schwarz and Bake (Schwarz & Baker, 2017) talk about dialectic as an exchange between people to handle differing views to move forward and dialogic as the recognition of multi-voicedness in a conversation. The dialectic conversation tends to take a competitive approach to claim an authority over a certain view-point where as dialogic conversation are less competitive and are used to facilitate cooperation between individuals.

Having worked with the schools I am now able to recognise the rising of my critical consciousness by understanding the power and privilege that I possess as an educational broker. I am able to acknowledge the power that I have to build trusting relationships with senior leaders in schools and persuade them to consider my ideas and projects that influence curriculum delivery in schools.

7.5.PEDAGOGICAL IMPLICATIONS

For the education system to be critical learning experience I propose a process where we get stakeholders to

- Connect communities to classrooms.
- Engage in a dialogue.
- Inquire to embed conscientisation.

Connect

Involving communities to be part of school learning benefits all stakeholders. By exploring real-world issues, schools will be better equipped to understand the dynamics between power and privilege. They will be able to narrow the gap that currently exists between classroom learning and its application in the real world. By bringing communities into classroom like parents and extended community members, schools can promote a sense of ownership to these stakeholders who in turn could work to enrich the school curriculum. Encouraging local businesses and charities to be part of the school learning will help schools to champion causes and mobilise resources when required. Integrated stakeholder engagement in schools will also highlight the needs of a community to policy makers and the wider media thereby inviting attention and impact when required.

Engage

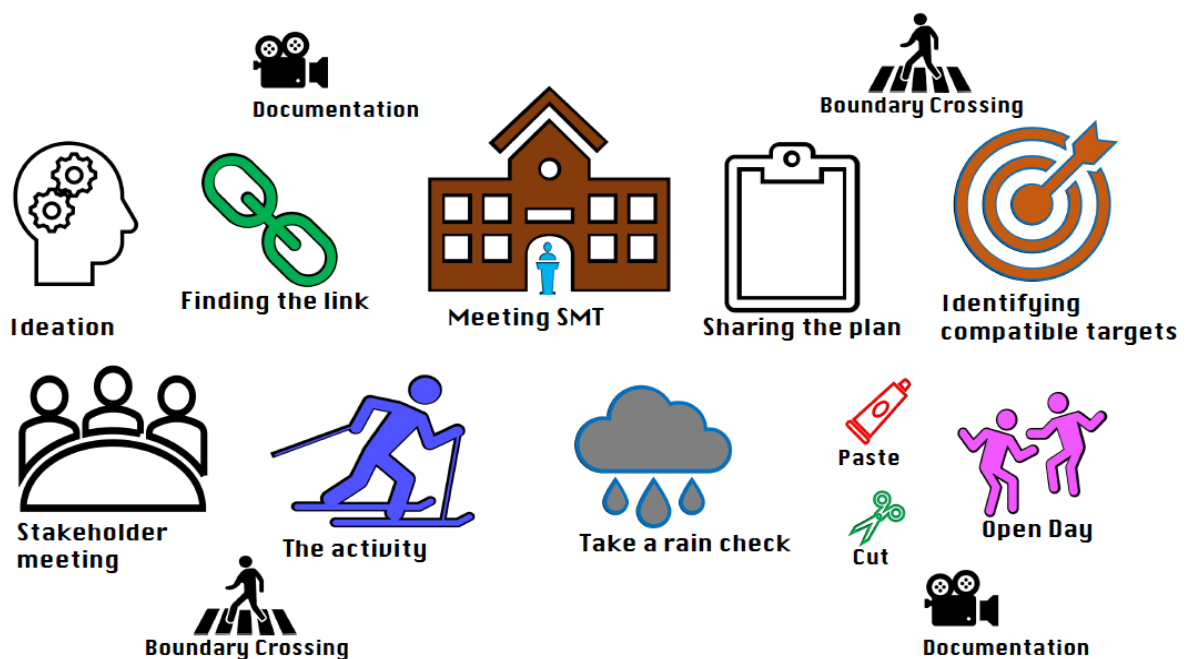
There must be an opportunity for all stakeholders to engage in dialogue in order to define need and take action. Students are seldom invited to discuss the nature of curriculum they wish to learn. Similarly with parents who often feel disengaged with the curriculum because they are rarely sought to provide inputs on the design of the curriculum. This lack of consultation means that students and parents feel compelled to engage in the status quo. Considering the decisions regarding curriculum design are beyond the remit of the school, it is counter-intuitive to suggest that parents and students need to be involved in its design. What is practical and possible is to engage parents and students on the delivery of the curriculum where stakeholders can define the purpose of its delivery. This engagement will promote healthy dialogues between stakeholders and a sense of ownership for all parties involved.

Inquire

Through inquiry one is able engage their critical thinking. Inquiry requires stakeholders to consider the various issues and challenges alongside an understanding of the problem contextually. This requires one to be critically conscious, embrace dialogicity and explore practical ways to tackle problems. Through dialogue we are able to challenge some of the social and mental constructs and identify new avenues for action and reflection. As educational brokers we can push boundaries and challenge knowledge constructs for we are able to view the world within and beyond the school environment. Schools are often the reflection of the community they are a part of and thus also contain similar issues of power, privilege and socio-economic inequalities. Educational brokers often bring a lens to problematize the reality and discover equitable solutions for the problem at hand. They are able to pose unfamiliar questions, progress through uncharted territories to find the eureka moments in learning journeys.

7.6. GUIDE CHART - FACTORS IMPACTING BROKERAGE

The concepts and pedagogical approaches inspired by Freire helped me to acknowledge the tacit aspects of my practice and motivated me to think as to how I could make the invisible components of my work visible. This led to the development of the guide chart. The guide chart highlights the various factors that impacted my brokerage process and helped me to acknowledge my role as a mindful broker engaging in conscious brokerage. I validate this representation of brokerage factors and its research relevance in the next chapter.



8

Empirical Study

Chapter 8. Empirical Study

This chapter focusses on two aspects of my research. One is on testing the validity of the guide chart and second discussing the role of digital technologies to impact student learning and teacher practice as a result of my work. It was important that I discuss the role of technology in this chapter as I believe that my practice has been greatly impacted due its active inclusion.

8.1.CHANGING PRACTICE

Working across three action research cycles has helped me to develop my practice and my living educational theory where I now see my theory as one that resonates with my values. However this does not mean contradictions did not exist. It did. It was in the reconciliation of the various contradictions that I have been able to arrive at my own educational theory. Through this chapter I wish throw light on two important components that I believe have impacted my practice; (a) guide chart that externalizes the invisible factors involved in the brokerage process and, (b) the catalytic role of digital technologies to shape broker practice. In doing so I bring forth the relevance of my role and my practice to exist comfortably within the education eco-system. As I started to reconceptualise my identity I realised that the two roles that I have performed to date, that of a practitioner and researcher, are fundamental to my practice. This realisation encouraged me to move towards a deliberate form of brokerage that I call as conscious-brokerage. Embracing the conscious-brokerage approach meant that I now acknowledge the vital role of my practice to the education system. This learning has also made me mindful of my measured, intentional and purposeful decision-making approach. Doing so has helped me to change the form of logics that I used previously to motivate the development of my practice. I have begun to situate my conscious-brokerage within existing organisational frameworks and offer my service by initiating dialogical process where I am able to stay close to my values. Increasingly I have come to value my practice as something that is relevant, significant and distinct and one that supports student learning and teacher practice simultaneously.

8.1.1. Researcher Role

The digital technology played a significant part in establishing my role as a researcher in the action research cycles. To understand the impact of digital technologies on my practice, I

explored its influence on student learning by focusing on two specific areas: peer-feedback and deep learning. Doing so helped me to establish my expertise as a researcher with educators in schools and within academia.

The role of digital technology to support peer-feedback in cross-cultural context

Analyzing the feedback interviews with students in action research cycle 1 and 2 offered me insights on the role of digital technologies to impact students' peer-feedback skills. I was able to notice the emergence of critical thinking in students by looking at the content they generated, and by the feedback they offered to their peers. Analyzing the data helped me to understand how the use of digital technology has helped students to access their internal feedback mechanisms. Internal feedback manifested as follows - first whilst they were conducting research by collaborating with their classroom peers to develop the mystery, second during content-creation where students engaged in discussions around the content they were creating, and third whilst solving the mystery itself. All the above helped students to engage in reflection (Kharrufa, Olivier, et al., 2010) and supported them to engage critically on their peers' mystery. The three stages also helped the students to formulate critical comments within their feedback (even though some of these critical comments were not communicated to their peers due to politeness).

Furthermore, creating and solving a mystery required students to develop coherent links with the information at hand, cross-referencing the information and finally reconstructing the information into an accessible artefact for learning purposes. This process helped students to be critical about their own content and that of others which eventually created opportunities for rich feedback exchange.

Such an exchange within cross-cultural setting provided a number of interesting findings. A common feature reported (Ching & Hsu, 2013; Lin & Yang, 2011; Shannon et al., 2016; Ware & O'Dowd, 2008) in peer feedback is the aspect of politeness. Students from NMS discussed their difficulty in providing criticism as they did not want to offend their peers.

Female1_NMS: We were like, "Oh well we don't actually know these people so we might as well be polite to them." We need to actually have an impression on them.

Female2_NMS: We don't want to be blunt but we didn't realise-

Female1_NMS: Then we didn't want to come across harsh and mean. So it was, not difficult, but we wanted to tell them what they can improve on but in a nice way.

Student Feedback, AR Cycle 2

The socio-cultural environment thus played a vital role here as the results show a difference in the balance between honesty and politeness between the two student groups; with the students from NMS opting for politeness over honesty while, the feedback from INDUS students leaned more towards honesty.

Female 1_NMS : It depends whereabouts, because if you got feedback from here over to India and then if you got feedback from a different school in a harsher area then it would be a bit difference.

Male1_NMS: Maybe in culture and religions they're told to be honest maybe. I don't know really know much about religions because I'm not religious myself. I don't know if people are religious here.

Female2_NMS: I think that the culture kind of does matter because I think in India maybe honesty is taught over kindness. I know that sounds really horrible. I take that back, sorry. Honesty is like equal to that, and I think maybe here it's like honesty, be really polite and then be honest.

Student Feedback, AR Cycle 2

However, the process also made NMS students see the value of honesty and that polite feedback by itself does not benefit much. This helped them rethink their beliefs on how to give and receive feedback aiming for the right balance between politeness and honesty. Students were also able to make connections and articulate that culture has an influence on feedback activity. This is a nuanced understanding of culture that requires reflection and abstraction, a critical thinking skill.

Another observation was regarding the linking of heterogeneous groups of students in our study to provide critical feedback. My research has challenged some prevalent notions such as heterogeneous groups are not enthusiastic about criticizing other cultural students in peer feedback activities and the need for cultural homogeneity for successful peer feedback (Nelson & Carson, 2006). Engaging peer expertise in feedback processes also tackled some challenges highlighted within intercultural activities especially that of task-engagement and feedback exchange (Bradley, 2014; L. Lee & Markey, 2014). Culturally driven activities helped students in our study to consciously and critically understand the relationship between their own culture and that of the cultural other (L. Lee & Markey, 2014).

Receiving handwritten feedback highlighted the aspects of tangible and virtual possessions. The importance of tangibility was noted for students who did not receive handwritten feedback. The physicality of the note seemed to excite children as it was akin to receiving a gift. Those who received it were excited and were able to share it with others, compare and discuss by taking it around. Those students who did not receive the feedback had to be content looking and reading their classmates' notes. Handwritten feedback also invited challenges such as legibility, accessibility and timeliness but advantages such as being bespoke, personal and individual seemed to outweighed the challenges (Race, 2005).

Critical feedback motivated students to revisit their mysteries and respond to the queries and comments raised. It prompted students to employ their analytical and reasoning skills as I observed them discussing the feedback and strategies on how best to respond to the feedback. Students emphasized that receiving feedback helped them to view their work in ways that otherwise would not have been possible. Students were self-regulating their actions, a skill that is essential for educational growth (Voogt & Roblin, 2012). Students were keen to complete their task as they knew an audience was expecting to engage with their work. Consequently, the task became more than just an assignment. The learning task thus morphed into a social activity (Lin & Yang, 2011) where students created their content with real audiences in mind.

The role of digital technology to support deep learning in diverse cultural setting

The first and second action research cycles generated rich student data relating to technology use. I further analyzed the student feedback to understand how digital content-creation tools support deeper forms of cross-cultural learning in classrooms. I realized that the right combination of tasks, processes and digital tools can meaningfully engage students to learn across cross-cultural context.

Students in the two schools, NMS and INDUS, used PBL activities to make connections between different concepts and perspectives and, visualize relationships and networks. They developed individual awareness through planning, action, observation and reflection.

The autonomy in the project also had an effect on teachers who were able to operate relatively unobstructed either by curriculum constraints or administrative structure which is often reported as a challenge (Kwah, 2012; Lakkala et al., 2002) in PBL activities. The PBL activities seemed to accommodate the constraints of the education system without burdening the teachers or challenging the existing structures of the school and is also seen to aid in the development of teacher agency (Priestley et al., 2012).

A key learning in the activity was regarding the role of empathy to impact student learning. There is a worry that empathy could be something vague, mysterious and undocumentable (Wright & McCarthy, 2008) and my work has shown that it is not so. Using the right combinations of PBL tasks and digital technology meant that students were able to conduct enquiry and gain emotional awareness. They were able to bring back experiences

from their friends, family and extended community members to share and build on it for the purpose of cross-cultural learning. Empathy has also encouraged the students to revisit their previously held beliefs.

Female 1_NMS: Well, basically, it was kind of like the reality of how some people would just have to flee their home and their country, and also because obviously me and M went and interviewed someone who's family had also done that, it was really hard.

Female 3_NMS: And like thinking about how you could solve the problems because it's quite hard to solve problems like immigration.

Student Feedback, AR Cycle - 1

Earlier students considered issues existing with binary solutions. Through real-world research students were able to perceive some of the challenges and complexities that exist for issues relating to migration. The learning journey opened up their thinking to critically analyze information that they are consuming. The notions relating to migration prior to the activity was that of people emerging from conflict zone and war-inflicted areas. With their new learning there has been an attitudinal shift where the vocabulary has extended to encompass voluntary migration, emigration and intra-national migration. This vocabulary expansion has impacted their knowledge where migrants are welcomed and are understood to make beneficial contribution to the society they are part of.

Real world context provides perspectives to classroom learning and to look at situations and understand their meaning from a point of view that is not their own. Such perspective-taking cannot be taught by a teacher, for they have to be learnt through experience. Designing experiential approaches encouraged students to amalgamate real-world resources into their curricular learning. This helped students to develop multitude I-positions (H. J. M. Hermans, 2001) and a dialogical framework that accommodated more voices in their internal landscape. This is illustrated in my first action research cycle when students had to interview participants in the real-world to understand the topic of migration. Due to real-world interactions students were able to access diverse perspectives on migration and migrants (pages [108](#), [231](#)) beyond the media narratives of them being economically and intellectually impoverished.

My research also explored knowledge-gain beyond the Bloom's taxonomy [30]. Students were using their mental content, diverse perspectives, and creating a digital artefact to gain a deep understanding and competence in the topic. Particularly with the digital artefact, students are able to relate to this object and manipulate it just like their tangible learning resources. Creating the mystery, engaging in critique and acting on the critique made

knowledge comprehensible. The digital artefact exists independently free from personal relevance and has a life of its own. This view differs to existing trends in the education system where knowledge resources often have a shelf-life and when related to cross-cultural learning, students are learning often from irrelevant resources that have sometimes even passed their shelf life.

I have come to realize that it is difficult to change education systems as a result of a research project. But research projects can inject changes to help the system evolve incrementally. I have demonstrated how PBL and *Thinking Kit* worked well within diverse education systems in India and England. Thus technology mediated PBL activities can offer a bridge to approach teaching and learning differently. My research has shown that it is possible for technology-mediated PBL approaches to coexist peacefully even within diverse education systems. If we are to change learning systems, we must offer novel approaches that are flexible and easily assimilable within existing structures along with resources and most importantly brokers to interpret those resources.

Educators often use cognitive techniques for cross-cultural learning where culture is often learned through events of history, art, music, literature and food. Whilst it is important to engage in the cognitive aspects, it is also crucial to recognize that culture resides not only in product and forms (Liaw & Johnson, 2001) but also in the lives and experiences of people who use and share them. Educators need to realise that culture is not just the best of human life but everything in human life (Seelye, 1984). In order to experience this, learners must be exposed to real-world encounters of culture. Through my role I was able to bring a cohesive approach where the cognitive and affective aspects of learning are tapped to meaningfully embed cross-cultural learning within school curriculum.

8.1.2. Practitioner Role

The researcher role actively emerged within my practice since the time I started my work within academia and has provided validation to the work that I was delivering in schools. On the other hand, the practitioner role has always existed with different names depending on the project. Sometimes I would be employed as a Bollywood dancer, education consultant, creative agent, cross-cultural expert and so on. All these roles encompassed my practitioner work and my research activity equipped me well to acknowledge this. I was able to summarize the importance of the diverse roles that I was performing only in my third action research cycle when I started to question the status quo approaches at Wakefield School. I realised that I was engaging in conscious-brokerage where my decision-making was

deliberate, dialogical, inclusive and measured. It was the rise of the conscious brokerage that helped me to design the guide chart that embodies my journey as a conscious educational broker. I wanted to find out if such a guide chart would find resonance with other external practitioners and thus sought out to identify individuals who would fall within the remit of educational-brokers. Doing so would validate its value and establish my claims to knowledge.

I thus sent an email around my lab requesting members who were working within the remit of technology and learning to take part in a focus group interview and critique the guide chart. Five colleagues responded to this email and I organised two focus group interviews with these colleagues to understand their take on the factors involved in the brokerage process.

Guide chart - Factors impacting brokerage

The brokerage guide chart outlines the various steps that I navigated whilst designing a PBL activity with schools. This guide chart offers practitioners avenues to make their invisible work visible and to acknowledge their effort as conscious brokerage. I discuss the various factors and indicate instances when they manifested in my project.



- Ideation: This phase relates to the formation of the idea for project. My ideation phase for this project was during my MRes dissertation where conversations with schools leaders at NMS highlighted their interest in my work and I started to work on various ideas to illustrate what the project would comprise of (page 23). The ideation for second and third action research cycles developed organically as my work progressed at NMS.
- Finding the Link: This phase relates to the aspects of individuals or networks that help you to find your collaborators. In the first action research cycle, the parent who took

part in my MRes dissertation project was the link that led me to NMS (Page [23](#)). In my second action research cycle the link to find an international partner was through Open Lab (page [135](#)) and the link for my third action research cycle was because of a conversation that I had with my colleague Ryan in the lab (page [176](#)). There is a fair amount of activity that goes into selecting the right collaborator.

- Meeting Senior Management Teams (SMT): This phase was about organizing meeting with SMTs to discuss my idea and solicit their interest to collaborate. Seeking support from senior leadership in the first instance ensures sustainability of the activity. In my first action research cycle I organized my meetings with HT_NMS and DH_NMS (page [91](#)). In my second action research cycle, I travelled to India to meet DH_INDUS (page [136](#)) and in my final action research cycle, I organized a meeting with DH_WS (page [176](#)).
- Sharing the Plan, Identifying Compatible Targets and Stakeholder Meeting: These three phases can take place as a stand-alone activity as seen in my first action research cycle (page [92](#)) or can occur as a single event as seen in my second (page [136](#)) and third (page [177](#)) action research cycles.
- The Activity phase relates to the actual project that is taking place. This requires detailed action plans and I discuss the activity in detail and the planning and organization that it takes in Chapters 4, 5 and 6.
- Taking a rain check deals with feedback aspects regarding how the activity is progressing. This depends on the length of the project. Since my activities lasted for 3 months, I have always ensured to collect feedback with the teachers halfway through the activity. Depending on the feedback, I would either add or edit the plan. In my first action research cycle (page [102](#)), I decided to edit the use of Thought Cloud application. In my second action research cycle (page [151](#)) it was during the half way feedback that I got to know other teachers at INDUS were keen to know more about integrating PBL approaches in their lessons and thus organized a workshop to discuss my work and share my learning. In the third action research cycle (page [180](#)) action I ensured to collect mid-way feedback from the teachers to shape and strengthen the activity.
- Open Day is a celebratory activity that signifies the closure of the project to teachers and students. This phase also acts as an opportunity to invite wider community into the schools to view how their interactions have contributed to students' learning. I

organized a physical open day celebrations in my first (page [116](#)) and third (page [181](#)) action research cycles and an e-Open Day in my second action research cycle (page [158](#)) to accommodate the geographical distance.

- The Documenting and the Boundary Crossing process takes place across the activity and these two factors are considered to be panoptic within the guide chart.

In the absence of such a guide chart I had to rely on instincts and attribute the successes to serendipity or to the default nature of the activity or to the various stakeholders involved. Once I realized my conscious-brokerage approach, I noticed that each step strengthened my relationship with teachers, students and extended stakeholders in the PBL activity. Taking the guide chart to other practitioners put a mirror to my work and helped me to acknowledge the enormous amount of work that goes into building brokerage skills that I otherwise had attributed to ‘my way of working’.

I presented the guide chart to five researchers from my lab who were working as researchers in schools exploring digital technologies for school learning. Through this consultation I wished to find out; a) if there is a need for such a guide chart, b) If yes how do practitioners working as brokers validate its value. Validation from practitioners would add to the authenticity of my claims and possibly encourage my colleagues to rethink their brokerage roles which often gets brushed aside as ‘organising the activity’.

I sent an email to my education team researchers in my lab requesting their participation in this activity. Six people replied to the email and finally I had five participants who turned up to the focus group discussion session. I facilitated two focus group sessions through a semi-structured interview. The first focus group session had two participants and the second focus group session had three participants. Each session lasted for 90 minutes. In the session I provided a print-out of my illustrated guide chart and facilitated a discussion session around it. Some of the sample questions asked in the focus group sessions are as follows.

- Why did you choose to work with schools?
- How did you gain your first entry into the school?
- What did you do after you got into the school?
- How have the teachers responded to your project?
- What are the challenges that you faced when working with schools?
- Did you notice any element of brokerage or boundary crossing occur as you were carrying out your work?

Participants responded to the questions by reflecting on their work that they had carried out to date. Working with more than one person in the focus group prompted conversation and critique and led to rich conversation. The two sessions were organised in a similar manner. For the first session my colleagues gathered exclusively for this activity whereas for the second session, I had facilitate the activity during lunch time. Participants were given the guide chart and they talked around it and discussed the various factors mentioned in it. Bringing a diverse, skilled participant group was a significant step towards my validation process. Thus the responses from my colleagues agreeing to take part in itself validates that there is curiosity, interest and need for discussion within this area.

I collected audio recordings of the focus group interviews and manually transcribed them. I read through the transcripts several times to get an impression and sense of the totality of the information. To develop a unit of analysis, segments were identified in the transcripts that showed transitional changes (e.g.: change in activity, approaches to task) and coding categories were developed by employing thematic analysis (Braun & Clarke, 2008). The derived categories that emerged were then considered as themes and I discuss them in detail in the following section.

Thematic Analysis

Motivation

This theme relates to the rationale and motivation as to why researchers pursued the idea to work with a school. Researchers discuss how they started their initial idea and what encouraged them to work with the schools.

Male_D mentions that a previous activity with park rangers led him to teachers and conversations with teachers later led him to work in schools.

Male_D: So the first people I worked with was park rangers and through them there were the school trips were happening. We did work with a couple of schools but it was more with rangers as the it (technology) was for them. The transition would have been when we were working closely with a school in Gateshead and that was with one individual teacher in particular. When the application was first rolled out as ParkLearn it wasn't 'formal education'. People were wanting to make use of parks as educational resources and they only did it during school trips.

Working with schools was not always a deliberate choice for Male_D. He had developed a technology that was aimed at park rangers. However he later saw an opportunity to repurpose the technology and decided to shift his focus from park rangers to schools. He then ran a

couple of workshops with teachers and it was in those workshop sessions that he was able to re-configure this activity and consider the option of working with schools.

Male_A1 mentions that he was developing an application AppMovement and wanted to involve young people to use the application. This focus motivated him to consider schools as a possible venue to work with.

Male_A1: I think the first time we thought about working with schools was through AppMovement. I think we wanted to do some exercise for kids who create/commission their own location based review services who could use it as a learning resource to do a piece of work that told them how to use the digital tool. To be honest it was far too complex for even the teacher to understand so I think it was bit above and beyond for students.

Gaining access

This theme highlights researchers' first experiences in trying to gain entry into schools to solicit their interest. They talk about the strategies and pathways they had to produce to get schools to collaborate with them on the activity.

Male_D mentioned that his experience to gain access into schools was a straightforward process as he knew the school teacher through a colleague who had earlier worked in the school.

Male_D: Maitri helped me to make the first contact with the school as she was already working with them.....Maitri who was already doing research with them. She had a relationship with them already and was doing a project of some sort and I built on that.

Male_A1 discusses the various avenues he explored in trying to gain access into school to deploy his work.

Male_A1: Newcastle United Foundation put on an event we attended that event and in that event were governors from NE LEP (North East Local Enterprise Partnership) and all of the Westend School's trust and they liked our work. So then I went to the school and sat down to discuss as to what tools do you need to support your workflows and it was an open thing. And at that point our lab director told me, 'whatever she needs build it'. From there I contacted other schools individually and if that didn't work, I contacted specific people for specific projects. Then I came up with a list whom to contact and whom I would like to talk to and basically that's how I started and emailed them. Bear in mind right, there are few things to be said about relationships in this respect. People are seriously guarded when it comes to accessing people. So I was talking to the heads. Heads will put me on to someone else. Someone else will put me on to someone else and all of those people felt extremely necessary to essentially evidence the fact that they are doing stuff.

Gaining access into a school for Male_A1 was not a straightforward process even though he was working with a reputable university on a world-class projects and with credible partners. He looked out for opportunities to find the right link in order to get inside

the school eco-system. In some cases this meant offering your services for free to show your interest to work with schools. Once Male_A1 gained access it was not necessarily a smooth process either. He would often be bounced from one individual to another to fulfil several administrative checks.

Female_M shared her thoughts on her journey of using multiple avenues to gain access to work with schools.

Female_M: I went through the computing department schools-hub and got 5 schools there. I got an after-school club through word of mouth and the others I just cold-called, sent email, guessed email addresses and said 'hey I am doing this thing' and made it really clear what the benefits for them were. I didn't just go 'this is research' but was more like 'this is what we want to do, you will get lesson plan, microbits, resources and links to uni' and tried to sell why they would want to be involved, rather than why they should be involved. A lot of people didn't get back but I made a lot of new links there and in fact transferring into my PhD, one of the school that I had a link earlier, came back with a new project and said 'we want to do this and do you want to be involved?'

Female_M acknowledged that serendipity helped her to gain access to work with schools. She invested a lot of energy trying to contact schools, ensuring that the message reaches the right contact in the school. She added that she had to tailor the information to ensure there is enthusiastic reception to the activity that she is proposing.

Female_R worked as a music teacher in a school prior to her role as a researcher. She mentioned that even though she was an insider to the school system, she still experienced difficulty in gaining access to work with schools.

Female_R: I hoped that my previous role as a teacher would make it easier for me to gain access but it wasn't so....It was only when I met someone at a conference who was a schools improvement advisor for secondary music and she used to teach at a school down the road and we have met once or twice before. But I didn't know her that well and it was via her that I made lots of contact with schools. She then invited me to music meetings and then when the teachers met me, they were like 'oh yeah we have met before I know who you are'It was only after they had seen me and realised I was trust worthy and realised that I have seen you around before, they were like 'yes I am going to trust you with our classes' and now schools are like 'have ours for 12 weeks or however long they are all yours'. This is great research wise but it was a struggle massive struggle getting in.

The feedback from Female_R was very important to me. It strengthened my belief that gaining access to work with schools was indeed a challenge-laden process irrespective of who you are in the eco-system. Prior to this conversation, I was of the opinion that the challenges existed only to those working outside the framings of the school eco-system. But the above feedback highlighted that irrespective of your position and experience, practitioners working outside the school eco-system have to work very hard to gain access to

meet the right individual and find support for their idea. The guide chart considers ‘gaining access’ or ‘finding the link’ as an important component of the brokerage activity and this feedback corroborated the need for such a phase to be made visible.

There was a general consensus that gaining access into schools was hard and a drawn-out process. The researchers add their thoughts as to why such hardships exist.

Female_R: So the first foot in is hard.....there is also the risk element and it is that. Ensuring that especially when you are doing something innovative, schools want that.....but the risks have to be mitigated. They need to feel confident.

Female_M: It is not just about the university, it is also businesses coming and businesses want to do things that doesn't sit with the school culture and curriculum and they want to change too much.....As one of the headteacher said 'so many people want to work with us but we have to say no to lots because it doesn't fit with school life in general.'

Two researchers discussed that schools consider external activities as risk especially when initiated by an individuals who is not based within the school. Risk to schools were translated as less curriculum time and less teacher time to fulfil curriculum goals. Those schools that are truly interested seek highly innovative projects to offset the disruption but expect minimum risks to be attached to the project. Coupled with this there are competing offers available to the schools. School heads have the difficult decision of choosing from the array of projects that are being offered. Usually those projects that have risks mitigated and that can easily fit in with the school curriculum gets the go ahead bearing in mind all other requirements such as reputation of the those delivering the project has been established and vetted.

The activity

This theme was regarding the activity that researchers were proposing to the school, what it entailed and the role of researchers in the activity.

Male_D talks through about his work with the school which is an app and how he presented his work to the teachers.

Male_D: The first thing I did was go in and introduce the app for 20 minutes to see what the app does....then I left it to them as to how they want to use it as that was of interest to me to see how they have creative control over that. The teacher would be doing all the design work for the activity. So it was the first session that I showed her that app and then she took control of it. The visit to the park was the first time the teacher was trying to use the app with the students. It wasn't hugely successful and everyone learnt a lot from it. From her point of view it wasn't successful but from my point of view it was.

Male_D points out how he first introduced the technology and encouraged teachers to use the app to suit their needs. Whilst his main focus was the understanding the role of technology, he also took initiative to organize other logistical aspects linked to the project like volunteering on outdoor trips with the students. Male_D added that although the teachers felt that the activity wasn't a success, he felt otherwise as he had valuable data to refine his digital application.

Female_M outlined how she went about delivering the activity. She focused on how teachers and students engaged with the activity and its associated challenges.

Female_M: It really depends on what you want to achieve because there are two angles to what I am doing. I want the kids to successfully create something but at the same time I want to learn the realities of trying to do something with teachers in the classroom as a part of education. So my first deployment from Sept- Dec went pretty well. We had a showcase, the kids enjoyed it, they said good things and said they wanted to do it again. And I enjoyed it, the teachers enjoyed it and the senior leadership enjoyed it in the way they can and then yesterday we had stop the project with one of the classes.....And there is no enough space in the school, there is no enough classrooms....Well it feels weird to call it a success as there are these 5-6 kids that I am aware of that who were quiet, who were not naughty but were not super engaged and they really enjoyed it. So it's a weird thing that I feel like I failed them. So for the research I can write lots of things but at the expense of these kids who have no access to this opportunity.

Female_M's project was about using Microbits in a classroom environment to embed coding skills in students. She discusses how her first project made a good impact and was thus requested by the teachers to repeat the activity again. Second time round the activity ran into trouble due to student behavior issues. Resource constraints regarding space and time meant that she was unable to separate the class and thus decided to halt the activity for the time being and chalk out another plan to deliver the activity. She also touched upon what success and failures means when it comes to delivering the project. Whilst the activity can be seen to have failed in evoking student engagement, there are several research lessons to be learnt, thereby making it a success as a research activity. This is an important learning especially for brokers on how not to take failure of the project personally. The researcher expresses the dialogic interaction taking place within her, where she felt that she has let the students down, but also sees the valuable learning aspect from the activity.

Female_R talked about her activity which was about encouraging the use of music technology to equip students with skills that are required for organizing a music event. The researcher classifies her activity as successful due to the complete buy-in that she had from the students which made the teachers happy to do the activity twice.

Female_R: I have been pretty successful. The schools were happy with what we did from a point of view of the kids and where they got to skills wise.....So I am working with students who picked this activity as it was an option. That doesn't always mean that they have intrinsic motivation to do anything, but theoretically yes, they all opted for music and they also have option for their specialism in what I do, like lighting or sound, front of house or back of house and they then have that as further options, so there is a lot of buy-in for the kids... The teachers have started talking to me about how we can do more things next year so that will be a conversation about how I take a step back and how I am not in the classroom at all the time and they are taking a bigger lead in moving forward. From my point of view there were things that didn't work like I had to change things I thought would work and I have made a lot tweaks and changes and from a research point of view that's good as that is how it should be.

Female_R reflects on the notion of choice and adds that one reason why the activity was a success was due to the choice made by the students. Students chose this specialism as a part of their learning and thus were engaged automatically to the needs of the project. She noticed the important role of the teachers in the activity and their confidence in leading the project impacted the outcome of the activity.

School Reciprocity

This theme focused on how schools responded to the activity; from the initial stages when the researchers got in touch, when the activity was being planned and when the activity was rolled out in schools.

Male_A1 recalls the whole process of trying to locate the right contact to get the workshops organized in school.

Male_A1: The head would put me on to a teacher. The teacher would then say 'Right I am going to give this to my NQT (Newly Qualified Teacher)'. That NQT would have it as a small project. But the important thing was that, I couldn't directly talk to the NQT. I'd always have to have guidance from the two other people, especially so with the IT teacher. Everyone was scared of showing that they were not spending time correctly. The point was that they were worried to be seen having meetings any time randomly with random people..... So I couldn't contact them directly.....And it was the nightmare. Its either the head or the IT lead. So we pitched this idea to the head and the head would introduce me and hand me over to the teacher and the teacher would then introduce me to the NQT or the IT teacher. So I would have the same meeting three times..... So when the idea was pitched everyone was like 'this is a great idea' and by the time it got to NQT level, they would be like, 'let me check with everyone else if we have the time to run this' and no one would have a diary to put the workshop in.

Male_A1 approached the school head who embraced the ethos of the activity. The head put him in touch with other individuals to discuss next steps. Meetings would be organized and discussions would take place on the activity. Post such meetings teachers would mention

that they need to have more meetings with other teachers prior to confirming the start date. So there was immense administrative loop that Male_A1 had to jump through to get authorization to start his activity in the school.

Female_M mentions that she had to organise several meetings with different individuals to ensure the activity could be delivered as planned.

Female_M: Before doing anything it was an half hour or an hour chat with whoever was involved like for my CLIMB project it was just one teacher. So it would usually be one person maybe two, if they are class sharing maybe three and maybe others teachers who are interested and supporting it like the head of computing who would further go and tell other. That was more of a hands-off deployment where I was organising and facilitating and undergraduate students were going inside classrooms. With Westhall project, I am working in the classroom and I have had meetings with head of computing and an industrial lineman who is working for the school.

Female_M mentions that her school was very involved in her projects. She describes two projects, where the first project was to be delivered by undergraduate students so her role was about facilitating and coordinating the delivery of the activity. This meant organizing meetings to explain her activity to teachers in the school who would further cascade the information to others. In the second project there were external stakeholders involved and this meant that she has to organize several meetings to discuss the project and there was a lot of effort involved to get everyone together to agree on goals. So a lot of internal and external coordination with the school and external partners was undertaken by the researcher.

Female_R's previous experience as a teacher meant that her school was keen to understand how she would be evidencing the learning from the activity.

Female_R: So for me it was going in having that meeting and essentially curriculum planning with them. So I took in existing schemes of work I had and clear plans and then for me I knew that the big thing that they wanted to see was how are we going to evidence all the work that that the students were doing especially since they were Year 10's, I needed to evidence their qualification. So it was making sure that I had all the information with them and then tweaking it so that it fit with their ideas and their classes

Female_R mentions that she was assigned as a teacher to the class that she was working with. This meant that she was responsible to evidence student learning that will help them gain qualification. She worked as a teacher previously in this school and thus the heads were confident for her to lead the activity independently with the onus of evidencing the learning. To address the required goals of the school, she organized several meetings with the teacher to share her plans and once she received feedback on the plans she had to tweak them to suit the needs of the teachers and the school.

Female_R adds that schools are always cautious when it comes to engaging in new project or activities even with the previous work-experience as a teacher in the same school where she was conducting her research.

Female_R: That's the reason why the first gig academy deployment was in the lab as I couldn't get into a school, as I couldn't get a school to say 'yes'. So that's why we ran it here. And once the schools knew that I had run it once and its actually possible and once I got someone who actually vouched for me who was seen to be in a senior position and then it was easy thenThe minute I stepped out of the classroom into academia I no longer was an insider anymore, I was an outsider.

Female_R added that even though she was a teacher in the school, she was unable to get the school to host the first event arising from the activity. She had to find an alternate venue and thus ran the activity in the lab. Post the event at the lab, several other schools welcomed her to run the activity in their school. She says that irrespective of one's past experience, schools view individuals who are not working as teachers as external practitioners and treat them with caution.

IT Infrastructure

This theme predominantly dealt with aspects relating to IT infrastructure availability that researchers had to consider whilst organizing their activity in schools. Researchers highlight the challenges they faced in schools as a result of their technology-rich activities.

Male_D and Male_A1 discuss the challenges they faced when trying to set-up their activities and the various strategies that they used to counter and cope with the issues.

Male_D: There were firewall issues. To be honest I gave up doing any Wi-Fi related stuff at the school. So I just upload things when I get back. But the tablets that they owned were fine. We will be doing more work which will need Wi-Fi and that's when the issues will come up.

Male_A1: I found it easy to bring your own connection.

Male_D: Yes, it is more sustainable.

Male_A1: Don't rely on the infrastructure of the school and that includes plugs and extension cables too. Then you just need a plug. And the issues of transporting equipment was an issue. If I am carrying 30 chrome books that's 150kgs of things to transport and logistics of X number of microbits and they need to sorted out.....and a charging cable with a Chromebook which needs some software installed. So it's all the legwork that you don't see.

Male_D: My equipment is slightly smaller but even 20 tablets is heavy.

Male_A1: And set up.

Male_D: Yes that too.

Male_A1: Each time you run the session it has to be set-up for 60 kids at a time.

Male_D: So every time I run an activity with them, if it is not something that teacher has made, I'll have to make the activity, make sure the tablets are updated, charged, have the activity cached locally

so that there is no need to use Wi-Fi and when we get back make sure it is all uploaded properly. So there is routine.

The two researchers discuss the background work that goes into setting up the IT infrastructure before the activity starts. They discuss how minor aspects like transportation of the laptops or charging the devices need to be thought through. They have come to realize that relying on school IT infrastructure is a gamble and thus as far as possible they go equipped with their own infrastructure like wi-fi spots, drivers and converters.

Female_R discusses her experience in dealing with IT staff to deploy her technologies.

Female_R: So for me I was using a lot of software that I needed them to download and install or make sure the kids had access to..... It wasn't an issue but it was the case of telling IT dept that 'these are the things that I need or want unblocked', mainly via the teacher but it had to be clear that these are the things we need..... So the school that I am with now, I know the head of IT services and I know him very well and he is very good. But the first school that I worked with, they were ok. They didn't speak directly to me and everything went through the teacher and it was very good, very organised. And the middle school, I did my deployment, was the second of three, they were awful. They made everything really difficult and told me off multiple times for various things..... So the teacher had gone, 'yes I am sure that will be fine' but hadn't directly spoken to IT saying 'this is what we want to and this is what we want to use' and that was part of the problem.

Female_R talks about three schools and three different scenarios that she faced. In the first school she could liaise easily with the head of IT to get all the access sorted. In the second school she could only request infrastructure support through the class teacher and she found this arrangement helpful to plan her activity. In the third school she faced a lot of issues and this was predominantly due to lack of communication between the IT department and the class teacher who was leading the activity. She recounts the importance of involving IT departments during decision making, failing which there will be challenges that could be difficult to overcome.

Female_M discussed her experiences and why she prefers to go through the teachers to sort out IT infrastructure needs.

Female_M: There is no clear cut way to do it. So times I went in and I would have said to that teacher that 'we need access to USB ports' and they would go 'yeah we have USB' and when we get in and plug something in, the USB's have been turned off. So they wouldn't necessarily know. So I do say we need this and that and also say that 'can you forward this on to your IT dept to check if this is ok'. Because school to school there is no consensus, like one school will block USBs the other wont, one school will block the microbit development website the other wont. Sometimes the teacher would be like 'here is the (email) address. Can you cc them what you need'. But I tend to go through the teacher as they know whom to contact.....Even when like the IT people are up for it, like they have to be so

careful because it can cost them so much money if something goes wrong and I think that's the kind of fear....Well that £50 is if something goes wrong and there is that worry that I don't want change something as it will cost money. It is more of an perceived risk than an actual risk that it is going to cost money to do it.

She highlights how the procedures and policies are different for different schools. She adds that she prefers to liaise with teachers to get the necessary permission to access relevant infrastructure. There have been instances when teachers do ask her to liaise directly and in those situations the researcher had to liaise with several individuals depending on the administrative structure of the school. She also mentions that financial outlay could be a reason as to why schools are conservative to embrace research activities. Whilst this is more of a perceived risk, she nevertheless acknowledged that research activity that combines technologies always pose a financial risk to the school with respect to IT infrastructure.

Teacher Involvement

This theme focussed on teacher responses to the activity during the course of the activity.

Male_D talked about the class teacher engagement and head teacher engagement in his activity.

Male_D: So we had one really engaged teacher that kept it going for over a year and a few different trips over two different cohorts. So we finished with one year and she kept going with it for the next year....but I haven't heard them for a while. She is terrible with emails.....The teacher would lead the session, design the activity and I would help with technical issue.....I met the headteacher but he wasn't involved in the project.

Male_D mentioned that the class teacher was very engaged and kept the activity going for another year even after the completion of the project. He said that whilst the teacher was not prompt in replying to his emails, she was still engaged in the project. He recalled his meeting with headteacher of the school who welcomed him into the school but was not directly involved in the design or the delivery of the project.

Female_M recalls how student behavior has an impact on teacher involvement in the project.

Female_M: Teachers were good, confident and happy to try things out. The teacher decided to lead more and this is because of his own volition and not because I said that you should lead this one. Then he would pull me in if he was not sure about anything. But class were not just engaged. There was maybe 5 or 6 out of 30 who were getting on doing work. And no matter what we tried, they weren't just clicking with it.... Not necessarily they were bad kids but it wasn't working for them... These two classes you need the teaching skills and I don't have that. So we stopped the project.

Female_M pointed out a scenario where teachers were engaged and championed the project out of choice, but behavioral issues with children meant that the project had to be discontinued. She added that dealing with difficult children requires specialist teaching skills and since she was not equipped with those skills, she discontinued the activity.

Female_M and Female_R highlight the importance of teacher-student relationship for the activity to be successful.

Female_M: the thing is it depends on the teacher and their relationship with the class, if they know the class quite well and have a good professional relationship then kids are more up for trying things and more up for listening slightly strange instructions because it is quite different when you go in and tell them to do something different.... But that leads on to the teacher's relationship with the kids. Like you could have that and if the kids don't gel with the teacher so this is like a multi-level model.

Female_R: So first deployment with Amanda was brilliant and she was with me all the time. Like she didn't know some of the specifics about the technology like how to work the lighting desk or sound desk but she was in with the kids and it helped that she taught in a very similar way and we have very similar attitude to dealing with the kids and how we worked with them. The current deployment, the third one the teachers are completely hands off and she would sit behind her desk and her computer screen and just doesn't engage at all and that has been quite challenging. Yesterday there were couple of issues, not behaviour wise exactly but I could have done with another pair of hands....The students were not unpleasant in any way they are well behaved but they were very quiet and they don't talk. They are between 14-15, Yr 10. The reason they haven't opened up is because neither has she. She has privately outside when the kids are not there she chats to me loads and offloads stuff. But when she is in the classroom she doesn't chat to me and they haven't seen that. Whereas in the first deployment she and I were very chatty and joked together and kids were like 'that's alright. She is ok and the teacher I like says she's ok' and that rapport helped.

Female_M highlighted that student-teacher relationships are key for the projects to be successful. She added that when teachers are engaged in the activity, students follow suit. She further added that one reason for low teacher engagement could be due to the nature of the project where the use of new technologies could intimidate some teachers, impact their confidence in leading the project and thus they may withdraw from the activity. Female_R points out the case of a disengaged teacher who stayed behind her table through the course of workshop which in turn led to student disengagement. She says that during the first round of activity the same teacher expressed a friendly and engaging demeanor in front of the students and during the second time round she seemed to be less engaged. Students picked on this disengagement and emulated it in the activity.

Timelines

This theme was regarding the various aspects of timelines that researchers had to consider when they were planning their project. Whilst there were explicit timelines such the length of the workshop or activity that were factored in while planning, it was the hidden timelines that researchers often had to consider to ensure their activities were on track.

Male_A1 explains his project and the timelines associated to it.

Male_A1: ThinkActive which incorporated MatchFit from Newcastle United and has a programme of work, and there is an expectation of 6 week delivery. Then the enterprise week which is a one-of event but took a lot of coordination between all schools to work out logistics and health and safety. We ran this enterprise week so that we could go back into the schools and deliver BBC Microbits later. The BBC Microbit had a programme of work for 6 weeks. So two project had a longer timeline with a one-off big event.

Male_A1 was aware that he had to adhere to specific timelines in which he had to deliver his activity, coordinating with all partners and completing all administrative requirements. He noticed that sending out and receiving completed consent forms that are used to fulfil health and safety requirements took significant amount of project time.

Female_M and Female_R both highlight correspondence and communication impacts timelines when planning an activity with schools.

Female_M: Even though it was 3 months prior we met, but a lot of that will be no contact either because they are on school holiday, no matter how much they said 'yes we will keep in contact', it was their holiday time, they don't check their emails and there is no response and that is quite understandable.

Female_R: It was quite a long time, like if the project was in Sept, I met the teacher in June.....and we spent a lot of time going backwards and forwards finishing the scheme of work. The school that I am working with now (Mar) I met her in Jan and probably met her 3 times for going over plans.....For the one in Jan I met the teacher in July (previous year) once and then said I will go away and come with a bunch of things and met again in Sept and Dec for a Jan start. So they have to do things like write unit briefs for BTech and have internally verified and they have to like deliver hand in schemes of work as to how they are going to run assessments. I knew all that had to be done quite a long way ahead of time to make sure the school, like the SLT level were happy with her doing something different, because the kids were going to actually get their qualification.

Female_M mentioned that she had meetings with relevant individuals in the school to plan her activity three months in advance. She added that this timeline also included the waiting period to hear back from teacher to confirm the plans.

Female_R had to develop detailed plans with the teachers before the start of the activity. She highlighted on the high frequency of interactions and conversations with the

teacher to get the plans approved. These interactions were scheduled months in advance and sometimes even a year in advance, to ensure the project is approved by the senior management team.

Closure

This theme related to how researchers concluded their activity in schools. Some researchers discussed about showcase events, while others considered gathering feedback at the end of the activity as their finale.

Male_A1 discussed how he concluded his projects which had to address the requirements of multiple stakeholders.

Male_A1: The enterprise week was an activity in itself and it was a closure in itself. The ThinkActive stuff, I reported all the bands and gave a breakdown to two separate people. One was Newcastle United to whom I gave stats heavy and showed them all the computing information. The other one was for the teacher saying thank you and well done to students for engaging in this. And then the BBC Microbit stuff we didn't have a closure. We delivered the lessons and then in the last lesson we were like 'bye' The closure to me is doing interviews with kids. That was from a researcher perspective, the closure activity for me was collecting data at the end of the study and reflecting on it, as opposed to an event.. And the school might have their own closure event and you might have a separate thing.

Male_A1 mentioned that sometimes the activity itself was organized within specific timelines and participants would be aware of end times of the activity. In other projects he would provide feedback through data and statistics to stakeholders depending on their requirements. He reflected that as a researcher the activity of collecting feedback from participants at the end of the event signaled closure to him.

Male_D mentioned that while he hadn't thought about closure events with his past activities he was planning one for his on-going activities.

Male_D: The stuff going on now will have a closure. But stuff that have happened in the past was taught day-to-day and it didn't feel that there was a need to be a closure. There might be an element of coming back to the classroom, reflecting on the things collected and showing it on the white board. But not the entire project The project that I am working on currently with another school where we are doing some work with the blue plaques which the school have used to do some stuff.. That will have some sort of closures as the activities are ready.

Male_D added that to him closure was an act of reflection on the activity with the participants. He felt that projects that are designed using PBL approaches are able to accommodate closure events easily.

Female_R discussed her idea of a closure event as an end point activity.

Female_R: So for me it is the whatever the gig or the show is, it is the end point. Although it wasn't the case the first time as I carried on going in because they have to do a bunch of evaluations stuff for their portfolios for their BTech and where we had conversations that the teacher was going to do that.

Female_R added that in her first project she had agreed to do evaluations and feedback for the school about the activity and she regarded this activity as closure. But with her new projects, she has actively planned an event to indicate the end of the activity and any feedback or evaluations required by the school would be taken care by the teacher.

Male_A2 reflects on his activity to mention that his activity did not have a closure event.

Male_A2: When I did it, each session was a iteration so each session had almost repeatedly the same thing..... So it was different...we were mostly looking at specific technology and trying the technology with kids and after each session we adapt and we will do this and see each session as the full thing. So goal was refining and developing the tool.

Male_A2 mentioned that his activity was focused on the technical aspect of the digital tool. He further added that the concept of closure events are more suited to activities designed with PBL approaches and his work was not so. The aim of his research was to iteratively design a digital application, so the participants were in essence providing feedback to improve his digital application.

Boundary Crossing

This theme focused on the different roles that researchers embraced in order to fulfil the needs of the activity. Whilst some of those roles were visible to the researchers, there were others that were inherent due to the nature of the work they were doing and researchers absorbed these roles as they went about delivering their work.

Male_D talks about his experience in the school as he was navigating his way through the research performing other activities when required.

Male_D: Then with school trips there are usually dual roles there where you are helping facilitate the activity in all ways, like ferrying kids to the toilet. Like when introducing technology making sure that everything works, like if they have their own tablets and they don't work, I will be handed it to make it work.

Male_D adds that his research required him to accompany the teacher on outdoor school trips. This meant the he was often performing the dual role of a researcher and a volunteer during these outdoor trips. He mentions that he would also provide technical support to the teachers when they had issues with their devices during the course of the research.

Female_R shared her conundrum in navigating different roles particularly that of a researcher and teacher during the course of her research.

Female_R: Throughout my research I find that whole boundary crossing thing really difficult for me because I don't know where I sit. I don't know what am I. Yes ok I know that I am a PhD student and researcher but there was an element where I positioned myself as a teacher still to gain the trust to go into schools and I find myself in the classroom and fall back into teaching. I also get asked a lot in the music classroom to sort out music tech issues. So less about digital technology and more about...so today she was like this amp is buzzing, I can't work out why can you have a look at it for me? And I was like it is the cable. I didn't even have to look at it, I knew it was the cable in the socket.

Female_R reflected on her roles and mentioned that she is aware of her role as a researcher and a teacher in school. The challenge that she faces is if she should engage in her role as teacher even though she is there as a researcher. She mentions that she often gets asked for help relating to music technology as she can trouble shoot issues quickly.

Female_M reflected on the different roles that she embraced and added that some form of training is needed for researchers to effectively perform all the diverse roles.

Female_M: So when I went in and we decided that we will jointly develop these resources over summer and nothing happened, and I was like if I don't do something, we will get to the first lesson and nobody's done anything so I went through and read a bunch of stuff about teaching and looked at lesson resources and basically made the whole curriculum. Then I got the teachers to sense-check and they just went 'yeah ok..maybe that is a little too much we can cut it down from 2 pages to one page' was all the feedback I had.....So there was this weird tension with the students as they thought I was a teacher, I knew I wasn't a teacher but I would be asked teacher-things like 'Will you take a look at my homework?' and I am like 'not teacher go ask your miss' So yeah a weird blurred expectation of roles from pretty much everyone involved.

Female_M adds that during the planning stage she had to design and develop lesson plans although the teachers had agreed to do this. She received very little feedback from the teachers on her lesson plans and this added to her stress as she felt she was responsible for student learning. She reflected on her role wondering if she was a teacher or a researcher in the classroom. She highlighted incidents where students perceive her to have power and thus seek permission from her, but is worried if she can exercise that power. She also mentions that there are several incidents that might come to the researcher's notice when they are delivering their activity and adds that some form of training to handle unexpected scenarios would definitely help.

Male_A2 mentions that he did not have to go through any of the boundary crossing issues as he was there to deliver the activity and he had to focus just on that.

Male_A2: So I didn't go through any of these problems because , we were not seen as teachers we were clearly seen as the researchers and the teacher was doing the delivery. Though one of the

problems was teachers initially expected us to do the delivery then when we did it and the delivery wasn't great. Anyway that was the problem of managing expectations but the teachers were present in all our studies and they were in charge.

Male_A2 added that due to the nature of his research where the aim was to refine the digital application, he did not have to worry about performing other roles. He added that there was a teacher who was always present in the class and would take care of any issues that arose thus allowing Male_A2 to focus and conduct his research.

Taking Risks

This theme focused on risks and challenges that researchers faced when they were planning and delivering their activities. The researchers provide insights into what kept them motivated to deliver the activity despite such risks and challenges.

Male_D mentioned that finding first point of contact in the school was one of the biggest challenge.

Male_D: The biggest challenge was getting an in.... I guess giving curriculum time is a big risk for the school. In my stuff there was a lot of risk mitigation in the early days. We start with a one-off session where if things don't work out it's not a big issue. But when you start doing PBL stuff when its 6+ hrs of session then for them it's a bit more of time investment and stuff and if things don't work then teachers will go 'oh that was a waste of time' and this is 60 kids + 6 hours and I guess it's having them grow their confidence in what is going on.

Male_D added that once he got inside the school, persuading the school heads and teachers to give curriculum time was another challenge. This was due to the fact the schools thought his work would risk curriculum time. He said that he would gauge such risks and mitigate them by starting the project as one-off activities and generate teacher confidence and when he had the teacher buy-in he would negotiate longer time period to deploy his activity.

Male_A1 reflects the different challenges and risks that he experienced in the three different projects that he delivered.

Male_A1: I am trying to think as I have three projects, ThinkActive, Microbit and Enterprise Week and each had its own challenges. I think for the Enterprise Week it was the coordination and hierarchy was the biggest thing. The hierarchy really hindered the coordination because a lot of that had to do with not reading the emails, not talking to each other or making assumptions of each other. This is the general problem with distributed communication system. With ThinkActive the technology challenges were huge but getting access. Like when you are a researcher you go to a classroom for an hour or two and you don't get to observe the whole day. When someone talks to you as to what they do at school you can sort of get an idea what it is. But to have the opportunity to sit and be a part of the design session where you, more like design observation where you watch how the interactions between the people, you watch when kids go and potential interrupt somebody just getting that time. Its weird to ask

someone if I can sit at the end of your classroom for a couple of days. Like a design observation. It is a challenge.

Male_A1 added that communication and coordination through hierarchy was a challenge. This challenge turned into a risk if information did not reach relevant individuals as that could have hindered his activity. He reflected on how he had to move through multiple communication channels which meant delay in decision making thus impacting on the timelines of his activity. He said it was difficult to obtain classroom time with the teachers to conduct observations as observations had immense impact on technology deployment, a critical part of his research work.

Male_A2 talked about his research of investing in expensive technology and taking the devices into schools was indeed a risk.

Male_A2: Yes, taking 8 tables to a school for 6 weeks was massive risk....I think we have also learned how to design the research better, so we are willing to take more...not actually more risks...but because we are more careful now, we are more adventurous then. But we are better at mitigating the risks. So yeah the more aware about everything else than you know, you are taking care of things that were risky before but now you are quite prepared. So you can be a bit more... But the actual risk is not getting bigger, it's almost the same.

Male_A2 explained how taking expensive equipment into schools for long periods was indeed a risk but they still went ahead as they were starting out and were adventurous with the prospects. On hindsight he thought that taking those risks helped him with better research design for the future. He said that he is now well prepared and that he can anticipate risks and be ready to tackle them when they arise.

Female_R reflected on the risks experienced by the researcher and the teacher.

Female_R: I think its depends on the school as to how big a risk you can take and how many risks.....You are taking risks but within a defined set of parameters....With more knowledge comes the ability to take bigger risk, because you know that., I think our role or certainly my role is pushing teachers to take risks whilst offering to be in a safe pair of hands to catch them.....It is possible to do what we have said but teachers are nervous about it and it's the level of freedom that students are given that they are really nervous about. And it's actually telling them 'we have tried this before in other schools and its ok'. That kind of gives them the confidence to say 'Ok I will take that risk and give it a try' and they wouldn't do that without that.

Female_R mentioned that the kind of risk that one takes is dependent on the type of school one is working with. Some schools are more open to taking risks as compared to others. She added that giving students a lot of freedom to design their learning makes teachers anxious. She mitigated this challenge by presenting her past experience in running a

similar activity. When teachers hear about her past experience they gain the confidence to push boundaries and allow her to try new things.

Female_M rolled out three projects and reflected on how she managed the challenges that she has faced.

Female_M: With my deployments, with Highgate I will be doing 3 by the end of the year and what I am planning to do with my third one is not what I would have started with my first one, but because I have taken the risks with the first one and trying what works. And I am like I don't have worry about that now because I know that works. I will just fit it into the process. Different set of risks, different set of outcomes. Now we know what works. Third one have we got full picture? Who knows by the end of July we will have a better idea but it might again be we've got 75% out of the way we need to repeat it again and change the last bit and think about where the risks lie.

Female_M added that with experience she has developed her confidence to take bigger risks. She says that with each deployment she has learnt about new risks and it is only in delivering work repeatedly that she has been able to mitigate risks from her projects.

Broker Confidence

This theme focused on how researchers rate their confidence through the course of the designing and delivering the project.

Male_D recalls his journey as a learning experience.

Male_D: I can talk about things I did and things that worked and didn't work. I wouldn't pretend that its perfect. I have more of an idea of what is required by teachers and things like that. What they will be after, what is mutually beneficial and in that regard yes. I am more comfortable, I don't know about explicit.

Male_D added that through his research he was able to identify what worked through a process of trial and error. He mentioned that his work has raised his awareness on teacher needs and credits that the learning process in the activity has helped him to achieve this.

Male_A1 talked about the different skills that he acquired through the process of his research and how those skills helped him to evolve as a confident broker.

Male_A1: I was pretty much thrown in the deep end. I have experience of running events and running workshops and working with people. But this was a different type of relationship which was completely unique. So any other job or tasks that I have done before, because of the scale is different as it is a school setting. There is a lot more safeguarding issues, all the different things about access, even just communication hierarchy, equipment, connectivity, branding, awareness, the type of technology, the sensitivity to the small kids it is such an encompassing and quite an hard area to work in and now that I have moved away from that I feel like the skills that I have gained are lot more about coordination and operating in that environment. So I would definitely say I am lot more confident in that area and that translates to other areas as well.

Male_A1 adds that relationship management, distributed communication, working with young people were some of the key skills that he acquired when working with schools. He reflected on the knowledge and skills that he has acquired and added that those learning are transferable to other areas of his research work.

Female_R talks about her struggle in reconciling with her identity as researcher vs to that of a broker.

Female_M: I think for me it's back to the whole thing of 'where do I sit?' and actually I struggle with that as an identity thing when doing my research which then makes it really hard to go into school and be explicit about my role because I am not really sure where I sit with myself. Because I still feel like a teacher but I go into school I am not teacher anymore because I have left. They see me as a researcher but I don't feel that. I feel like a teacher pretending to be a researcher.....So that whole identity thing is makes it difficult for me to be totally explicit.

Female_R adds that working with schools put her in a position of power as a teacher and she found it difficult to disassociate with this role and purely look at herself as a researcher. This conflict further impacted her confidence to call herself as an educational broker as she viewed her role not just as researcher but also as a teacher. The dialogicity that she externalises highlights the conundrum that every researcher who work in schools face regarding their identity and roles.

Personalising the framework

This theme focussed on researchers' interpretation of the guide chart and how they understood the guide chart with respect to their work.

Male_D looked at the guide chart to identify aspects that resonated with the approach that he used.

Male_D: I have never had a sit-down with my SMT on my project.....I would get rid of 'Meeting SMT' and put 'Stakeholder meeting' there instead.....I think for me instead of 'Sharing the plan', I would be put it as 'Developing the plan'. So first would be the 'Stakeholder meeting' and in this meeting I would be like what is the teacher actually wanting to do as a part of what they are doing and how can we fit in and in a way where it is mutually beneficial for both....I don't know about 'raincheck' but definitely reflection. So I think this would be a loop for me with what we are doing.... I don't know if there is another way of doing it anyway for me..... Yeah different configurations of it might be helpful.



Figure 54: Male_D's annotation that highlights his brokerage process guide chart

Male_D mentioned that there are certain parts of the framework that fit in with his way of delivering work and emphasized on those aspects. He added that in his version he would remove some aspects and rename others. He specifically mentioned that need for a looping mechanism (Fig 45) would represent his work accurately. He finally stated that if such a framework was made available to him at the beginning of his activity it would have helped him to deliver his work with less ambiguity.

Male_A1 looked at the framework and identified the different aspects of the framework that resonated with his work.

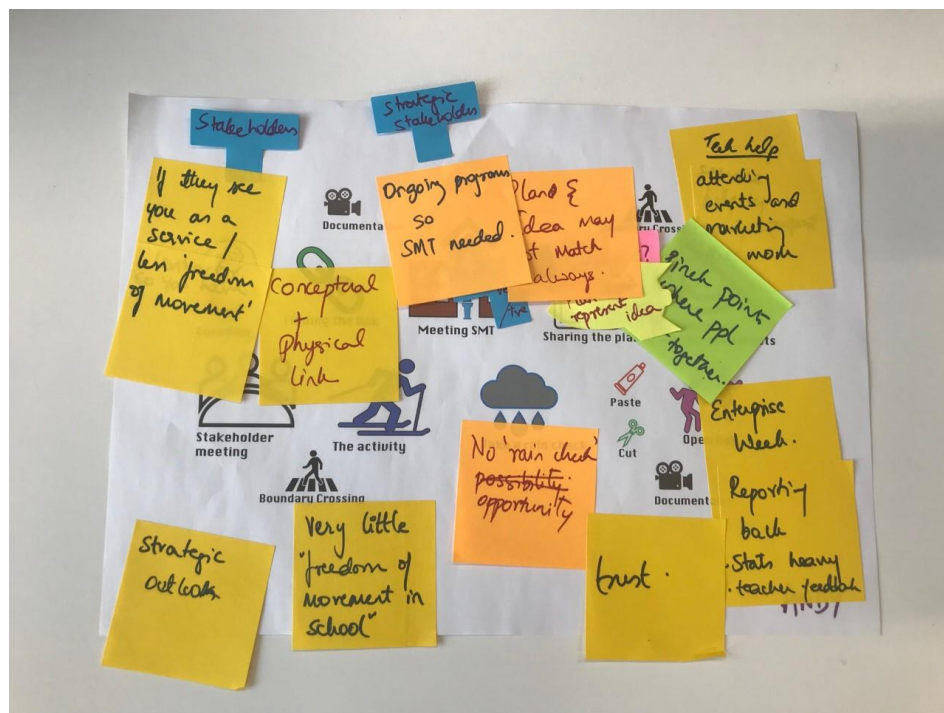


Figure 55: Male_A1's annotation that highlights his brokerage process guide chart

Male_A1: So this looks like a linear timeline and it is not the case for me. This 'finding the link' business, I think you need to find both the conceptual link and a physical link. So finding the person as well as the concept right. So you keep chatting and pitching it to people.....There is also a hierarchy in these SMT meetings and you can use hierarchy to your own strengths. You can set deadlines and you will have definite buy-in.....'The plan' is fluid and no one knows what the idea is until we get to the end and you have realised what you have done.....For the future we will be going towards other aspects of the framework for now we are working in 'ideation' space. Another thing is that 'plan of work' may not always represent the idea. It may actually be multiple ideas. So you may do smaller tasks to win bigger tasks.....This 'raincheck' thing looks interesting.....For me the thing is when you set up these plans you don't have an opportunity to create these 'rainchecks' as a lot of the things that I do are set in stone Its hard not follow a similar sort of timeline. Those nuances of how you are going to operate, how long you are going to operate for and what partners are going to be involved is useful. And pinch points of where people come together or where you probably feedback. Having those is very important if you were use it as a framework. I'd get more from that than just saying...I think if you give anyone the task of go and coordinate with someone else it is very obvious that you are going to go to the senior team and those things are going to happen.

Male_A1 mentioned that the guide chart in its current format promotes linearity of work processes and such undeviating approach is not possible in his work. He stated that there is need for conceptual and physical aspects in the guide chart that would acknowledge fluidity of the work that he has delivered. He deliberated on the need for certain aspects like 'rain check' and said that whilst he can see the need for such a phase, he would be unable to accommodate it in his work. He finally stated that whilst the guide chart embraces temporality and a more temporal detail and indications in each of the phase would definitely make it relevant to explain his activity in schools.

Female_M agreed that the her research process followed the path as indicated in the framework.

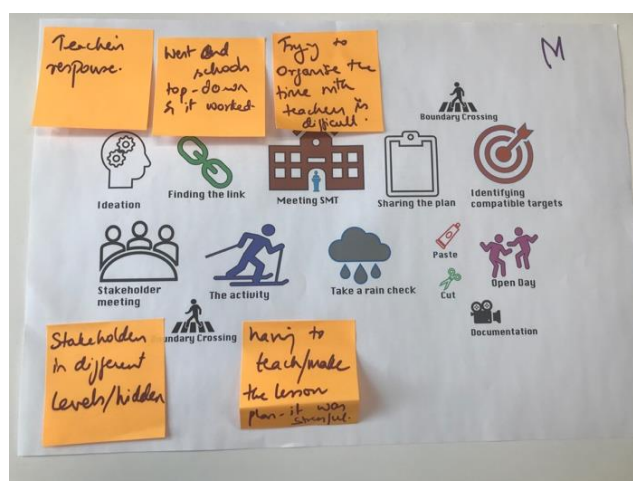


Figure 56: Female_M's annotation that highlights her brokerage process guide chart

Female_M: For me this framework approach was very similar. Where it differs is, any point I needed people from school to be there like teachers or like trying to organise the time, as teachers are so busy...so even when you organise things, you invite and they accepted things it didn't happen because of other school commitments they couldn't get out of because it was like, if they didn't do that, they would lose money as it was cover because it meant that the kid was poorly and that meant they had to take leave so yeah.

Female_M added that her work followed a similar trajectory to that indicated in the framework and highlighted that communication issues affected on the length of time she had to spend in each phase.

Male_A2 suggested an entire new configuration of the framework to represent his work.



Figure 57: Male_A2's annotation that highlights his brokerage process guide chart

Male_A2: So this should be iterative design process (Fig)So we had the idea as we had the tool. We had to find the link. Yes we did have meetings and identified targets and then shared the plan. It depends and then we had meetings with teacher....and then you share the plan and do the iteration.

Male_A2 highlighted the need for an iteration process to be included in the activity. He retained all the phases in his version and suggested a different configuration of the guide chart to symbolize the work that he did with schools. He touched upon the linearity of the phases and added it wasn't the case with his work and some of the phases like ideation, finding the link, meeting SMT and identifying compatible targets had more freedom of movement in his work.

Female_R discusses the guide chart and the different aspects that resonated with her work in schools.

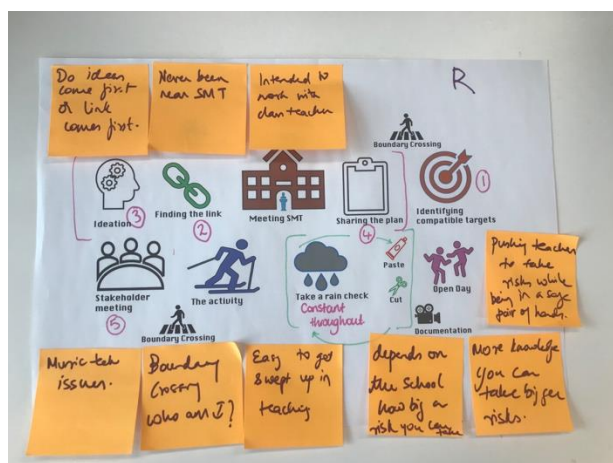


Figure 58: Female_R's annotation that highlights her brokerage process guide chart

Female_R: This bit here for me (Fig) is different as for me I haven't gone anywhere near any SLT at any time in any of my deployments. So I have always worked with solely with the teacher and the only times that I have met SLT is when they have come to final events and have gone this has been great, the kids have said good things and that's been my only connection with them.....And I guess for me the only other constraint are the bit is I guess is 'Ideation' 'finding the link' which comes first I guess. Is it that the ideas come first or is it that there is a link where the schools reach out and say this is what we are struggling with and...for me it was all about this and what I wanted for research and that kind of went hand-in-hand in finding the link. And then I did some ideation of what it was going to look like and it ended in a plan that we shared with the teacher....For me 'taking a rain check' happens throughout. I will have a brief check-in with the teacher after every lesson, or before or during and checking up as to what we are expecting from her side in terms of portfolio and evidencing and everything.....But everything else yeah, and the celebratory 'gig'.

Female_R lists the different processes as it occurred chronologically in her work: identifying compatible targets, finding the link, ideation, sharing the plan and stakeholder meeting. She adds that some of the phases like 'meeting the senior team' was not required within her work and other phases like 'rain check' seemed unnecessary as feedback and reflection occurred continuously through her research. She mentioned that closure to her projects was in the form of a 'celebratory gig' at the end of her research.

8.2. REFLECTIONS

Through this empirical study I was able to visualise the 12 key areas that educational brokers deem key to their practice. They are; Motivation, Gaining Access, The Activity, School, Reciprocity, IT infrastructure, Teacher Involvement, Timelines, Closure, Boundary Crossing, Taking Risks, Broker Confidence and Personalising the framework. It would have been impossible to arrive at these themes without the presence of the guide chart. By making the tacit explicit I was able to encourage a group of practitioners to reflect on their practice and

hypothesise ways of building supporting mechanisms for the community. I critically discuss the findings from this empirical study in my next chapter alongside my contributions to knowledge and communities of practice.

9

Discussion

Chapter 9. Discussion

In this chapter, I discuss my findings by critically reflecting on what I have learnt in terms of my 'changing practice'. By revisiting my early conceptualization of my practice, I present the insights that I have gained through methodological grounding particularly through the lens of pragmatist feminism, where I reconcile my notions of otherness and move my thinking of my practice existing in the margins to something that is operating in the center (marginality to centrality). I highlight the role of intangible factors like my personality and reflexivity that have predominantly influenced my broker practice and show how the two factors situate and guide me in my practitioner journey ahead.

Learning is continuous and so is practice transformation. In trying to understand what is my practice, I was also able to reconceptualize it by transforming my understanding of it. Scrutinizing my identity and my ideas of knowledge creation has helped me to re-examine my role not with the lens of marginality but with the vision of centrality by being a boundary crosser. My thesis is a manuscript of my living educational theory that I have arrived at by researching my practice and by understanding my epistemological values.

Through this manuscript I am not prescribing a manual for other practitioners to abide by, instead what I am offering is my learning as result of my critical engagement with my practice. A synthesis of this learning is the guide chart that I have presented to other external practitioners, inviting them to critique it and to test its academic and practical rigour.

Discussion amongst researchers generated questions on the need for such guide charts as it could run the risk of homogenizing the process and the activity. Researchers added that individuals may not always conform to such process flow due to the unpredictable nature of work. I would like to state here that it was not my intention to oversimplify practitioners' processes into this guide chart. This guide chart was my attempt to address questions on generalizability in social science research. Whilst the guide chart indicates some of the routine processes that educational brokers undertake, what it is unable to illustrate are the hidden factors that are critical to brokerage work and one that is beyond the scope of any framework. One key variable is that of broker reflexivity, broker personality and disposition. Individuals often refer to my energetic personality, positive disposition and enthusiastic attitude as a key reason why they believed in the project. In fact teachers at NMS and INDUS have indicated this point specifically regarding my engaging personality that has positively influenced teachers and students alike. In the past I would have brushed this aside as kind

compliments. However working on this research encouraged me to consider the role of personality to influence one's practice. I reflected on the development of my personality and sought answers as to how it was influencing my practice. My earliest memory of my sociable personality was when I six years old. I would often get called out by my teacher for talking too much in the class. In fact my report cards predominantly indicated 'needs to talk less' in the comments section. I knew that if I needed to make friends I must engage in conversations. During my university days, my friends would complain that I stop every so often to make conversations with so many people and in doing so I was delaying them getting into the lectures. When I relocated to England I did not find the change difficult as I made friends easily here. Along with my skills and expertise, I think my personality has been a key strength that has shaped my life, career and research. My previous role of working within arts charity required effective relationship skills due to the nature of work of having to interact with diverse stakeholders. I was able to nurture and maintain relationships and build networks effectively. This skill helped me to develop strong links with community groups, educators as well as with funders and other key decision makers. Post my MBA studies, my education coupled with my entrepreneurial spirit helped me to start my consultancy. My previously built networks and relationships with schools aided greatly at this point. I was relatively a new entrant in the education sector. Due to my previous associations, school leaders who had the experience of working with me, continued to engage with my consultancy. Working in schools delivering diverse cultural workshops impacted students and teachers. This helped me to build credibility and legitimacy with teachers. They were able to see my teaching skills were unorthodox yet students took to it easily and excelled. I started to vaguely understand that there was something about my role that is making it work. I was unable to externalize this uniqueness. As I started to work on my research I got to view my role through the lens of personality. Engaging brokers have engaging personality. I often question if this is nature or nurture and I still haven't been able to settle on that debate. Hence it is only befitting to mention that variables like personality are critical within brokerage practice but impossible to define within frameworks and guide charts.

For a very long time I attributed the success of my work to external circumstances or factors. I did not acknowledge my skills, personality, values and expertise or consider them to be unique to influence success. This research has changed some of those beliefs where I am now aware of my unique skills and how I employ them at work. I now understand my 'conscious brokerage' process and the value that it brings to teachers and students. I arrive at solutions by gently asking relevant questions and helping teachers and students discover their

answers. This form of brokerage ensures that teachers and students take ownership to the change that they are influencing. Since 2017, I have been exploring the ‘conscious brokerage’ process and I now no longer attest my skills and expertise to serendipity or to external influences. I acknowledge the value of my skills, abilities, philosophies and knowledge to impact educational change. Earlier I had a hesitant voice due to the lack of a shared language. Through my research I have developed a nuanced vocabulary that I am able to skillfully employ to describe my practice to academics, educators, students and to the general public.

Working with teachers and students has helped me to reflect on a lot of givens. I began this study with an assumption that I have voice and agency and that I was trying to encourage students to develop theirs through my inquiry. Working through this research has highlighted that it is not the case. I realized that I had to reconcile with the different ‘I’ positions (Bakhtin, 1981) within me and develop a language to express and explain those ‘I’ positions to myself. This did not happen suddenly at a given point in time. It was a gradual shift of logics where I moved from being a categorical thinker to a dialogical one, with several regressions through the process. It took me over four years to reflect on my practice to see how I could best live my values through my work.

I now value the importance of making tacit explicit. Especially for practitioners who are working outside the organizational boundaries I have realized the need to have a shared vocabulary to amplify our work and our voices. I have tried to challenge the normative conditions that are not currently supportive of external practitioners to influence curriculum delivery. On one hand schools are recognized to be places to empower students, teachers and practitioners but on the other the system places several constraints especially for external practitioners like the prescriptive curriculum focus, and centralised notions of knowledge production. This has in some ways caused the ‘othering’ of external practitioners who are working to achieve curriculum goals. Through my work I have been able to question this ‘othering’ by bringing new approaches and ideas for curriculum delivery within and beyond classroom environments. I have aimed to work towards an inclusive and relational form of practice, rooted in open-ended enquiry so that I can live closely to my ontological, epistemological and social values.

To ensure that I am working and living in the direction of my values, I have examined my practice by asking critical questions to myself such as:

- Am I encouraging dialogicity and reflexivity in my practice?
- Am I conscious of my role and my practice when working with teachers and students?

- Do I acknowledge the process especially when decision making happens?
- Do I ask more questions and wait for the answers?
- Do I make an active effort in preserving the relational aspects of my practice as opposed to transactional aspects?

Through my action research cycles and my empirical study I have offered authenticity to my claims by examining my role as a researcher and practitioner. In examining these roles, I was able to outline a journey map that could help other external practitioners to embrace their roles from hesitant to confident educational brokers. Employing digital technologies in my action research cycles, developed my capability as a HCI researcher, a key skill that is valued within the education sector but scarcely available. Getting critical inputs from other researcher-practitioners on my guide chart helped me to understand the authenticity of my research. Discussions with them highlighted their concerns on generalisability and how frameworks could homogenise educational broker-work. Their concerns helped me to reflect on what makes my work distinct. This thinking helped me to identify the missing aspect within the guide chart especially that of broker-personality and practitioner-reflexivity. These two factors have considerably influenced my role and my practice and I am still deliberating where and how should these two factors be presented within the framework. The valuable learning for me was to appreciate the role of indeterminates that influence broker practice. Through deep reflections on episodes and events I have been able to provide explanations about my practice and my role and arrive at an understanding of the living standards of judgement to further my practice through critical inquiry.

Lastly, I believe that I have shown the transformation of my thinking, from someone who is existing in the ‘margins’ to one thriving at the ‘boundary’. The development of the guide chart helped me to realize that I undertake ‘conscious brokerage’ and acknowledge that my actions and decisions are not just serendipitous but a meticulous meta-awareness of my thinking when working with teachers and students. These are significant learnings for me. I now discuss in the next section the potential significance of my research for practice, practitioners and for the research community.

9.1.KEY LEARNINGS FROM MY RESEARCH

I present the significance of my learnings and outline them on two fronts, at a personal level and at practice level.

I claim that I have achieved the following at a personal level:

- I have embraced my role as a conscious educational broker working across boundaries, enriching school curriculum and student learning.
- I have externalised the values of voice and agency by acknowledging the contribution that my role brings to curriculum delivery in schools.
- I have a heightened understanding on the role of digital technologies, culture and communities to shape student learning, teacher practice and school curriculum delivery.

At a practice level I have achieved the following.

- I have reconceptualised my own practice and in doing so, developed a guide chart that could aid other practitioners to understand their practice.
- I have impacted the thinking of my research partners as result of my engagement with them.
- I have developed my capacity to engage in critical reflection and meta cognition to impact the quality of my work as a practitioner, an educational broker and researcher.
- I have a coherent understanding of the different roles that I perform in my practice and I am able to nurture those roles to be complementary and harmonious.

9.2.FROM BEING TO BECOMING

Freire's work on critical consciousness (Freire, 1974) was a key theory that helped my transformation from 'being a hesitant practitioner' to 'becoming a conscious broker'. Freire's notion of critical consciousness mentions that the oppressed, marginalised and under-represented people are able to act and change their social condition only when they are able to critically analyze their conditions and situations. Applying this to my life, I saw that my hesitation was to do a lot with the oppression that I had internalized. I had questions regarding the validity of my role as I had assumed that my non-teacher status and other intersectional identities of race and gender would inhibit my understanding of the issues prevalent in the education system. This thinking made me rarely raise my voice against status quo. Once I started to familiarize with critical educational literatures, I began to question my prior held beliefs and ways of doing. Reading Foucault's power and knowledge interpretation (S. Ball, 2013), Freire's work on educational institutions to wield social control (Freire, 1970a) and, Bourdieu's thinking on schools as places for social domination (Bourdieu, 1990), helped me to peel away layers of impressions regarding the 'marginality' of my role and my practice. The unpeeling started when I started to embrace dialogical thinking and recognize

my various 'I' positions (Bakhtin, 1981) and the tensions between them. Engaging critically with literatures and theories meant that I was able to release the trappings of marginality that had affected the legitimacy of my work and my self-concepts. Articulating what I do helped me to develop my own living theory of dialogic practice. The dialogic interrogation helped me to envision my practice from 'margins and marginality' to 'boundaries and centrality'. I have now acknowledged the diversity of my role that includes working across different sites within a single institution crossing different boundaries (Suchman, 1994) which at times was challenging but also enriching. I reconceptualized these margins as boundaries albeit with a socio-cultural difference (Akkerman & Bakker, 2011) and I am now able to act and interact across these boundaries. In some instances I was the boundary object (ibid), otherwise called the broker. I was brokering relationships within and outside schools to ensure curriculum was enriching to students and teachers alike. I have realized that my role is not to aim for successful brokerage initiatives. It is about developing perspectives and insights and acknowledging that brokerage helps in building networks and infrastructure and possibly in ushering change.

Through my work I have strived to recognize and honor the multiplicity of voices within and around me. I have also come to understand that these multiple voices do not exist as disparate entities, but are mediated through various social and cultural practices that I experience, constantly shaped by my agency. I have realized that I have an unusual individual agency which is a part of my personality but also shaped by professional status and cultural contacts. Through my personality I have been able to influence the ecological agency in schools (Priestley et al., 2012). Ecological agency is where agentic actions are rooted in the contextual conditions and achieved in particular transactional situations (ibid). As I progressed through my research cycles I realized that values alone does not help one to overcome challenges. Agency was required to act on those values. My personality is a part of my individual agency that has helped me to act on my values and reconceptualize my practice. Through my practice I have been able to expand the personal agency for those whom I have come to work with. My personal and ecological agency have also expanded due to the connections that I have established in the professional space, with my supervisor David and with Open Lab colleagues.

Earlier I would not have considered that my personality could have direct impact either in shaping my practice or influencing the delivery of my work. Teachers all along have talked about my enthusiastic approach and I always regarded such comments as kind words. The following dialogue highlights this.

Vidya: I'm just looking at the researcher as a broker in this whole scenario. Do you think there is value for a broker/researcher?

DH_NMS: I think there is a value but I also think that the person is critical, so it couldn't have been any researcher, Vidya, I think you being you.

Vidya: Thank you, you're kind.

DH_NMS: No, seriously. I think you being you have been crucial and your enthusiasm.

Teacher Interview AR Cycle 1

Through this research I have come to acknowledge my personality helps me to connect with people whereby I can get them to respond and take action. I have realized that feedback is more than just a compliment. It is form of acknowledgement for how my work is influencing student-learning and teacher-practice. The below conversation highlights this acknowledgement. In the third action research cycle one of the teacher highlighted my engaging personality. I acknowledge this and continue my line of conversation requesting more information of the activity. This evidences my developing consciousness. In earlier cases during such conversations I would have thanked the teacher profusely for the compliment.

Lang_Mainfield: They've been really engaged and they've constantly asked me, "Is Vidya coming today? Is Vidya coming this week?" From that point of view, they've been really excited to get involved and to talk to you about what they've been doing and what they're learning. It's been totally different. I've never quite taught in this way. It's really good for me to see a different approach.

Vidya: I was just going to ask you...

Teacher Interview AR Cycle 3

My personality has helped me in predicting the world around me. I unresistingly acknowledge and accept that my personality shapes aspects of my practice through which I take reasonable risks. I understand that my values along with my personality makes the real impact. But values aren't as discernible as personality. An aspect of my personality is that I make an impression on people, and that combined with agentic disposition aids me to get things done. I am an action oriented person, and when individuals see that I am action oriented with a set of values and a congenial personality it helps them to place their trust in me.

Embracing that my personal traits play an important role in my success has been a difficult and important learning. Earlier when I used to look in the mirror, I used to see my existence from what others make sense of my work and life. Now that I look in the mirror, I see how far I have travelled to be the person that I am. Earlier I used to make an effort to ensure that I share stories about myself that would only inspire, excite and engage. Working on this research has raised my consciousness and has shown me that all facets of my life is

inspiring, exciting and engaging and not just a chosen few. This means that now I am able to share my vulnerabilities and my successes with equal aplomb.

9.3.CLAIMS TO KNOWLEDGE WITHIN THEORETICAL CONTEXT

Through my work I offer a fresh view on working with external practitioners to impact curriculum delivery. I term this process as conscious educational brokerage and the practitioners as conscious educational brokers. Having reconceptualized my practice and my role, I have, in the process crafted a guide chart to aid other educational brokers to acknowledge the invisible aspects of their practice and raise its visibility. I present the various visible contributions that my practice makes as a result of this research.

9.3.1. Reconceptualising my role and my relationship with teachers and schools.

My relationship with teachers and schools are now grounded in common interest to transform student learning. Considering that there are strong structural powers that control the workings of a school, it was important that I understand the relationship between individual agency and power structures. Critical engagement with literature, contextual work with schools and bringing in digital resources meant that I was shaping dominant discourses in the school that further helped in the manifestation of my agency (Eteläpelto et al., 2013).

I cannot speculate how relationships will change in the future. For now, I see them to be dynamic and constantly evolving. When I now go into schools, I am mindful to embed dialogic interactions encouraging teachers and students to embrace egalitarian approaches to knowledge creation. The below excerpt evidences knowledge creation by students and the democratic approaches they have embraced to ensure the process is inclusive.

Students told me that they are enjoying the project especially working in groups. One group elaborated as to how they would meet on weekends to discuss and organise their work. In a scenario if some students were unable to join in person, they would try catching up through Skype meetings. I was happy to see students put effort and thought to identify real world contacts and work so well with their class mates. One group talked about their work which was collating information on migration policies from various political parties and they had identified a Syrian refugee to be interviewed for their project. As they had put so much effort in developing their project they were keen to present this information to the wider public.

Chapter 4, Making PBL Work, AR Cycle 1

I am now confident around power structures and am able to navigate around them as I know that knowledge creation takes place on claims of validity and not on power claims. The

below conversation between deputy head and the class teacher highlights this aspect. The class teachers who were earlier skeptical of my approaches were later seen to be validating the efficacy of my work. Their earlier stance was based on their power claims as they felt that they knew better than a university researcher who is also a non-qualified teacher. I had internalized this narrative within me and thus was unable to use my voice at the beginning of the project. The following conversation was at the end of the project when the teachers were discussing my role in the activity. Here I could witness how their stances had shifted from power claims to validity claims where they no longer view me as non-qualified teacher but as an educator who is able to positively impact student learning.

DH_NMS: I think there is a value but I also think that the person is critical, so it couldn't have been any researcher, Vidya, I think you being you has been crucial to your enthusiasm.

Geo_NMS : The children responded really well to you

DH_NMS: Your constant presentation is upbeat and smiling and encouraging and coaching and questioning and in such a lovely way, has been so important to the project. I don't think that could be classed as a researcher. It think it's got to be down to the person and I think you've contributed enormously.

Geo_NMS: I think you're right. I think, if it had been someone- The kids felt they wanted to share things with you and they wanted to speak to you about things. They wanted to ask you about things and they might not have been like that with someone else.

Hum_NMS: It makes it different from just another school.

Geo_NMS: Just us asking, "We need to do something again."

Hum_NMS: If it's just a classroom with me, who they see all the time, they say, "Right, we're going to do this project and we're going to be reaching out into the community and we're going to present-" But the fact that there is someone there, different, they are not normally used to seeing work with us makes it just that little bit, "Oh, this is something a bit different."

Geo_NMS: You can tell because, when you weren't there, they would ask where you were.

Teacher Interview, AR Cycle 1

9.3.2. Reconceptualising my notions of values

The self-reflection that I undertook through my research helped me to realize that I was a living contradiction (Whitehead, 1989) wherein I was unable to completely live towards the values that I held. I was embracing and advocating feminist approaches of equality, inclusivity and creativity but was compliant and adhering to the paternalistic requirements of hierarchy and centralised notions of knowledge production. Comprehending my practice at a deeper level meant that I have now become critical enough to challenge norms and status quo. I am now able to appreciate the symbiotic relationship that exists between institutional practice and my practice, and this knowing has helped me to have a richer understanding of

my work. I hope that the changes that I create at a micro level through my practice to produce a ripple effect and in the process hopefully impact greater educational change.

9.3.3. Reconceptualising importance of culture, communities and digital technologies

Schools have the right intention in promoting and delivering cross-cultural learning but are still facing challenges such as adhoc approaches, unsystematic methods and a lack of clarity (Dogra & et al., 2005; Sarangapani et al., 2016). In my experience I have seen that cross cultural topics are often approached through Citizenship curriculum, a non-core subject, sending a message to their students that the learning is not central to their current and future life. Through this research I have ensured that the topic of cross-cultural learning is addressed through core subjects like History and Geography ensuring that students and teachers take it seriously and acknowledge its importance within and outside school learning. Activities were designed using PBL approaches to ensure students and teachers learn directly from the lived experiences of people in their communities and understand the true relevance of artefacts, forms and practices to culture and cultural belonging. Through this activity I have been able to demonstrate that schools have embraced their community knowledge as something that is ‘explicit, intentional and programmatic component’ (Starratt, 2002) of their curriculum. In doing I have also evidenced student and teacher engagement. Students were able to grasp the issues, challenges, and differences in the wider world once they were exposed to opportunities and issues that prevailed in their local communities. They were able to debate and discuss topics relating to cultural differences and similarities, socio-political influences and social justice. By integrating PBL approaches and digital technologies I was able to get students who often learn within their classrooms, to step out and learn from the real world.

The use of digital technologies was vital as it was a key component of my Digital Civics research and addressed school’s STEM agenda. I am now able to appreciate the support that digital technologies have provided in reshaping and establishing my practice. At the start of my research I viewed digital technologies as an external tool. Only through the course of this research, I have come to realize the central role of digital technologies in capturing and retaining the interest of teachers, students and schools. Schools are looking to address the declining number of students opting for computing curriculum and this project provided the right impetus to bring back interest to the subject. The project addressed some of the goals of the computing curriculum in a cross-curricular manner and highlighted to students that

computing curriculum is not merely about coding and algorithms. The use of real-world research to develop digital mysteries meant that students were able to link their digital learning to their classroom learning.

9.3.4. Reviewing the quality of my research and practice

In my first action research cycle I employed reflection to understand what is that I do. I focused on understanding technical aspects of my practice to identify my role in the school ecosystem. In the second research cycle I was able to test the validity of my role by working with stakeholders and progressively push boundaries. In the third and final cycle, I began to employ deep introspection of my values, reflecting on the situations and taking conscious decisions which in turn helped me to shape the trajectory of my practice.

When the values started to reflect in my practice, my living theory of practice started to emerge. I began to test my ideas against critical feedback by submitting my papers to publications and presenting my papers at conferences. I have four publications to date, three of which are directly related to this thesis (Sarangapani et al., 2016, 2018, 2019). As I started to present my work to peers and experts, I began to offer explanations and definitions about my practice which further helped me to build my confidence about my work and practice.

9.3.5. Developing my own critical awareness

My living theory of practice evolved through the action research cycles and I am now able to balance my identity in the different roles that I perform, as a researcher, as a broker, as a role of authority in the classroom and a creative practitioner. Earlier my focus would center predominantly around creative practitioner role and I would often evaluate the value of my work through teacher and student feedback. I also perceived my role as someone conforming to the needs of the institution and its structures. I thus spent a lot time looking at logistics and technical aspects such as workshop content and learning materials. I was not critical about the my work or my practice and there was a sense of passivity in my practice as I was reacting to external situations and demands. I knew that I had to take action to articulate my values but I was unsure where to begin. This research helped me to do that. Particularly the action research methodology helped me to find my voice through which I was able to speak about my experience and learn from that experience (Winter, 1998). Finding my voice empowered me and I was able to reconcile my professional identity as a broker and embrace this voice. I

have been able to critique my role and in doing so I have been able to engage in dialogical approaches to work with students and teachers.

Through the writing of this thesis, I reflect on various episodes of my past practice that have revealed my best and places where I failed to live in accordance with my values. This made me realise that I was performing my role as a living contradiction (Whitehead, 1989)

So I developed a project plan and presented it to Hum_NMS. He had some doubts regarding the plan and I was able to convince him on the overall vision of the project i.e. bringing communities into classroom. The interesting aspect was that we did not use this plan in the project. This made me wonder on teachers' reliance for plans. Did Hum_NMS just ask for it so he can be reassured that I have plan? I can only speculate here. With further discussions with Hum_NMS and Geo_NMS, we agreed to start the project in Feb 2016.

Chapter 4, Making PBL Work, AR Cycle 1

The above excerpt was the discussion that I was having with the teachers prior to the start of my first action research cycle. Not critically engaging with my values led me into living contradiction place. I knew that a project plan would not help to evidence the robustness of the project. The nature of PBL project is such that one cannot guarantee its outcome. Yet I went ahead and provided a project plan. I am now able to see this contradiction and should I be faced with such a situation again, I will know how to respond to it due to my heightened awareness.

I believe that I have transformed my role and my practice where I am now externalising my values and embracing dialogicity in my practice. Doing so has impacted student learning and teacher practice.

I went into Mainfield to meet the students in person for the first time. I entered the classroom and greeted the students. I received a very lukewarm response to my 'good afternoon' greeting. I was still reeling with energy working with INDUS students and I wanted the same enthusiasm from students at Mainfield. Prior to my experience at INDUS, I wouldn't have challenged this lack of energy. But the experience at INDUS ensured that I address this and made me realise that I could demand the same energy from students at Mainfield. With my new sense of confidence, I replied to the students 'Well, I have spent a month in India and students always greeted me there with more energy than what you all have just shown. So let's do this again, ok? Good afternoon everyone.' And I received an enormous 'Good afternoon Miss' from the students. I was proud of myself. This was really important step to take agency in my practice and I was realising that I needed to take the first step. It was my determination in my voice that resonated with the students who were then able to give me their attention and energy the whole hour.

Chapter 6, Becoming Explicit, AR Cycle 3

The above excerpt was to highlight the confidence that I have now found to challenge status quo. Whilst the above evidence may be considered low-level to highlight dialogicity, it was personally transformative for me. I had just returned from India with so much of enthusiasm and energy and I was sure that students in England could also provide me the same enthusiasm and energy, when I demand it. Earlier I would have let this incident slide and would have continued my activity. This time I refused to do so. My inner voice was steering me to take an assertive stance with the students and when students realized the energy and tone in my voice, they responded with equal enthusiasm and energy.

The dialogicity with teachers meant that I was able to ask deep questions to help them reflect on their practice.

Hum_NMS: And looking back, what I do regret, I do wish we'd, got, like I used to get children to talk about their own personal experiences as a resource that we could use as a teaching resource for future. That's the one thing I do wish we had done.

Teacher Interview, AR Cycle 1

In one of the interviews, I asked the teachers what they would have done differently. This question acted as a catalyst for the teachers to reflect on their practice and engage with their internal voices and rethink on their curriculum delivery methods. In effect I was establishing a new I- position (H. J. M. Hermans, 2001) for teachers to acknowledge within themselves. Metaphorically I would relate this to the crossing of a (voice) boundary wherein I have gotten inside the voicescapes of their minds and created another voice for them to be aware of.

9.3.6. Contributing to development of social good

Through my work I have witnessed students' willingness to be agents of change. Students who would earlier see issues with binary solutions were now aware that real-world issues like migration have more complex solutions. The PBL activity was developed to support dialogical pedagogy and encouraged students to undertake real-world research. Some of them were able to learn about lived experiences of people experiencing forced migration or people living in different social and cultural settings. Students were taking action to ensure their learning in the classroom was finding a place in the real world. As I was talking to the teachers, I recalled the following incident to them.

They've gone back and they've analysed political manifestos, they've spoken to Syrian immigrants and I was, like, very impressed....Gina mentioned, she wrote to the local MP and got a reply back from her saying that she emailed her. She said, "We've done this, would you want to come into our school and see us?" She got a reply back from her saying, "I'm sorry," I mean the PA replied saying, "No, it's

hard for her to come because she's busy." So I was quite surprised that she actually went. She said she wrote to three or four councillors and that's exactly why I wanted them all to come, to see their work. I can't believe that they've actually gone and taken that action.

RD, AR Cycle 1

The dialogic approaches helped me to learn about students' civic engagement and social and cultural awareness which were otherwise going unnoticed in the didactic workings of the education system. The dialogical approaches also helped students to challenge some of the mainstream narratives that have been internalised and normalised. I noticed this in my conversations with Indian students.

Male_1_INDUS: Ma'am, but he was very disappointed with the way the children there think about India.

Female_2_INDUS: Not exactly disappointed, but ma'am, they should also have taken some positive points of India. Ma'am, I saw around two or three mysteries, and all were about education, ma'am, and poverty.

Vidya: Yes, so wait, which one did you solve?

Male_1_INDUS: George in India, and I did Sahil's Village.

Male_2_INDUS: Ma'am, but why it's....

Female_1_INDUS: Why is Sita still living with her parents in George in India?

Female_2_INDUS: Ma'am, that's what I wrote in the feedback, that this doesn't happen in cities.

Ma'am, it must be from the villages of India.

Vidya: Yes. But that, in having just seen what they've said, do you think it's a wrong thing? Like, is the information wrong?

Female_1_INDUS: No, it was not.

Vidya: So you think that there is poverty in India?

Female_2_INDUS: Yes, ma'am.

Male_1_INDUS: That they should have focused on the positive things, also. Yes.

Female_2_INDUS: Ma'am, at least one mystery, should have put the positive points.

Student Interview, AR Cycle 2

Encouraging students to think for themselves was indeed impacting the social agenda as those conversations were focussed on nurturing cohesive attitudes to differences. I am able to see that the work that I am doing in schools is contributing to the development of a good social order. I resonated with Freire's work addressing the need for critical consciousness (Freire, 1974) in our education system to impact social change. I designed activities that would encourage students to understand the role of voice and how to engage with one's voice to challenge dominant narratives. Through my practice I am able to influence students and teachers to contribute to social good. By living my values of equality, inclusivity and creativity I was also simultaneously contributing to the social good.

9.3.7. Contributions to knowledge

This thesis expands the knowledge on the challenges and opportunities available for educational brokerage and the importance of context-aware and conscious brokers working within diverse socio-cultural systems. Engaging with diverse perspectives with an open mind promotes democratization of voices. This learning would not have been possible without an understanding on the role of boundaries and how brokers could traverse those diverse boundaries. Whilst the importance of brokers and brokerage is widely acknowledged within educational practice, academic literature has not reflected this importance. Brokerage can present opportunities and challenges in equal measures which makes it possible for schools to engage in dialogue and negotiate meaning of a particular situation.

The role of boundaries have evidently impacted how I view my practice and how I aim to develop my role in the future. Whilst the four dialogical learning mechanisms, identification, coordination, reflection and transformation (Akkerman & Bakker, 2011) taking place at the boundaries helped me to acknowledge my role as a successful boundary crosser, it is actually the meta-awareness of my role as a broker that impacted the educational brokerage machinery. Through my work I propose that ‘broker meta-awareness’ to be considered as an integral component when exploring dialogical learning mechanism to impact educational brokerage. The meta-awareness is a form of knowledge of the self which will help the quality of people doing boundary crossing. I have specifically demonstrated the impact of meta-awareness within coordination mechanism.

Coordination required *communicative connection, efforts of translation, increasing boundary permeability* and *routinization* (ibid). The boundary objects like the digital mysteries ensured this dialogical interactions was kept continuous across diverse cultural domains both by teachers and students and helped in the exchange of knowledge. The issue with the digital mysteries was that students and teachers interpreted its presence according to their understanding. So there was a need to decode the role of these mysteries and generate a shared meaning. This called for *translation* so that everyone understood the role of the boundary object. As the boundary crosser I was able to facilitate the translation mechanism in the initial phase. As work progressed the digital mysteries were able to fulfil this translation job by themselves. I repeatedly crossed boundaries to enhance *boundary permeability* and in cases when there was differing cultural system I was able to adapt to rituals and practices to ensure effortless movement through those boundaries was possible. My research work in India and the Open day events in schools are examples of enhanced boundary permeability.

Routinization was achieved with procedures that systemized the practice. Hum_NMS got comfortable with PBL activities and during second and third action research cycle was able to continue the activity without any external support from me. Digital technologies as boundary objects also helped to embed routinization. Whilst the mysteries did systemize the process, they also provided a degree of personalization where students were able interpret its use in order to share their opinions with their peers. Through personal movement and the movement of boundary object I was able to traverse through different sites within an organization.

Coordination activities also impacted ecological agency. Agency is a personal capacity to act whereas ecological agency is action that occurs when the contingencies of the environment is also considered (Biesta & Tedder, 2007) and is achieved in particular transactional situations (Priestley et al., 2012). Through my work I have been able to impact some of the social structure through *coordination* and by facilitating *boundary permeability*. This has ensured that learning is more joined up. By increasing connections like organizing open day events, linking teachers from different schools I have been able to increase network connectivity for schools.

I have also come to recognize the importance of personal agency. Understanding one's action in terms of its consequences and repercussions indicates high levels of personal agency (Vallacher & Wegner, 1989) and through my meta-awareness I have established the importance of personal agency to influence change. I have demonstrated my personal agency by tapping into my assets like community links, cultural contacts and academic experts to impact my research. Through one-to-one interactions I have collaborated with teachers to impact their teaching practice. Giving attention to detail has helped in sorting out glitches and bottlenecks in the activity. I have demonstrated that along with ecological agency, high levels of personal agency is important to the whole brokerage process. Employing my personal agency meant that I am now able to understand the distinction between self and the environment and take into account the resources available to initiate action.

Akkerman & Bakker (2011) mention that it is easier to create something hybrid rather than trying to embed it within practice. I understood the implication of this sentence as I reflected on my work to date. I realized that what I was causing was more of a disturbance in the school eco-system. To create *transformation*, disturbances require intensity and support.

Schools are a representation of the communities, people and places where they are situated. Facer & Buchczyk (2019) mention that learning is not an outcome of the schools alone but is an intertwined practices of cultures, communities and places. Considering

schools have interlinked eco-systems, transformation will require enormous resources and infrastructure support. Thus, we need to revisit our understanding of what education means, where can one exchange knowledge and who facilitates these exchanges. Brokerage and mediations systems are ‘meta-infrastructure organizations’ (ibid) that have emerged to support access to learning resources and are essential for resources to be knitted and mobilized. So educational brokerage is inching forward but it is not at a point to make a breakthrough because of the threshold. This is where my future ambitions lie to impact the system level of ecology. The current pandemic has highlighted the fractured nature of political working due to the absence of efficient brokerage mechanisms to coordinate information and resources. Evidence from the media points to the lack of information coordination between the central and local policy teams, between scientific advisors and political administrators and between schools and the government. Thus, it is important to first recognize and acknowledge the diversity of eco-systems that individuals and schools are interacting with. Next step is to develop decentralized approaches to facilitate the creation of learning infrastructure (ibid). This approach requires us to rethink our engagement with brokers and brokerage practice. I envisage that the role of digital technologies will be key in impacting brokerage practice especially in trying to bridge information gap. What digital technologies lack is the ability to engage in affective, context-aware interactions and brokers can ably perform that role.

Schools are peculiarly introverted and it is only through brokerage can we help them to become more outward facing. For it is only within outward facing schools we can expect transformation mechanisms to become active. Outward facing schools generate learning through participation rather than by acquisition. Doing so will also help schools to open up to the possibility of generating bigger range of learning outcomes that are typically regarded soft skills but relates to complex identities of self-esteem and positive self-concepts. Such transformation will most certainly require explicit forms of brokerage with brokers who having a meta-awareness of their role to maneuver their presence across diverse socio-cultural domains.

10

Conclusion

Chapter 10. Conclusion

This chapter concludes my research thesis. I would like stress here that this ending only brings coherency to my research journey and it no way signifies the end of my personal learning journey. As I write this chapter, I have simultaneously begun a new period in my practice – becoming a conscious educational broker, constantly learning and improving my role and my practice.

Throughout my thesis I have consciously embraced the messiness of data and the disorderliness of relationships. In embracing the messiness I have been able to make sense of the data and the relationships that I forged in my role as a broker, practitioner and researcher. In this chapter I summarize my thesis by responding to the research questions that I laid out early on in the research. I will aim to provide the impact of my thesis on my practice, as well as discussing the limitations and possible new lines of inquiry for future work.

My overarching motivation was to understand and define; what constitutes educational brokerage, how does one establish their broker practice, and how can digital technologies help educational brokers to innovate their practice. This research motivation was expressed as research question in Chapter 1 as below.

1. What is my practice and how I do I establish it?
2. How I describe my practice and improve it?
3. How are my epistemological and ontological values being reflected in my practice?
4. How is the use of digital technology impacting my practice?
5. How do I move from a categorical thinking to embrace dialogical thinking about my practice?
6. How is my practice impacting students, teachers and other practitioners?

Engaging in reflexivity throughout the research process helped me to answer specific aspects of my research questions. This further led me to develop the guide chart and test its efficacy and authenticity. I have tested the efficacy and authenticity with a group of researcher-practitioners to understand its real-world value and implications for communities of practice as seen in chapter 9.

10.1.1. Impact on my practice.

Working on this thesis has significantly impacted my practice and reshaped my thinking regarding service delivery mechanisms in the education sector in England. Freirean lens on

praxis, power and conscientisation (Freire, 1970a, 1970b, 1974) helped me to deconstruct the nature of my work which in turn helped me to gain meaningful insights about my practice and to confidently situate my work within the realms of educational brokerage. Engaging in self-study action research has meant that practitioners like myself can now offer the documentation of our professional practice as living educational theories.

I was able to translate my values into action through my practice and also convert the abstract to real to serve as my living standard of judgement (McNiff & Whitehead, 2005). The authenticity of claims to knowledge has been tested by engaging with academic literatures, educational research, engaging in discussions with colleagues, teachers and students, inviting critique from domain experts and peers and by publishing my work in the academic domain (Sarangapani et al., 2016, 2018, 2019).

The significance of my thesis lies in my capacity to critically engage with my work which is evidenced through my personal and professional transformation. In doing so I am able to initiate my consciousness and ensure that my actions and decisions are informed and conscious. By developing my own living educational theory, I am now able to challenge centralized notions to knowledge generation. This is my original contribution, of generating my own living theory where I understand, establish and improve my practice and reify my position as a conscious educational broker.

I have moved away from trying to fit my practice into a fixed framework, to that of a critical practice, where I see my work as something that is evolving and one that reflects my personal and educational values. I chose learning approaches like PBL as it embodies values and beliefs that I subscribe to especially that of social constructivism.

The action research cycles helped me to reconcile my position as an insider and recognize my expertise to work across diverse cultural domains where my values have informed my thinking. This has made me a reflexive practitioner and my current practice evidences this reflexivity. The action research cycles helped me to acknowledge tacit aspects of my practice and applying Freirean lens of critical consciousness (Freire, 1974) helped me to challenge my internalized oppression that had masked the tacit aspects of my practice.

By reflecting on my practice as a whole, I was able to address issues relating to marginality (Clifton, 1979; Hendry, 1975; Stonequist, 1935), and thus establish my voice and agency. This has further helped me to engage and tap into not just my personal agency (Vallacher & Wegner, 1989) but also the ecological agency (Priestley, Edwards, Priestley, & Miller, 2012) present around me.

Having reconceptualised my identity I have realised that the various roles that I have performed to date, that of a practitioner, researcher and educator are all fundamental to my practice. This realisation encouraged me to move towards a deliberate form of brokerage that I call conscious-brokerage. Embracing the conscious-brokerage approach has meant that I now acknowledge the vital role of my practice in the education system. This learning has also made me mindful of my measured, intentional and purposeful decision-making approach. Doing so has helped me to change the form of logics that I used previously to motivate the development of my practice. I have begun to situate my conscious-brokerage within existing organisational frameworks and offer my service as a dialogical process where I am able to stay close to my values. Increasingly I have come to value my practice as something that is relevant, significant and distinct and one that supports student learning and teacher practice simultaneously.

The use of digital technologies helped me to establish my expertise as a researcher with educators and with peers in academia. To understand the impact of digital technologies on my practice, I explored its influence on student learning in two specific areas: peer-feedback and deep learning.

I have realized that whilst it is difficult to bring about an overall change to education systems as a result of one research project, it is certainly possible to see incremental impact through such research initiatives. My research has also shown that it is possible for technology-mediated PBL approaches to coexist peacefully within diverse and divergent education systems. If we are to change learning systems, we must offer novel approaches that are flexible and easily assimilable within existing structures and most importantly ensure brokers are able to interpret the approaches within those structures. Through my role I have developed a cohesive approach where the cognitive and affective aspects of learning are leveraged to meaningfully embed cross-cultural learning within school curriculum using technology-mediated PBL approaches.

I have come to understand my conscious-brokerage process by engaging in decision making that is deliberate, dialogical, inclusive and measured. This has helped me to design the educational brokerage guide chart that embodied my journey as a conscious educational broker. By testing its relevance and with other practitioners, I have been able to validate its value and establish my claims to knowledge.

10.1.2. Limitations and future work

Whilst a majority of the project and decision making was made collaboratively, the information in this thesis specifically represents my experience. The research descriptions in the action research cycles in chapters 5, 6 and 7, evidence my journey and describe my experiences. This thus limits our understanding of participants' perception who took part in this journey i.e. teachers, students, parents and other practitioners. Therefore this thesis reflects only part of the picture, captured through the lens of my consciousness. The guide chart that I have developed; the learning approaches like PBL; and digital technologies like content creation tools; are some of the avenues that I present to explore and embed educational brokerage. I would like my future work to explore other configurations of digital technologies and learning approaches that practitioners could use and possibly practitioners could also come up with their own guide chart that embodies their tacit into explicit. Whilst I have been successful in understanding the brokerage practice and the different elements that make up the practice (chapters 5, 6, 7 and 8), I would like to carry out further work focussed on collaborative data analysis and reflection to help create communities of practice focussed on educational brokerage.

Another limitation was around generalizability and replicability. My research sought to understand what my role is, establish a shared language to define my work and in doing so create an identity for my practice. It would be impractical to try and generalize my work or use the data to replicate the findings. This is due the fact that my study involved a deepening of my critical understanding of my practice in a specific context with a definite set of participants. It is impossible to replicate the findings as my actions cannot be considered in isolation as they were performed in a certain context with a set of people with whom I have a specific relationship. My research welcomes practitioners to take my findings and extend its offerings on educational brokerage as a form of practice to suit their needs. But this does not imply generalizability or replicability. For example I presented my 'factors affecting brokerage guide chart' to my lab colleagues who are working as researcher-practitioners in schools.

Another aspect is the configuration of the whole brokerage process which gave me very little space to explore the role and impact of PBL processes and digital technologies on schools as a whole. So the whole guide chart was focussed on the process of redefining the service delivery of educational brokerage. Future work could look at developing this guide chart into some form of framework and aid in the active creation of communities of practice.

The work that I have carried out is highly subjective and dependent on external factors like collaborators. Whilst this would impact the generalizability and replicability of my study, nevertheless, the shared vocabulary that I have developed through my guide chart would help other practitioners to have a starting point to design their service delivery mechanisms within areas of educational brokerage. I hope to reflect on other brokerage areas taking place in diverse cultural contexts and I would be interested in applying my guide chart in those situations to expand my work beyond educational brokerage. Finally, I see this thesis as an end to one form of learning journey and the start of another. I hope for my learning journeys to be continuous and perennial.

Appendices

Appendices

Appendix I - Information Sheet

Content Creation for Cross-Cultural Learning

We are inviting participation to take part in a research run by Newcastle University to explore how cross-cultural learning takes place within classroom environment through the use of new digital technologies.

Please read the following information to know more about the research.

Purpose of the research

We want to understand how schools learn and share knowledge about people hailing from different cultures, background and heritage. We call this cross-cultural learning. Our project wants to explore to what extent technology can support in developing resources for cross-cultural learning within classroom environments. Teachers will set a task for the students and provide access to specific application that students can access on their devices such as iPads or desktops. Students will be required to complete the task using certain digital applications by collaborating with their friends and/or family members. The information that students generate as a response to the task is called resources. Our work is to analyze these resources and the interactions that students engage in classrooms when they are working on this task. Our research aim is to understand the role of technology to build resources for cross-cultural learning.

Procedures

The study will take part in the classroom within their curricular learning. The researcher and teachers together will develop a plan on the use of technology in subject areas as Geography, History and RE (Religious Education). Teachers will set tasks that students may need to complete individually or in groups. During the course of completing their coursework, children will be required to use specific application such as Digital Mysteries and Bootlegger to complete their coursework. (*Information about these applications can be found on the following websites www.reflectivethinking.com and www.bootlegger.tv*) These applications were developed by researchers at Newcastle University and have been widely used for

learning purposes. Digital Mysteries have over 300,000 downloads from schools across the world and, BBC is currently looking to pilot certain versions of Bootlegger.

A key aspect of this project is to look at how schools can strengthen community and parental involvement. We have thus designed tasks where students will be given opportunity to work with their family members or interact with community members who visit the school.

Children will be invited to take part in interviews to provide their feedback. The research team will also take audio-video recordings and photographs to document the work that is taking place between students and teachers.

Audio-visual information where the student is not individually identifiable will be used for the following.

- To share it with the research community to develop knowledge on how to use technology for cross-cultural learning within classroom environments.
- To use those resources developed during the length of the research as teaching/learning materials with the wider learning community.
- Short-clips from videos/audio and photographs would be used in articles, academic publications and presentations within learning forums.
- Short-clips from videos/audio and photographs would be used on University websites and other appropriate avenues to inform about research on cross-cultural learning and use of technology for the same.

Benefits

The data collected will help us to understand how to design and use technology within learning environments especially when working on topics such as cross-cultural learning. We hope that the result of our research informs and inspires not just the research community but also teachers and other stakeholders who are interested to use technology for learning.

Risks

There are minimal social, emotional and physical risks involved for participants taking part in the research. We appreciate honest responses but request that all involved respect people's confidentiality. If you/your child feel distressed as a result of participating in the study, you/your child can bring this to the attention of the teacher/researcher and we will ensure that

every effort is made to address your concern and ensure the process to be an enjoyable experience for all involved.

Extent of Anonymity

You/your child will be referred with participant id e.g. Student 1, Student 2 etc. instead of any of your identifying information such as your name. The study recordings will be kept on computers accessed only by the research team.

Freedom to withdraw

Participation is completely voluntary and you/your child can withdraw from the research at any time. We will provide information about the study and give an opportunity for questions at the beginning of the session, and we will check that everyone is okay to continue. Likewise you can exit from the research process at any time with no explanation. You can also withdraw in the future after completing the research and we will ensure not to use your participation in our data analysis,

After reading this information, if you/your child would like to take part, please complete the attached informed consent form. You will be provided with a copy of the form for your own records and a member of the research team will retain one copy.

If you have any further questions regarding your participation in this project you can contact the school and/or the researchers for more information or clarification. Researcher contact details are as below.

Vidya Sarangapani
Doctoral Researcher
Open Lab
School of Computing Science
Newcastle University
89 Sandyford Road
Newcastle upon Tyne
NE1 8HW

Prof. David Leat
Prof of Curriculum Innovation
School of ECLS
King George VI Building
Newcastle University
Queen Victoria Road
Newcastle upon Tyne

Appendix 2 – Participant Debrief

We hope you have enjoyed participating in the study ‘Content Creation for Cross-Cultural Learning’. On behalf of the whole research team, I would like to thank you for your participation.

As a reminder, I would like to share with you what will happen next with the information we have collected based on your participation in the study and provide you with some more details about how you can access the results from the project.

What was the purpose of this project?

By participating in the study and providing us with different information through video, questionnaires and interviews, you have helped us to learn more on how digital technologies can be better used by schools for the purpose of cross-cultural learning. Your valuable contribution will help the teachers, students, parents and the wider community build new ideas and pathways to engage in teaching and learning.

What will happen to the information that I provided?

The information collected during the study has been stored securely at Newcastle University and will be securely handled by the researcher. All the information will be treated as confidential which means you will not be identified by name or use any personal information relating to you. We will use the information in our study to look at how cross-cultural learning and digital technologies work to benefit young people and teachers in schools.

How and when will the results be available and how will we share them?

The results will be analysed over the next few months and will be made available in the form of conference presentations, written reports and through the official Newcastle University/School website and social media channels.

Is individual feedback available?

We are unable to offer you individual feedback on your specific participation, as we will combine the findings from the study to consider the group as a whole. You can check out the Newcastle University website or the School Website to find out more about the results of the study.

Who should I contact if I would like further information?

You are welcome to ask any questions at any time to the research team, even after the study is completed. You can also withdraw your participation even after the work is completed and we will exclude your participation in our data analysis and findings. If you would like to contact us again, please use the following details. You can also contact your own schoolteachers to gain more information regarding the study and its findings.

Appendix 3 – Student/Participant Consent Form

I agree to participate in this study being carried out by Newcastle University

- I have read and understood the information sheet about the project
- I have been given the opportunity to ask questions about the project and my participation
- I voluntarily agree to participate in the project
- I understand that I can withdraw at any time by voicing my concern to the teacher/researcher and that I will not be penalised for doing so.
- I understand that the information collected for this study will be used only for research purposes.
- I understand that the data collected for this study will be stored in a secure location in Newcastle University.
- I understand that my name will not be used on any documents or in any presentations about the research.
- I understand that all the study sessions will be video/audio recorded.
- I understand that the audio, videos and photographs will be accessible only to the research team.
- I understand that materials developed, as coursework will be shared with the wider learning community.
- I understand and agree for short audio-video clips or photographs can be used in articles, presentations, and/or university websites about the research. I also understand that such clips will not contain any personal information about the student.

I understand that the copyright of any audio-visual materials, which are generated as a result of this learning session, shall be assigned to Newcastle University. This consent form covers any use of the audio-video recordings and photographs by the research team starting from the date you sign this form.

Name (in Capitals)

Signed

Date:

If you have any further questions regarding your participation in this project you can contact the school and/or the researchers for more information or clarification.

Appendix 4 – Parent/Guardian Consent Form

The research will only consider the involvement of children below the age of 16 to take part in the study if written consent from parent(s) or carer(s) has been granted.

- I have read and understood the information sheet about the project
- I have been given the opportunity to ask questions about the project and my/my child's participation
- I voluntarily agree towards the participation of my minor in the project
- I understand that my minor can withdraw at any time by voicing his/her concerns to the teacher/researcher and that he/she will not be penalised for withdrawing from the research.
- I understand that the personal information collected for this study will only be used research purposes.
- I understand that the data collected for this study will be stored in a secure location in Newcastle University.
- I understand that the minor's name will not be used on any documents or in any presentations about the research.
- I understand that all the study sessions will be video/audio recorded.
- I understand that the audio, videos and photographs will only be viewed by the research team.
- I understand that materials developed, as a part of classwork/homework will be shared with the wider learning community.
- I understand and agree for short audio-video clips or photographs where the child is not identifiable can be used in articles, presentations, and/or university websites about the research.

I understand that the copyright of any audio-visual materials, which are generated as a result of this learning session, shall be assigned to Newcastle University. This consent form covers any use of the audio-video recordings and photographs by the research team starting from the date you sign this form.

Name of minor (in capitals):

Name of the parent/carers (in capitals):

Signature:

Date:

If you have any further questions regarding your participation in this project you can contact the school and/or the researchers for more information or clarification

Bibliography

Bibliography

- Ackermann, E. K. (2001). Piaget's Constructivism , Papert's Constructionism : What's the difference ? *Future of Learning Group Publication*, 5(3), 438.
- Adelman, C. (1993). Kurt Lewin and the Origins of Action Research. *Educational Action Research*, 1(1), 7–24. <https://doi.org/10.1080/0965079930010102>
- Adelstein, J. (2007). Disconnecting knowledge from the knower: the knowledge worker as Icarus. *Equal Opportunities International*, 26(8), 852–871. <https://doi.org/10.1108/02610150710836172>
- Adichie, C. N. (2009). The Danger of a Single Story.
- Adichie, C. N. (2014). *We Should All Be Feminists*. Fourth Estate.
- Akkerman, S. F., & Bakker, A. (2011). Boundary Crossing and Boundary Objects. *Review of Educational Research*, 81(2), 132–169. <https://doi.org/10.3102/0034654311404435>
- Al-Balushi, S. M., & Al-Aamri, S. S. (2014). The effect of environmental science projects on students environmental knowledge and science attitudes. *International Research in Geographical and Environmental Education*, 23(3), 213–227.
- Al-Saadi, H. (2014). *Demystifying Ontology and Epistemology in Research Methods*. Unpublished Doctoral Research Thesis. University of Sheffield.
- Aldrich, H. (1982). The origins and Persistence of Social Networks: A Comment. In P. V Marsden & N. Lin (Eds.), *Social Structure and Network Analysis*. (First). SAGE Publications.
- Attia, M., & Edge, J. (2017). Be(com)ing a reflexive researcher: A developmental approach to research methodology. *Open Review of Educational Research*, 4(1), 33-45.
- Avis, J. (2009). Further education in England: the new localism, systems theory and governance. *Journal of Education Policy*, 24(5), 633–648. <https://doi.org/10.1080/02680930903125137>
- Baker, R. S., Corbett, A. T., Koedinger, K. R., & Wagner, A. Z. (2004). Off-task behavior in the cognitive tutor classroom: When students “game the system.” In *CHI '04* (pp. 383–390).
- Bakhtin, M. M. (1981). *The Dialogic Imagination*. (M. Holquist, Ed.), *Discourse*. Austin: University of Texas Press. <https://doi.org/10.1371/jour->
- Ball, S. (2013). *Foucault, power, and education*. Routledge. <https://doi.org/10.4324/9780203078662>

- Ball, S. (2018). The tragedy of state education in England: Reluctance, compromise and muddle— a system in disarray. *Journal of the British Academy*, 6, 207–238.
<https://doi.org/10.5871/jba/006.207>
- Ball, S. J. (2003). The teacher's soul and the terrors of performativity. *Journal of Education Policy*, 18(2), 215–228. <https://doi.org/10.1080/0268093022000043065>
- Bardzell, S., & Bardzell, J. (2011). Towards a feminist HCI methodology: Social science, feminism, and HCI. In *Conference on Human Factors in Computing Systems - Proceedings* (pp. 675–684).
- Barker, I. (2016). Teachers warn Nicky Morgan of racism in schools following Brexit vote. Retrieved August 1, 2016, from <https://www.tes.com/news/school-news/breaking-news/teachers-warn-nicky-morgan-racism-schools-following-brexit-vote>
- Bath, C. (2009). When does the action start and finish? Making the case for an ethnographic action research in educational research. *Educational Action Research*, 17(2), 213–224.
<https://doi.org/10.1080/09650790902914183>
- Bell, S. (2010). Project-Based Learning for the 21st Century: Skills for the Future. *The Clearing House*, 83, 39–43.
- Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219–234.
- Biesta, G., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching: Theory and Practice*, 21(6), 624–640.
- Biesta, G., & Tedder, M. (2007). Agency and learning in the lifecourse: Towards an ecological perspective. *Studies in the Education of Adults*, 39, 132–149.
<https://doi.org/10.1080/02660830.2007.11661545>
- Biggs, J. (1991). Approaches to Learning in Secondary and Tertiary Students in Hong Kong: Some Comparative Studies. *Educational Research Journal*, 6, 27–39.
- Biggs, J.B., & Kirby, J. R. (1983). Approaches to Learning in Universities and CAEs. *Vestes*, 26(2), 3–9.
- Biggs, John B. (1987). *Student Approaches to Learning and Studying*. Melbourne: Australian Council for Educational Research Ltd.
- Blumenfeld, P., Soloway, E., Marx, R., Krajcik, J., Guzdial, M., & Palincsar, A. (1991). Motivating Project-Based Learning: Sustaining the Doing, Supporting the Learning. *Educational Psychologist*.
- Bourdieu, P. (1990). *The Logic of Practice*. Oxford: Polity Press.
- Bradley, L. (2014). Peer-reviewing in an intercultural wiki environment - student interaction

- and reflections. *Computers and Composition*, 34, 80–95.
<https://doi.org/10.1016/j.compcom.2014.09.008>
- Bragg, S., & Manchester, H. (2011). *Creativity, School Ethos and the Creative Partnerships programme*.
- Braun, V., & Clarke, V. (2008). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Brooks, M., & Holmes, B. (2014). *Equinox Blueprint- Learning 2030*. Ontario.
- Brown, N. C. C., Sentance, S., Crick, T., & Humphreys, S. (2014). Restart: The resurgence of computer science in UK schools. *ACM Transactions on Computing Education*, 9(1), 9–22. <https://doi.org/10.1145/2602484>
- Brydon-Miller, M., Greenwood, D., & Maguire, P. (2003). Why Action Research? *Action Research*, 1(1), 9–28. <https://doi.org/10.1177/14767503030011002>
- Bullough, R. V., & Pinnegar, S. (2001). Guidelines for Quality in Autobiographical Forms of Self-Study Research. *Educational Researcher*, 30(3), 13–21.
<https://doi.org/10.3102/0013189x030003013>
- Burns, A. (2009). Qualitative Research in Applied Linguistics: A Practical Introduction. In J. Heigham & R. Croker (Eds.), *Qualitative Research in Applied Linguistics: A Practical Introduction*. Palgrave Macmillan. <https://doi.org/10.1057/9780230239517>
- Cambridge Primary Review. (2009). *Children, their World, their Education*. (R. Alexander, Ed.). Routledge.
- Cheng, A., Yang, L., & Andersen, E. (2017). Teaching Language and Culture with a Virtual Reality Game. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems - CHI '17* (pp. 541–549). New York, New York, USA: ACM Press.
<https://doi.org/10.1145/3025453.3025857>
- Chin, C., & Brown, D. (2000). Learning in Science: A Comparison of Deep and Surface Approaches. *Journal of Research in Science Teaching*, 37(2), 109–138.
- Ching, Y.-H., & Hsu, Y.-C. (2013). Peer Feedback to Facilitate Project-Based Learning in an Online Environment. *International Review of Research in Open and Distance Learning*, 14(5), 258–276.
- Chisholm, I. M. (1995). Computer Use in a Multicultural Classroom. *Journal of Research on Computing in Education*, 28(2), 162–174.
- Clarke, E. (2015). “As experienced teachers, we should not have to plan lessons. Most of the best classes are improvised.”
- Clarricoates, K. (1981). The experience of patriarchal schooling. *Interchange*, 12(2–3), 185–

205. <https://doi.org/10.1007/BF01192115>

Clifton, R. A. (1979). Practice Teaching: Survival in a Marginal Situation. *Canadian Journal of Education / Revue Canadienne de l'éducation*, 4(3), 60–74.

<https://doi.org/10.2307/1494478>

Coghlan, D. (2001). Insider Action Research Projects: Implications for Practising Managers. *Management Learning*, 32(1), 49–60.

Cook, T. (1998). The importance of mess in action research. *Educational Action Research*, 6(1), 93–109. <https://doi.org/10.1080/09650799800200047>

Cook, T. (2009). The purpose of mess in action research: Building rigour though a messy turn. *Educational Action Research*, 17(2), 227–291.

<https://doi.org/10.1080/09650790902914241>

Crozier, G., & Davies, J. (2007). Hard to reach parents or hard to reach schools? A discussion of home–school relations, with particular reference to Bangladeshi and Pakistani parents. *British Educational Research Journal*, 33(3), 295–313.

<https://doi.org/10.1080/01411920701243578>

Currall, S. C., & Epstein, M. J. (2003). The fragility of organizational trust: Lessons from the rise and fall of Enron. *Organizational Dynamics*, 32(2), 193–206.

[https://doi.org/10.1016/S0090-2616\(03\)00018-4](https://doi.org/10.1016/S0090-2616(03)00018-4)

Davies, I., & Chong, E. K. M. (2016). Current challenges for citizenship education in England. *Asian Education and Development Studies*, 5(1), 20–36.

<https://doi.org/10.1108/AEDS-05-2015-0015>

Davis, N. (2005). Intercultural competence for future leaders of educational technology and its evaluation. *Interactive Educational Multimedia*, 10(10), 1–22.

Delpit, L. D. (1988). The silenced dialogue: power and pedagogy in educating other people's children. *Harvard Educational Review*, 58(3), 280–298.

DePalma, R. (2008). “The voice of every Black person”?: Bringing authentic minority voices into the multicultural dialogue. *Teaching and Teacher Education*, 24, 767–778.

<https://doi.org/10.1016/j.tate.2007.08.002>

Department for Education. (2013a). National curriculum in England: computing programmes of study. Retrieved from <https://www.gov.uk/government/publications/national-curriculum-in-england-computing-programmes-of-study/national-curriculum-in-england-computing-programmes-of-study>

Department for Education. (2013b). National curriculum in England: framework for key stages 1 to 4. Retrieved from <https://www.gov.uk/government/publications/national->

curriculum-in-england-framework-for-key-stages-1-to-4

- Department for Education. (2013c). Teaching the new computing curriculum. Retrieved from <https://www.gov.uk/government/news/teaching-the-new-computing-curriculum>
- Dewey, J. (1902). *The School and Society and The Child and the Curriculum*. The University of Chicago Press. <https://doi.org/10.2307/817041>
- Dewey, J. (1986). Experience and education. *Educational Forum*, 50(3), 241–252.
- Dogra, N., & et al. (2005). Teaching of cultural diversity in medical schools in the United Kingdom and Republic of Ireland: cross sectional questionnaire survey. *BMJ*, 330(7488), 403–404.
- Dogra, N., Reitmanova, S., & Carter-Pokras, O. (2010). Teaching Cultural Diversity: Current Status in U.K., U.S., and Canadian Medical Schools. *Journal of General Internal Medicine*, 25(2), S164–S168.
- Dolan, P., Leat, D., Mazzoli Smith, L., Mitra, S., Todd, L., & Wall, K. (2013). Self-Organised Learning Environments (SOLEs) in an English School: an example of transformative pedagogy? *Online Education Research Journal*.
- Dorling, D. (2014). Thinking about Class. *Sociology*, 48(3), 452–462. <https://doi.org/10.1177/0038038514523171>
- Economic Times. (2019). Internet users in India to reach 627 million in 2019.
- Edward.T., H., & Hall, M. R. (1990). *Understanding Cultural Differences*. Intercultural Press Inc.
- Edwards, A. (2005). Relational agency: Learning to be a resourceful practitioner. *International Journal of Educational Research*, 43, 158–182. <https://doi.org/10.1016/j.ijer.2006.06.010>
- Edwards, R., & Fowler, Z. (2007). Unsettling boundaries in making a space for research. *British Educational Research Journal*, 33(1), 107–123. <https://doi.org/10.1080/01411920601104565>
- Eldridge, K., & Cranston, N. (2009). Managing transnational education: Does national culture really matter? *Journal of Higher Education Policy and Management*, 31(1), 67–79. <https://doi.org/10.1080/13600800802559286>
- Entwistle, N. (2000). *Promoting deep learning through teaching and assessment : Conceptual frameworks and educational contexts. TLRP Conference*.
- Eteläpelto, A., Vähäsantanen, K., Hökkä, P., & Paloniemi, S. (2013). What is agency? Conceptualizing professional agency at work. *Educational Research Review*, 10, 45–65. <https://doi.org/10.1016/j.edurev.2013.05.001>

- Facer, K., & Buchczyk, M. (2019). Understanding Learning Cities as discursive, material and affective infrastructures. *Oxford Review of Education*, 45(2), 168–187.
- Fake news and how to spot it to be taught in schools. (2019).
- Feldman, A. (2003). Validity and quality in action research. *Educational Action Research*, 32(3), 26–28. <https://doi.org/10.1080/09650790601150766>
- Finucane, M. L., Peters, E., & Slovic, P. (2003). Judgment and Decision Making: The Dance of Affect and Reason. In S. Schneider & J. Shanteau (Eds.), *Emerging Perspectives on Judgment and Decision Research* (pp. 327–357). Cambridge University Press. <https://doi.org/10.1017/cbo9780511609978.012>
- Florian, L., & Rouse, M. (2009). The inclusive practice project in Scotland: Teacher education for inclusive education. *Teaching and Teacher Education*, 25, 594–601. <https://doi.org/10.1016/j.tate.2009.02.003>
- Freeman, D. (1991). “To make the tacit explicit”: Teacher education, emerging discourse, and conceptions of teaching. *Teaching and Teacher Education*, 7(5/6), 439–454. [https://doi.org/10.1016/0742-051X\(91\)90040-V](https://doi.org/10.1016/0742-051X(91)90040-V)
- Freire, P. (1970a). *Pedagogy of the Oppressed*. Continuum.
- Freire, P. (1970b). The Adult Literacy Process as Cultural Action for Freedom. *Harvard Educational Review*, 40(2), 221–222.
- Freire, P. (1974). *Education for Critical Consciousness*. London: Continuum.
- Freire, P. (1985). *The Politics of Education: Culture, Power, and Liberation*. Bergin & Garvey Publishers.
- Gentemann, K. M., & Whitehead, T. L. (1983). The Cultural Broker Concept in Bicultural Education. *The Journal of Negro Education*, 52(2), 118. <https://doi.org/10.2307/2295029>
- Giroux, H., & McLaren, P. (1986). Teacher Education and the Politics of Engagement: The Case for Democratic Schooling. *Harvard Educational Review*, 56(3), 213–238. <https://doi.org/10.17763/haer.56.3.trr1473235232320>
- Goodman, R., & Burton, D. (2012). What is the nature of the achievement gap, why does it persist and are government goals sufficient to create social justice in the education system? *Education 3-13*, 40(5), 500–514. <https://doi.org/10.1080/03004279.2010.550586>
- Gould, R. V., & Fernandez, R. M. (1989). Structures of Mediation: A Formal Approach to Brokerage in Transaction Networks. *Sociological Methodology*, 19, 89–126. <https://doi.org/10.2307/270949>

- Gresalfi, M. S., Barnes, J., & Cross, D. (2012). When does an opportunity become an opportunity? Unpacking classroom practice through the lens of ecological psychology. *Educational Studies in Mathematics*, 80(1–2), 249–267.
- Grinyer, A. (2002). The anonymity of research participants. *Pan-Pacific Management Review*, 12(1), 49–58.
- Grundy, S., & Kemmis, S. (1981). *The Action Research Reader*. Geelong: Deakin University Press.
- Hahn, C. L. (2015). Teachers' perceptions of education for democratic citizenship in schools with transnational youth: A comparative study in the UK and Denmark. *Research in Comparative and International Education*, 10(1), 95–119.
<https://doi.org/10.1177/1745499914567821>
- Hargreaves, A. (2005). Educational change takes ages: Life, career and generational factors in teachers' emotional responses to educational change. *Teaching and Teacher Education*, 21(8), 967–983. <https://doi.org/10.1016/j.tate.2005.06.007>
- Harris, R., & Reynolds, R. (2014). The history curriculum and its personal connection to students from minority ethnic backgrounds. *Journal of Curriculum Studies*, 46(4), 464–486. <https://doi.org/10.1080/00220272.2014.881925>
- Hatch, J. A., & Wisniewski, R. (Eds.). (2002). *Life history and narrative* (2nd Editio). The Falmer Press.
- Hatcher, R. (2005). The distribution of leadership and power in schools. *British Journal of Sociology of Education*, 26(2), 253–267.
- Heikkinen, H. L. T., Huttunen, R., & Syrjälä, L. (2007). Action research as narrative: five principles for validation. *Educational Action Research*, 15(1), 5–19.
- Helle, L., & et al. (2006). Project-based learning in post-secondary education - Theory, practice and rubber sling shots. *Higher Education*, 51(2), 287–314.
<https://doi.org/10.1007/s10734-004-6386-5>
- Hendry, L. B. (1975). Survival in a Marginal Role: The Professional Identity of the Physical Education Teacher. *The British Journal of Sociology*, 26(465–476).
<https://doi.org/10.2307/589823>
- Henry, H. (2018). Increase in racism in schools since Brexit.
- Hermans, H., & Hermans-Jansen, E. (1995). *Self Narratives: The Construction of Meaning in Psychotherapy*. New York, New York, USA: The Guildford Press.
- Hermans, H. J. M. (2001). The Dialogical Self: Toward a Theory of Personal and Cultural Positioning. *Culture and Psychology*, 7(3), 243–281.

<https://doi.org/10.1177/1354067X0173001>

- Herskovits, M. J. (1948). *Man and His Works: The Science of Cultural Anthropology*. New York: Alfred A. Knopf.
- Hill, M. E., & Augoustinos, M. (2001). Stereotype change and prejudice reduction: short- and long-term evaluation of a cross-cultural awareness programme. *Journal of Community & Applied Social Psychology, 11*(4), 243–262.
- Hirsch, P., & Lloyd, K. (2005). Real and Virtual Experiential Learning on the Mekong: Field Schools, e-Sims and Cultural Challenge. *Journal of Geography in Higher Education, 29*(3), 321–337.
- Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn? *Educational Psychology Review*. <https://doi.org/10.1023/B:EDPR.0000034022.16470.f3>
- Hodgson, A., & Spours, K. (2013). Tackling the crisis facing young people: building “high opportunity progression eco-systems” Tackling the crisis facing young people: building “high opportunity progression eco-systems.” *Oxford Review of Education, 39*(2), 211–228. <https://doi.org/10.1080/03054985.2013.787923>
- Hofstede, I. (2019). Country Comparison. Retrieved from <https://www.hofstede-insights.com/country-comparison/india,the-uk/>
- Hofstede, G. (1983). The Cultural Relativity of Organizational Practices and Theories. *Journal of International Business Studies, 14*(2), 75–89.
- Hofstede, G. (1986). Cultural differences in teaching and learning. *International Journal of Intercultural Relations*. [https://doi.org/10.1016/0147-1767\(86\)90015-5](https://doi.org/10.1016/0147-1767(86)90015-5)
- Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*. <https://doi.org/10.9707/2307-0919.1014>
- Holubova, R. (2008). Effective teaching methods — Project-based learning in physics. *US-China Education Review, 5*(12), 27–36.
- Howard, P., Becker, C., Wiebe, S., Carter, M., Gouzouasis, P., McLarnon, M., ... Schuman, L. (2018). Creativity and pedagogical innovation: Exploring teachers’ experiences of risk-taking. *Journal of Curriculum Studies, 50*(6), 350–364.
- Howard, S. K. (2013). Risk-aversion: Understanding teachers’ resistance to technology integration. *Technology, Pedagogy and Education, 22*(3), 357–372.
- Hugerat, M. (2016). How teaching science using project-based learning strategies affects the classroom learning environment. *Learning Environments Research, 19*(3), 383–395.
- Hunjan, R., & Pettit, J. (2011). *Power: A Practical Guide for Facilitating Social Change*. Carnegie United Kingdom Trust.

- Hunt, F. (2012). *Global Learning In Primary Schools In England: Practices And Impacts*. London.
- Hursh, D. (2000). Neoliberalism and the Control of Teachers, Students, and Learning : The Rise of Standards, Standardization, and Accountability. *Cultural Logic: A Journal of Marxist Theory & Practice*, 7.
- Ibarra, H. (1999). Provisional Selves: Experimenting with Image and Identity in Professional Adaptation. *Administrative Science Quarterly*, 44(4), 764–791.
- Ingulsrud, J. E., Kai, K., Kadowaki, S., Kurobane, S., & Shiobara, M. (2002). The assessment of cross-cultural experience: Measuring awareness through critical text analysis. *International Journal of Intercultural Relations*.
- Irani, L., & Dourish, P. (2009). Postcolonial interculturality. *IWIC '09 Proceedings of the 2009 International Workshop on Intercultural Collaboration*, 249–252.
- Irani, L., Vertesi, J., Dourish, P., Philip, K., & Grinter, R. E. (2010). Postcolonial Computing: A Lens on Design and Development. *Proceedings of the 28th International Conference on Human Factors in Computing Systems - CHI '10*, 1311.
<https://doi.org/10.1145/1753326.1753522>
- Jackson, N. (2003). Engaging and Changing Higher Education through Brokerage (pp. 3–20). Ashgate Publishing Co.
- Jensen, S. Q. (2011). Othering, identity formation and agency. *Qualitative Studies*, 2(2), 63–78.
- Johns, C. (2017). *Becoming a Reflective Practitioner*. (C. Johns, Ed.). Wiley Blackwell.
- Jones, A. C., Scanlon, E., & Clough, G. (2013). Mobile learning: Two case studies of supporting inquiry learning in informal and semiformal settings. *Computers and Education*, 61(1), 21–32.
- Jones, M., & Stanley, G. (2010). Collaborative action research: A democratic undertaking or a web of collusion and compliance? *International Journal of Research and Method in Education*, 33, 151–163.
- Kahn, P., & Rourke, K. O. (2005). Understanding Enquiry-Based Learning. *Learning*, 1–12.
- Kaldi, S., Filippatou, D., & Govaris, C. (2011). Project-based learning in primary schools : effects on pupils ' learning and attitudes. *Education 3-13 : International Journal of Primary , Elementary and Early Years Education*, 39(1), 35–47.
<https://doi.org/10.1080/03004270903179538>
- Kelly, A. (2009). Globalisation and education: a review of conflicting perspectives and their effect on policy and professional practice in the UK. *Globalisation, Societies and*

- Education*, 7(1), 51–68. <https://doi.org/10.1080/14767720802677333>
- Kharrufa, A., Leat, D., & Olivier, P. (2010a). Digital Mysteries : Designing for Learning at the Tabletop. In *ITS'10* (pp. 197–206).
- Kharrufa, A., Leat, D., & Olivier, P. (2010b). Digital mysteries. In *ACM International Conference on Interactive Tabletops and Surfaces - ITS '10* (pp. 197–206). New York, New York, USA: ACM Press.
- Kharrufa, A., Olivier, P., & Leat, D. (2010). Learning Through Reflection at the Tabletop: A Case Study with Digital Mysteries. *Proc. World Conference on Educational Multimedia, Hypermedia and Telecommunications 2010*, 665–674.
- Kim, Y., Baylor, a. L., & Shen, E. (2007). Pedagogical agents as learning companions: The impact of agent emotion and gender. *Journal of Computer Assisted Learning*, 23(3), 220–234. <https://doi.org/10.1111/j.1365-2729.2006.00210.x>
- Kim, Yanghee. (2009). Minority parental involvement and school barriers: Moving the focus away from deficiencies of parents. *Educational Research Review*, 4(2), 80–102. <https://doi.org/10.1016/j.edurev.2009.02.003>
- Knight, R. (2019). The tensions of innovation: experiences of teachers during a whole school pedagogical shift. *Research Papers in Education*, 1–23.
- Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. *Improving Schools*, 19(3), 267–277. <https://doi.org/10.1177/1365480216659733>
- Kollar, I., Wecker, C., Fischer, F., Kohnle, C., & Slotta, J. (2007). Are core objectives of web-based collaborative inquiry learning already core learning prerequisites? The case of argumentation competences and computer literacy? In *8th International Conference on Computer Supported Collaborative Learning* (pp. 382–384).
- Krumer-Nevo, M., & Sidi, M. (2012). Writing against othering. *Qualitative Inquiry*, 18(4), 299–309. <https://doi.org/10.1177/1077800411433546>
- Kubiak, C. (2009). Working the Interface: Brokerage and Learning Networks. *Educational Management Administration & Leadership*, 37(2), 239–256. <https://doi.org/10.1177/1741143208100300>
- Kwah, H. (2012). How commercial and “violent” video games can promote culturally sensitive science learning: Some questions and challenges. *Cultural Studies of Science Education*, 7(4), 955–961.
- Lagemann, E. C. (2000). *An Elusive Science: The Troubling History of Education Research*. University of Chicago Press. <https://doi.org/10.2307/2675213>

- Lakkala, M., Ilomäki, L., Lallimo, J., & Hakkarainen, K. (2002). Virtual communication in middle school students' and teachers' inquiry. In *Conference on Computer Support for Collaborative Learning: Foundations for a CSCL Community* (pp. 443–452).
- Langhe, B. de, & Fernbach, P. (2019). The Dangers of Categorical Thinking. *Harvard Business Review*.
- Lasky, S. (2005). A sociocultural approach to understanding teacher identity, agency and professional vulnerability in a context of secondary school reform. *Teaching and Teacher Education*, 21(8), 899–916.
- Laumann, E. O., Marsden, P. V., & Galaskiewicz, J. (1977). Community-Elite Influence Structures: Extension of a Network Approach. *American Journal of Sociology*, 83(3), 594–631. <https://doi.org/10.1086/226596>
- Le Dantec, C. A., & Fox, S. (2015). Strangers at the Gate. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing - CSCW '15* (pp. 1348–1358). New York, New York, USA: ACM Press. <https://doi.org/10.1145/2675133.2675147>
- Leat, D. (2015). 'Turning Schools Inside Out': Developing Curriculum with Community Partners. Retrieved from <https://www.bera.ac.uk/blog/turning-schools-inside-out-developing-curriculum-with-community-partners>
- Leat, D. (Ed.). (2017a). *Enquiry and Project Based Learning: Students, School and Society*. Routledge.
- Leat, D. (2017b). Why we need enquiry and project based learning. In D. Leat (Ed.), *Enquiry and Project Based Learning* (p. 214). Routledge.
- Leat, D., & Nichols, A. (2000). Brains on the Table: Diagnostic and formative assessment through observation. *Assessment in Education: Principles, Policy & Practice*, 7(1), 103–121.
- Leat, D., Reid, A., & Lofthouse, R. (2015). Teachers' experiences of engagement with and in educational research: what can be learned from teachers' views? *Oxford Review of Education*, 41(2), 270–286. <https://doi.org/10.1080/03054985.2015.1021193>
- Leat, D., & Thomas, U. (2015). *Community curriculum making through enquiry and project based learning*. Newcastle upon Tyne.
- Leat, D., & Thomas, U. (2017). Community curriculum making and EPBL. In D. Leat (Ed.), *Enquiry and Project Based Learning* (p. 214). Routledge.
- Leat, D., & Thomas, U. (2018). Exploring the role of 'brokers' in developing a localised curriculum. *Curriculum Journal*. <https://doi.org/10.1080/09585176.2018.1445513>

- Leckie, G., & Goldstein, H. (2017). The evolution of school league tables in England 1992–2016: ‘Contextual value-added’, ‘expected progress’ and ‘progress 8.’ *British Educational Research Journal*, *43*(2), 193–212. <https://doi.org/10.1002/berj.3264>
- Lee, C. P. (2007). Boundary negotiating artifacts: Unbinding the routine of boundary objects and embracing chaos in collaborative work. *Computer Supported Cooperative Work*, *16*(3), 307–339. <https://doi.org/10.1007/s10606-007-9044-5>
- Lee, H. J., & Lim, C. (2012). Peer evaluation in blended team project-based learning: What do students find important? *Educational Technology and Society*, *15*(4), 214–224.
- Lee, L., & Markey, A. (2014). A study of learners’ perceptions of online intercultural exchange through Web 2.0 technologies. *ReCALL*, *26*(03), 281–297. <https://doi.org/10.1017/S0958344014000111>
- Lewin, K. (1946). Action Research and Minority Problems. *Journal of Social Issues*, *2*(4), 34–46. <https://doi.org/10.1111/j.1540-4560.1946.tb02295.x>
- Liaw, M. L., & Johnson, R. J. (2001). E-mail writing as a cross-cultural learning experience. *System*, *29*(2), 235–251.
- Lin, W. C., & Yang, S. C. (2011). Exploring students’ perceptions of integrating Wiki technology and peer feedback into English writing courses. *English Teaching*, *10*(2), 88–103.
- Linn Nagata, A. (2004). Promoting Self-Reflexivity in Intercultural Education. *Journal of Intercultural Communication*, *8*, 139–167.
- Livemint. (2019). India’s digital divide is not just about accessibility.
- Lomax, P. (1995). Action research for professional practice. *British Journal of In-Service Education*, *21*(1), 49–57. <https://doi.org/10.1080/0305763950210105>
- Mack, L. (2010). The philosophical underpinnings of educational research. *Polyglossia*, *19*, 5–11.
- Marcos, J. J. M., Miguel, E. S., & Tillema, H. (2009). Teacher reflection on action: what is said (in research) and what is done (in teaching). *Reflective Practice*, *10*(2), 191–204.
- Marsden, P. V. (1982). Brokerage Behavior in Restricted Exchange Networks. In P. V Marsden & N. Lin (Eds.), *Social Structure and Network Analysis*. (First). SAGE Publications.
- Marshall, J. (2016). *First Person Action Research: Living Life as Inquiry*. (K. Smy, Ed.). SAGE Publications. <https://doi.org/10.4135/9781473982598>
- Martin, R. J., & Van Gunten, D. M. (2002). Reflected identities: Applying positionality and multicultural social reconstructionism in teacher education. *Journal of Teacher*

- Education*, 53(1), 44–54. <https://doi.org/10.1177/0022487102053002005>
- Marton, F., & Säljö, R. (1976). On Qualitative Differences in Learning: I—Outcome and Process*. *British Journal of Educational Psychology*, 46(1), 4–11.
- Marton, F., & Säljö, R. (1976). On Qualitative Differences in Learning—II Outcome as a Function of the Learner’s Conception of the Task. *British Journal of Educational Psychology*, 46(2), 115–127.
- Marton, Ference. (1983). Beyond Individual Differences. *Educational Psychology*, 3(3–4), 289–303.
- McCormack, B., Illman, A., Culling, J., Ryna, A., & O’Neill, S. (2002). ‘Removing the Chaos from the Narrative’: preparing clinical leaders for practice development. *Educational Action Research*, 10(3), 335–352.
- McDonagh, C., & Sullivan, B. (2017). Living Research: How do we realise our capacity to create knowledge as we live towards our professional values in our practice? *Educational Journal of Living Theories*, 10(1), 26–42.
- McNiff, J. (2005). Living with foxes: learning about self, home and the other. In *A paper presented at the American Educational Research Association Annual Meeting*. Montreal.
- McNiff, J. (2007). My story is my living educational theory. In J. Clandinin (Ed.), *Handbook of Narrative Inquiry: Mapping a methodology*. SAGE Publications. <https://doi.org/10.4135/9781452226552>
- McNiff, J. (2009). Explicating a new epistemology for educational knowledge with educational responsibility. In *British Educational Research Association - A paper for the Keynote Symposium*.
- McNiff, J. (2013). *Action research: Principles and Practice* (Third Edit). Routledge. <https://doi.org/10.4324/9780203112755>
- McNiff, J. (2019). Jean McNiff.
- McNiff, J., & Whitehead, J. (2005). Teachers as educational theorists: transforming epistemological hegemonies. In *British Educational Research Association*.
- McNiff, J., & Whitehead, J. (2009). *You and your action research project: Third edition. You and Your Action Research Project: Third Edition*. <https://doi.org/10.4324/9780203871553>
- McSweeney, B. (2002). Hofstede’s model of national cultural differences and their consequences: A triumph of faith - A failure of analysis. *Human Relations*, 55(1), 89–118. <https://doi.org/10.1177/0018726702551004>

- Mewborn, D., & Randi, S. (2000). Making the tacit explicit: Teacher educators' values and practices in a co-reform teacher education program. *Teacher Education Quarterly*, 27(3), 5.
- Miller, D. (1974). Popper's qualitative theory of verisimilitude. *The British Journal for the Philosophy of Science*, 25(2), 166–177.
- Mitra, S., Leat, D., Dolan, P., & Crawley, E. (2010, December 3). The Self Organised Learning Environment (SOLE) School Support Pack. ALT.
- Munoz, Y. J., & El-Hani, C. N. (2012). The student with a thousand faces: From the ethics in video games to becoming a citizen. *Cultural Studies of Science Education*, 7(4), 909–943.
- Nagaraja, G. (2018). Four students in Andhra made to strip for coming late to school. *Hindustan Times*.
- Nakata, Y. (2015). Insider–outsider perspective: revisiting the conceptual framework of research methodology in language teacher education. *International Journal of Research and Method in Education*, 38(2), 166–183.
<https://doi.org/10.1080/1743727X.2014.923835>
- Nariman, N., & Chrispeels, J. (2015). PBL in the Era of Reform Standards: Challenges and Benefits Perceived by Teachers in One Elementary School. *Interdisciplinary Journal of Problem-Based Learning*, 10(1).
- Nayak, A. (2018). An antidote to rote learning.
- Nelson, G., & Carson, J. (2006). Cultural issues in peer response: Revisiting “culture.” In K. Hyland & F. Hyland (Eds.), *Feedback in Second Language Writing: Contexts and Issues* (pp. 42–59). New York: Cambridge University Press.
- Nieto, S. (2005). Public education in the twentieth century and beyond: High hopes, broken promises, and an uncertain future. *Harvard Educational Review*, 75(1), 43–64.
<https://doi.org/10.17763/haer.75.1.31r4357517211566>
- Ofsted. (2018). Ofsted inspections: myths. Retrieved from
<https://www.gov.uk/government/publications/school-inspection-handbook-from-september-2015/ofsted-inspections-mythbusting#lesson-planning>
- Önal, G., Öztürk, C., & Kenan, S. (2018). Teachers' perspectives on citizenship education in England. *Education and Science*, 43(196), 243–256.
<https://doi.org/10.15390/EB.2018.7060>
- Open Lab. (2014). Digital Civics.
- Oxford, R. L., & Anderson, N. J. (1995). A crosscultural view of learning styles. *Language*

Teaching. <https://doi.org/10.1017/S0261444800000446>

- Paget, M. (1990). "Unlearning to not speak." *Human Studies*, 13(2), 147–161.
<https://doi.org/10.1007/BF00142743>
- Pheterson, G. (1986). Alliances between Women: Overcoming Internalized Oppression and Internalized Domination. *Signs: Journal of Women in Culture and Society*, 12(1), 146–160. <https://doi.org/10.1086/494302>
- Philip, K., Irani, L., & Dourish, P. (2012). Postcolonial Computing: A Tactical Survey. *Science, Technology & Human Values*, 37(1), 3–29.
<https://doi.org/10.1177/0162243910389594>
- Piaget, J. (1957). *Logic and Psychology*. Basic Books, Inc., Publishers.
- Ponticell, J. A. (2003). Enhancers and Inhibitors of Teacher Risk Taking: A Case Study. *Peabody Journal of Education*, 78(3), 5–24.
- Prasad, P., D'Abate, C., & Prasad, A. (2007). Organizational challenges at the periphery. In H. Gunz & M. Periperl (Eds.), *Handbook of Career Studies* (1st ed., p. 648). SAGE Publications.
- Priestley, M. (2010). Curriculum for Excellence: transformational change or business as usual? *Scottish Educational Review*, 42(1), 23–36.
- Priestley, M., Edwards, R., Priestley, A., & Miller, K. (2012). Teacher Agency in Curriculum Making: Agents of Change and Spaces for Manoeuvre. *Curriculum Inquiry*, 42(2), 191–214.
- Race, P. (2005). Using feedback to help students to learn. *The Higher Education Academy*, 1–11.
- Ravitz, J. (2010). Beyond changing culture in small high schools: Reform models and changing instruction with project-based learning. *Peabody Journal of Education*, 85(3), 290–312. <https://doi.org/10.1080/0161956X.2010.491432>
- Renn, O., & Rohrman, B. (2000). Risk Perception Research - An introduction. In O. Renn & B. Rohrman (Eds.), *Crosscultural Risk Perception: A Survey of Empirical Studies*. Kluwer Academic Publisher.
- Roche, M. (2011). Creating a dialogical and critical classroom: Reflection and action to improve practice. *Educational Action Research*, 19(3), 327–343.
<https://doi.org/10.1080/09650792.2011.600607>
- Rokeach, M. (1979). *Understanding Human Values*. New York Free Press.
- Rosenberger, C. (2014). Integrating Service Learning and Multicultural Education in Colleges and Universities. In C. Rosenberger (Ed.), *Integrating service learning and*

- multicultural education in colleges and universities* (pp. 23–43).
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not So Different After All: A Cross-Discipline View Of Trust. *Academy of Management Review*, 23(3), 393–404.
- Ryle, G. (1949). *The concept of mind*. Routledge.
- Sagiv, L., Roccas, S., Cieciuch, J., & Schwartz, S. H. (2017). Personal values in human life. *Nature Human Behaviour*, 1(9), 630–639. <https://doi.org/10.1038/s41562-017-0185-3>
- Sandesh, M. S. (2018). School in the dock over ‘inhuman discipline. *Deccan Herald*.
- Sarangapani, V., Kharrufa, A., Balaam, M., Leat, D., & Wright, P. (2016). Virtual.Cultural.Collaboration. In *Conference on Human-Computer Interaction with Mobile Devices and Services - MobileHCI '16* (pp. 341–352). New York, New York, USA: ACM Press.
- Sarangapani, V., Kharrufa, A., Leat, D., & Wright, P. (2018). Creating Interactive Digital Content: A Cross Cultural Approach to Develop Critical Peer Feedback. In *32nd International BCS Human Computer Interaction Conference* (pp. 1–11). BCS Learning and Development Ltd.
- Sarangapani, V., Kharrufa, A., Leat, D., & Wright, P. (2019). Fostering deep learning in cross-cultural education through use of content-creation tools. In *IndiaHCI* (pp. 1–11). ACM.
- Schofield, G., Bartindale, T., & Wright, P. (2015). Bootlegger. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems - CHI '15* (pp. 767–776). New York, New York, USA: ACM Press.
<https://doi.org/10.1145/2702123.2702229>
- Schön, D. A. (1992). *The reflective practitioner: How professionals think in action*. London: Routledge.
- Schwalbe, M., Godwin, S., Holden, D., Schrock, D., Thompson, S., & Wolkomir, M. (2000). Generic Processes in the Reproduction of Inequality: An Interactionist Analysis. *Social Forces*, 79(2), 419–453.
- Schwandt, T. A. (1994). Constructivist, interpretivist approaches to human inquiry. *Handbook of Qualitative Research*, (January 1994), 118–137.
- Schwarz, B. B., & Baker, M. J. (2017). *Dialogue, argumentation and education: History, theory and practice. Dialogue, Argumentation and Education: History, Theory and Practice*. Cambridge University Press.
- Schwille, J. R., Porter, A. C., Belli, G., F., R., F., D. J., K., L. B., K., ... Schmidt, W. H. (1982). Teachers as policy brokers in the content of elementary school mathematics. In

- Handbook on teaching and policy* (pp. 370–391). Institute for Research on Teaching, Michigan State University.
- Scovel, T. (1994). The role of culture in second language pedagogy. *System*, 22(2), 205–219.
- Seelye, N. (1984). *Teaching Culture. Strategies for Intercultural Communication*. National Textbook Company.
- Shannon, A., Hammer, J., Thurston, H., Diehl, N., & Dow, S. (2016). PeerPresents: A Web-Based System for In-Class Peer Feedback During Student Presentations. *Proceedings of the 2016 ACM Conference on Designing Interactive Systems*, 447–458.
<https://doi.org/10.1145/2901790.2901816>
- Shulman, L. (1987). Knowledge and Teaching: Foundations of the New Reform. *Harvard Educational Review*, 57(1), 1–23. <https://doi.org/10.17763/haer.57.1.j463w79r56455411>
- Shulman, L. (2004). *The Wisdom of Practice*. Jossey-Bass.
- Shulman, L. S. (1988). The dangers of dichotomous thinking in education. In P. P. Grimmett & G. L. Erickson (Eds.), *Reflection in Teacher Education* (pp. 31–39). Teachers College Press.
- Spivak, G. C. (1980). Revolutions that as yet have no model: Derrida's Limited Inc. *Diacritics*, 10(4), 29–49.
- Spivak, G. C. (1985). The Rani of Sirmur: An essay in reading the archives. *History and Theory*, 24(3), 247–272.
- Stanley, L., & Wise, S. (2002). *Breaking Out Again: Feminist Ontology and Epistemology (new edition)*. Taylor & Francis e-Library. Routledge.
- Starratt, R. J. (2002). Community as Curriculum. In K. Leithwood & P. Hallinger (Eds.), *Second International Handbook of Educational Leadership and Administration* (pp. 321–348). Kluwer Academic Publisher.
- Steinmetz, D., Busch, K., & Joseph-Goldfarb, N. (1994). Integrating ESL and Lakota Indian Culture. *TESOL Journal*, 3(3), 12–14.
- Stonequist, E. V. (1935). The Problem of the Marginal Man. *American Journal of Sociology*, 41(1), 1–12. <https://doi.org/10.1086/217001>
- Stovel, K., Golub, B., & Milgrom, E. M. M. (2011). Stabilizing brokerage. *Proceedings of the National Academy of Sciences*, 108(4), 21326–21332.
<https://doi.org/10.1073/PNAS.1100920108>
- Strauss, A., & Corbin, J. (1994). Grounded theory methodology, an overview. In *Handbook of Qualitative Research* (pp. 273–285).
- Stuckey, M., Hofstein, A., Mamlok-Naaman, R., & Eilks, I. (2013). The meaning of

- “relevance” in science education and its implications for the science curriculum. *Studies in Science Education*, 49(1), 1–34. <https://doi.org/10.1080/03057267.2013.802463>
- Suchman, L. (1994). Working relations of technology production and use. *Computer Supported Cooperative Work*, 2(1–2), 21–39. <https://doi.org/10.1007/BF00749282>
- Sullivan, S. (2002). Pragmatist Feminism as Ecological Ontology: Reflections on Living Across and Through Skins. *Hypatia*, 17(4), 201–217.
- Sullivan, S., & Tarver, E. (2019). Intersections Between Pragmatist and Continental Feminism. In *The Stanford Encyclopedia of Philosophy* (Fall 2019). Metaphysics Research Lab, Stanford University.
- Tacchi, J. A., Slater, D., & Hearn, G. N. (2003). *Ethnographic action research: A user’s handbook developed to innovate and research ICT applications for poverty eradication*. UNESCO. New Delhi.
- Talwar, D. (2012). More than 87,000 racist incidents recorded in schools. Retrieved from <https://www.bbc.co.uk/news/education-18155255>
- Teach Your Kids to Detect Fake News and Photos. (2019). Retrieved from <https://www.nationalgeographic.com/family/teaching-kids-about-fake-news-and-photos/>
- Terry, P. R. (1997). Habermas and education: Knowledge, communication, discourse. *Curriculum Studies*, 5(3), 269–279. <https://doi.org/10.1080/14681369700200019>
- Thinking Kit. (n.d.). Retrieved from <https://www.thinking-kit.com/>
- Thomas, G. (1998). The Myth of Rational Research. *British Educational Research Journal*, 24(2), 141–161. <https://doi.org/10.1080/0141192980240203>
- Thomas, J. W. (2000). A Review of Research on Project-Based Learning. *The Autodesk Foundation*, 1–45.
- Thompson, E., Bakhtin, M. M., Holquist, M., & Emerson, C. (2010). The Dialogic Imagination: Four Essays. *World Literature Today*. <https://doi.org/10.2307/40136453>
- Tomlinson, S. (2009). Multicultural education in the United Kingdom. In J. Banks (Ed.), *The Routledge International Companion to Multicultural Education*. Routledge.
- Tomlinson, S. (2012). Curriculum option choices in multi-ethnic schools. In B. Troyna (Ed.), *Racial Inequality in Education*. Routledge.
- Tschannen-Moran, M., & Hoy, W. (1998). Trust in Schools: A Conceptual and Empirical Analysis. *Journal of Educational Administration*, 36(4), 334–352.
- Turney, K., & Kao, G. (2009). Barriers to school involvement: Are immigrant parents disadvantaged? *Journal of Educational Research*, 102(4), 257–271. <https://doi.org/10.3200/JOER.102.4.257-271>

- Vallacher, R. R., & Wegner, D. M. (1989). Levels of Personal Agency: Individual Variation in Action Identification. *Journal of Personality and Social Psychology*, 57(4), 660–671. <https://doi.org/10.1037/0022-3514.57.4.660>
- Van Joolingen, W. R., De Jong, T., & Dimitrakopoulou, A. (2007). Issues in computer supported inquiry learning in science. *Journal of Computer Assisted Learning*, 23(2), 111–119.
- Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies*, 44(3), 299–321. <https://doi.org/10.1080/00220272.2012.668938>
- Vygotsky, L. S. (1978). *Mind and Society: The Development of Higher Psychological Processes*. Harvard University Press. <https://doi.org/10.1007/978-3-540-92784-6>
- Wadsworth, B. J. (1996). *Piaget's theory of cognitive and affective development: Foundations of constructivism* (5th ed.). Long Island, NY: Longman Publishing.
- Walach, H. (2020). Inner Experience – Direct Access to Reality: A Complementarist Ontology and Dual Aspect Monism Support a Broader Epistemology. *Frontiers in Psychology*, 11, 640. <https://doi.org/10.3389/fpsyg.2020.00640>
- Walker, K., Kutsyuruba, B., & Noonan, B. (2011). The fragility of trust in the world of school principals. *Journal of Educational Administration*, 49(5), 471–494.
- Walsh, G., Brown, Q., & Druin, A. (2011). Social networking as a vehicle to foster cross-cultural awareness. In *Proc. 10th Int. Conf. Interaction Design and Children - IDC '11* (pp. 209–212). New York, New York, USA: ACM Press.
- Warburton, K. (2003). Deep learning and education for sustainability. *International Journal of Sustainability in Higher Education*, 4(1), 44–56.
- Ware, P. D., & O'Dowd, R. (2008). Peer feedback on language form in telecollaboration. *Language Learning & Technology*, 12(1), 43–63.
- Watts, R. J., Diemer, M. A., & Voight, A. M. (2011). Critical consciousness: Current status and future directions. *New Directions for Child and Adolescent Development*, 134, 43–57.
- Wauck, H., Yen, Y., Fu, W.-T., Gerber, E., Dow, S. P., & Bailey, B. P. (2017). From in the Class or in the Wild? Peers Provide Better Design Feedback Than External Crowds. *CHI Conference on Human Factors in Computing Systems - CHI '17*, 5580–5591. <https://doi.org/10.1145/3025453.3025477>
- Weber, E. U., Blais, A. R., & Betz, N. E. (2002). A Domain-specific Risk-attitude Scale: Measuring Risk Perceptions and Risk Behaviors. *Journal of Behavioral Decision*

Making, 15(4), 263–290.

- Wegerif, R. (2008). Dialogic or dialectic? The significance of ontological assumptions in research on educational dialogue. *British Educational Research Journal*, 34(3), 347–361. <https://doi.org/10.1080/01411920701532228>
- Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.
- Whipps, J., & Lake, D. (2020). Pragmatist Feminism. In *The Stanford Encyclopedia of Philosophy* (Winter 202).
- Whitehead, J. (1989). Creating a Living Educational Theory from Questions of the Kind, ‘How do I Improve my Practice?’ *Cambridge Journal of Education*, 19(1), 137–153. <https://doi.org/10.1080/0305764890190106>
- Whitehead, J. (2019a). Jack Whitehead. Retrieved from <https://www.actionresearch.net/>
- Whitehead, J. (2019b). What is Living Educational Theory (Living Theory) research? Retrieved from <https://ejolts.net/node/220>
- Whitehead, J., & McNiff, J. (2006). *Action Research: Living Theory*. London: SAGE Publications. <https://doi.org/10.4135/9781849208536>
- Wiles, F. (2013). “Not Easily Put Into a Box”: Constructing Professional Identity. *Social Work Education*, 32(7), 854–866.
- Wiles, R., Crow, G., Sue, H., & Vikki, C. (2006). *Anonymity and Confidentiality*. ESRC Research Methods Festival.
- Wilson, A. (1986). Cross-Cultural Experiential Learning for Teachers. *Theory Into Practice*, 26, 519–527.
- Winter, R. (1998). Finding a voice – thinking with others: a conception of action research. *Educational Action Research*, 6(1), 53–68. <https://doi.org/10.1080/09650799800200052>
- Woods, P. A., Bennett, N., Harvey, J. A., & Wise, C. (2004). Variabilities and Dualities in Distributed Leadership: Findings from a Systematic Literature Review. *Educational Management Administration & Leadership*, 32(4), 439–457.
- Wright, P., & McCarthy, J. (2008). Empathy and experience in HCI. *26th Annual CHI Conference on Human Factors in Computing Systems - CHI '08*, 637–647.
- Wurdinger, S., & Rudolph, J. (2009). A different type of success: Teaching important life skills through project based learning. *Improving Schools*, 12(2), 115–129. <https://doi.org/10.1177/1365480209105576>