Teachers’ perspectives on how collaborative engagement with pedagogic principles to challenge fixed-ability grouping allowed them to re-consider and reframe their practice in English primary schools

WRIGHT, P.J.

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# Abstract

This small-scale qualitative study presents a thematic analysis of 15 initial surveys, focus group transcripts and 15 interviews with English primary school teachers who participated in a six-month long community of practice that allowed them to engage with the key ideas related to ‘Pedagogy for Transformability’ (PfT) (Hart et al., 2004) – an approach to teaching and learning which challenges notions of fixed abilities and the practices which emanate from them.

The research was conducted following the publication of the Conservative Government’s White Paper, *Educational Excellence Everywhere* (Department for Education (DfE), 2016). The Paper promised autonomy for schools who successfully improved academic outcomes for the children in their care, and in particular the outcomes for ‘disadvantaged’ children. Within this remit, the discourses of autonomy and raising academic standards for all, arguably creates a fault line of friction within the neo-liberal mechanisms of accountability, and an opportunity to explore approaches which reportedly meet the needs of all children.

The participants, all from the same multi-academy trust (MAT), engaged with two sessions of continuing professional development related to the core principles of PfT – Trust, Everybody and Co-agency (Hart et al., 2004) - before exploring how these principles might be enacted in their own classrooms, in the teaching of mathematics, where typically fixed ability thinking and practices are most prevalent (Boaler et al., 2000; Solomon, 2009). Through three cycles of exploration and focus group discussions, practice and understanding were shared and participant perspectives were recorded. Through semi-structured interviews at the conclusion of the project, their summative reflections were also gathered. Thematic analysis was used to interpret their perspectives.

The findings highlighted themes of control, competence and confidence which captured the perceived barriers and benefits of the implementation of PfT for both teachers and learners. Teachers’ sense of personal mathematical competence, professional identity and implicit theories related to ‘ability’, were inhibitors to them relinquishing elements of control of the learning process to the children. However, having reflected on how they might help the children make competent choices about the work they engaged with, and observed the children becoming more competent in their learning and confident in their learner identities, teachers’ confidence appeared to grow in rationalising and enacting their own pedagogic choices towards the implementation of PfT, and in their sense of professional competence, as they reported improvements in children’s learning capacity.

# List of Tables and Figures

Table 2.1 Core purposes of PfT ……………………………………………………………………………29

Table 3.1 Research activity and data collection timeline………………………………………51

Table 3.2 Analytic Framework ……………………………………………………………………………..59

Figure 3.1 Cycle of pedagogic exploration …………………………………………………………….60

Figure 6.1 Barriers and benefits of implementing PfT……………………………………………128

Contents

[Acknowledgements ii](#_Toc142558021)

[Abstract iii](#_Toc142558022)

[List of Tables and Figures iv](#_Toc142558023)

[Chapter 1 - Introduction 1](#_Toc142558024)

[1.1 Introduction 1](#_Toc142558025)

[1.2 Defining the research problem 1](#_Toc142558026)

[1.3 Professional context of the research 2](#_Toc142558027)

[1.4 The importance of conducting this research 3](#_Toc142558028)

[1.5 Personal and professional interest 3](#_Toc142558029)

[1.6 Research design and methodology 4](#_Toc142558030)

[1.7 Research aim 4](#_Toc142558031)

[1.8 Use of the term ‘ability’ 5](#_Toc142558032)

[1.9 Structure of the thesis 5](#_Toc142558033)

[1.10 Summary 6](#_Toc142558034)

[Chapter 2 – A review of the literature 7](#_Toc142558035)

[2.1 Introduction 7](#_Toc142558036)

[2.2 The double purpose of education – the critical pedagogue perspective 7](#_Toc142558037)

[2.2.1 Education and society 8](#_Toc142558038)

[2.2.2 Education and critical pedagogy 9](#_Toc142558039)

[2.2.3 Education and critical theory 9](#_Toc142558040)

[2.3 The current educational context 10](#_Toc142558041)

[2.3.1 A neo-liberal educational perspective 11](#_Toc142558042)

[2.3.2 Education for social justice? 11](#_Toc142558043)

[2.3.3 A new approach to raising standards? 12](#_Toc142558044)

[2.4 The impact of neo-liberal approaches to education 12](#_Toc142558045)

[2.4.1 Panoptic performativity 13](#_Toc142558046)

[2.4.2 Impact of performative panopticism 13](#_Toc142558047)

[2.5 Fixed ability thinking and practices (FATAP) 15](#_Toc142558048)

[2.5.1 The genesis of FATAP 16](#_Toc142558049)

[2.5.2 Different conceptualisations of ‘ability’ 16](#_Toc142558050)

[2.5.3 FATAP in primary education 17](#_Toc142558051)

[2.5.4 Nuance of rationale 18](#_Toc142558052)

[2.5.5 Mathematics as a particular case of embedded thinking 19](#_Toc142558053)

[2.6 The impacts of FATAP 20](#_Toc142558054)

[2.6.1 The problematics of FATAP 21](#_Toc142558055)

[2.6.2 The impact on teachers of FATAP 21](#_Toc142558056)

[2.6.3 The impact on learners of FATAP 24](#_Toc142558057)

[2.6.4 FATAP and social reproduction 26](#_Toc142558058)

[2.7 Learning Without Limits Project – a Pedagogy for Transformability 27](#_Toc142558059)

[2.7.1 Pedagogy for Transformability 28](#_Toc142558060)

[2.7.2 Core purposes of Pedagogy for Transformability 28](#_Toc142558061)

[2.8 Transforming education towards ‘transformability’ 30](#_Toc142558062)

[2.8.1 The need for discourse 31](#_Toc142558063)

[2.8.2 Establishing ‘CoP’ 31](#_Toc142558064)

[2.8.3 Research questions 32](#_Toc142558065)

[2.9 Summary 33](#_Toc142558066)

[Chapter 3 - Methodology and Methods 34](#_Toc142558067)

[3.1 Introduction 34](#_Toc142558068)

[3.2 Framework for guiding research design 35](#_Toc142558069)

[3.2.1 Ontological exposition - *Lifeworld* and *System* 36](#_Toc142558070)

[3.2.2 Epistemological exposition - Communicative Action and Emancipatory Knowledge 36](#_Toc142558071)

[3.2.3 Methodological exposition - critical educational research 37](#_Toc142558072)

[3.2.4 Critiques of critical educational research 38](#_Toc142558073)

[3.3 Research design 39](#_Toc142558074)

[3.3.1 Participatory research 40](#_Toc142558075)

[3.3.2 The case for a case study design 42](#_Toc142558076)

[3.3.3 Sampling 44](#_Toc142558077)

[3.4 Research ethics 46](#_Toc142558078)

[3.4.1 Ethical considerations related to power 47](#_Toc142558079)

[3.4.2 The imperative not to do harm 48](#_Toc142558080)

[3.4.3 Protecting data and participant identities 49](#_Toc142558081)

[3.5 Research tools 49](#_Toc142558082)

[3.5.1 Initial CPD 50](#_Toc142558083)

[3.5.2 Why CoP? 52](#_Toc142558084)

[3.5.3 Interviews 54](#_Toc142558085)

[3.6 Interpreting evidence 56](#_Toc142558086)

[3.6.1 Objectivity, generalisability, and validity 57](#_Toc142558087)

[3.6.2 Transcription and coding 57](#_Toc142558088)

[3.6.3 Using the analytic framework - the dance of teachers’ doings, sayings, and relatings 59](#_Toc142558089)

[3.7 Summary 60](#_Toc142558090)

[Chapter Four – The Findings 61](#_Toc142558091)

[4.1 Introduction 61](#_Toc142558092)

[4.2 Teachers initial understandings and challenges (RQ2) 61](#_Toc142558093)

[4.2.1 Teacher’s mathematical identities (ISQ1) 62](#_Toc142558094)

[4.2.2 Initial perspectives on notions of fixed ability (ISQ2) 63](#_Toc142558095)

[4.3 Effects on teaching (RQ1) 65](#_Toc142558096)

[4.4 Challenges in the process of implementation (RQ2) 68](#_Toc142558097)

[4.4.1 Challenges related to effects on teachers 68](#_Toc142558098)

[4.4.2 Challenges related to effects on children 72](#_Toc142558099)

[4.4.3 Challenges related to systems internal and external processes 75](#_Toc142558100)

[4.5 New understandings (RQ1 - RQ4) 76](#_Toc142558101)

[4.5.1 Adjustments to practice (RQ1 and 2) 76](#_Toc142558102)

[4.5.2 Impacts on learners and learning (RQ3 and 4) 80](#_Toc142558103)

[4.5.3 Effects on teachers’ future practice 84](#_Toc142558104)

[4.6 Perspectives on the process of pedagogy exploration 85](#_Toc142558105)

[4.7 Summary 87](#_Toc142558106)

[Chapter 5 - Discussion 89](#_Toc142558107)

[5.1 Introduction 89](#_Toc142558108)

[5.2 Identified themes 89](#_Toc142558109)

[5.3 Teachers application of core principles of PfT 91](#_Toc142558110)

[5.3.1 Control - mathematics as a gateway to social mobility 92](#_Toc142558111)

[5.3.2 Control and the principle of Trust 93](#_Toc142558112)

[5.3.3 Control and the principle of Everybody 95](#_Toc142558113)

[5.3.4 Control and the principle of Co-agency 98](#_Toc142558114)

[5.4 The teachers practical and professional understandings 100](#_Toc142558115)

[5.4.1 Sense of competence as a barrier to PfT - teachers’ professional identity 101](#_Toc142558116)

[5.4.2 Sense of competence as a barrier to PfT – teachers’ mathematical identities 104](#_Toc142558117)

[5.4.3 Creating cultures to support new competencies 105](#_Toc142558118)

[5.5 The effects of PfT on children 108](#_Toc142558119)

[5.5.1 Control and improving self-efficacy 109](#_Toc142558120)

[5.5.2 Increased competence and challenging fixed mindsets 113](#_Toc142558121)

[5.5.3 Confidence and improving self-concept 116](#_Toc142558122)

[5.6 The CPD approach and the ‘weft themes’ 119](#_Toc142558123)

[5.6.1 Over Time 119](#_Toc142558124)

[5.6.2 Teacher ID (CPD approach) 121](#_Toc142558125)

[5.7 Summary of discussion chapter 122](#_Toc142558126)

[Chapter 6 – Conclusion 124](#_Toc142558127)

[6.1 Introduction 124](#_Toc142558128)

[6.2 Findings related to the research questions 124](#_Toc142558129)

[6.2.1 How is pedagogy adjusted to challenge practices based on notions of fixed ability? 125](#_Toc142558130)

[6.2.2 What are the social, emotional, **and** academic effects of adjusted practices on children? 126](#_Toc142558131)

[6.2.3 What understandings might influence teachers in relation to the implementation of pedagogy to challenge practices based on notions of fixed ability? 127](#_Toc142558132)

[6.2.4 What are the barriers and benefits to the implementation of PfT from a teachers’ perspective? 128](#_Toc142558133)

[6.2.5 Limitations of the study 129](#_Toc142558134)

[6.2.6 Trustworthiness 129](#_Toc142558135)

[6.3 Implications of the findings 130](#_Toc142558136)

[6.4 Contribution to knowledge 131](#_Toc142558137)

[6.4.1 Practice development towards PfT 132](#_Toc142558138)

[6.4.2 Developing principle-led pedagogy 132](#_Toc142558139)

[6.4.3 Benefits of enhanced learner and teacher capacity 133](#_Toc142558140)

[6.5 Recommendations for policy, practice, and future research 134](#_Toc142558141)

[6.5.1 Recommendations for education policy 134](#_Toc142558142)

[6.5.2 Recommendations for practice 134](#_Toc142558143)

[6.5.3 Recommendations for future research 135](#_Toc142558144)

[6.6 The researcher’s doctoral journey – ‘making generous room’ 136](#_Toc142558145)

[Appendix A - Framework for Pedagogy for Transformability 137](#_Toc142558146)

[Appendix B – Project Invite 138](#_Toc142558147)

[Appendix C – Initial Survey 143](#_Toc142558148)

[Appendix D - Initial Survey Collated Data 144](#_Toc142558149)

[Appendix E – Participant Consent Form 145](#_Toc142558150)

[Appendix F - Final Interview Schedule 146](#_Toc142558151)

[Appendix G – Presentation CPD 1 147](#_Toc142558152)

[Appendix H – Presentation CPD 2 149](#_Toc142558153)

[Appendix I - Excerpts from Marks (2016) 151](#_Toc142558154)

[Appendix J – Example of theme construction 153](#_Toc142558155)

[References 156](#_Toc142558156)

# Chapter 1 - Introduction

## 1.1 Introduction

This thesis explores the potential for implementation of an existing approach to enhancing children’s learning capacity in the primary school context in England. In doing so it aims to provide evidence for teachers, school leaders and teacher educators to draw upon in their practice. It draws upon critical pedagogy (Freire, 1970; Giroux, 2011) and seeks to raise teacher consciousness surrounding the pernicious effects of educational thinking and practices linked to fixed ability labelling (Section 1.2).

The following excerpt from *Pedagogy of the Oppressed* is a rallying cry to those involved in this study, including the author and readers, to engage, or remain engaged in the struggle for social justice and increased human agency, through educational change:

“The oppressed, having internalised the image of the oppressor and adopted his guidelines, are fearful of freedom. Freedom would require them to eject his image and replace it with autonomy and responsibility. Freedom is acquired by conquest, not by gift. It must be pursued constantly and responsibly . . . It is the indispensable condition for the quest for human completion.” (Freire, 1996:29)

In this chapter, the research problem and the importance of the study are explained. These are set within the current educational context before the narrative of my personal and professional interest are shared. The research design and methodology are outlined. Following on outline of the over-arching research question, the thesis structure is signposted.

## 1.2 Defining the research problem

This thesis investigates the potential barriers and benefits to the implementation of Pedagogy for Transformability (PfT) (Hart et al., 2004; Swann et al., 2012) – understood from the perspective of primary school teachers. PfT is a principle-led approach to challenging thinking and practices enmeshed within the fixed ability labelling of children. The framework for PfT is presented in Appendix A and is fully explained in section 2.7.

Research related to the proliferation of fixed ability thinking and practices (Hallam, 2003) and their effects within the teaching of mathematics is wide ranging (Boaler, 2005; Francis et al., 2017a; Marks, 2016; McGillicuddy & Devine, 2020; Yarker, 2019). Both teacher and learner perspectives about these effects are reported in this research but to date, the potential for the implementation of PfT, from a teacher perspective, has not yet been investigated and shared. This study seeks to understand the barriers and benefits of PfT - as a means of presenting the potential for wider implementation in schools – based upon teachers’ lived experiences of it within their practice architectures (Kemmis & Grootenboer, 2008).

## 1.3 Professional context of the research

Since the 1970s a performative culture in education has been engendered by subsequent governments (Forrester & Garratt, 2018) to develop the national economy and be able to challenge within a competitive global market. At the heart of the policymaking is the standards agenda (Ball, 2003) - a permanent drive to improve standards, irreducible to pupil outcomes in statutory tests – a proxy for a establishing a workforce to support a strong economy and therefore make visible effective governance. Managerial approaches, such as performance management and performance-related-pay, have been introduced to create professional accountability structures as levers to school improvement (Perryman, 2006), with standards inspected by the Office for Standards in Education, Children’s Services and Skills (Ofsted). Within these accountability mechanisms, schools have been marketised as part of a neo-liberal agenda of competition and choice (Ball, 2015), with Ofsted reports and league tables of schools’ test performance published to nominally support parental choice.

Continuing this policy emphasis, the White Paper (DfE, 2016) has a clear focus on addressing learning outcomes for children in disadvantaged areas and groups and encourages school leaders to draw on current research to inform their school improvement processes. The paper explains that successful schools can have autonomy over their pedagogic choices as the emphasis standards focusses solely on outcomes rather than processes. Subsequently, the Common Inspection Framework (Ofsted, 2019:9), which is arguably not entirely in-line with the Department for Education emphasis, set out to assess the ‘Quality of Education’ provided by schools by focussing on intent and implementation of curricula provision, as well as impact. This is the context for the study at policy level.

At the practitioner level of the project, establishing a growth mindset (Dweck, 2012) is being more widely recognised as a contributing factor towards improved academic achievement in children (Boaler, 2013, 2016, 2021). The challenge for schools has been in translating what has been shared in education conferences with teachers and school leaders, into effective practice in classrooms. Hart et al. (2004) would suggest that establishing a learning culture that seeks to remove the barriers that inhibit growth mindsets, would enhance children’s learning capacity. The rationale and framework for this is developed in *Learning Without Limits* (Hart et al., 2004). The research presented in this book does not provide a blueprint for what needs to be done but rather encourages professional reflexivity and agency to adjust practices which might be seen to restrict children’s learning capacity. The *Learning Without Limits* study encourages teachers to be guided by the pedagogic principles of Trust, Everybody and Co-Agency, which underpin PfT, rather than notions of fixed abilities or perceptions of learner identities.

This study, therefore, is contextualised by two distinct discourses – earned autonomy by addressing the needs of learners, particularly those understood to be disadvantaged, and the role of research-based approaches in guiding pedagogy and leadership.

## 1.4 The importance of conducting this research

Again, drawing on Freire’s (1970) use of the notion of ‘conscientizacao’ as empowering people to make informed changes to their circumstances, or to change the circumstances for others, this study seeks to give primacy to teachers’ perspectives. By giving voice to those who typically enact policy rather than formulate it, an understanding of practical and professional considerations can be understood when determining the feasibility of effective implementation. Findings from this study could be used to inform policymakers, teacher educators and school leaders, as well as practitioners, of the barriers and benefits of implementation, for both teachers and learners.

## Personal and professional interest

In 2004 I was recruited as assistant headteacher to join an inspirational headteacher to help turn around the fortunes of a Cornish primary school which had just received a ‘Requires Improvement’ judgement from Ofsted. Academic outcomes across the school had to be improved. Without question I took responsibility for the so-called low ability maths set – I never thought to question the validity or efficacy of this approach, until I attended an in-service training session about mindset (Dweck, 2000) and was directed to think about which children had growth or fixed mindsets. The notion of growth or fixed mindsets was related to the willingness of learners to see themselves as able to learn new things. This challenged me to consider why children might have fixed mindsets, how they see themselves as learners and where these perceptions may have come from. I recognised that being publicly labelled as ‘struggling in maths’, through membership of the ‘low-ability’ maths group, potentially had a part to play. I then met with the headteacher to re-examine our current approach to improving standards.

Later as headteacher of an international school in Malawi, away from the standards-driven accountability mechanisms of the education system in the England, I encouraged my team to explore pedagogic approaches which supported all children to see their infinite potential as learners and not be restricted by labels they may have been given or adopted through notions of fixed ability. As our practice developed, it was noted by a trusted colleague that what we were developing reflected the principles of Pedagogy for Transformability (PfT), which emerged from *Learning Without Limits* (Hart et al., 2004).

On returning to England, I took the opportunity to study PfT further whilst working in teacher education, before returning to headship and supporting my team to develop their own principles and practices related to PfT. The privilege of my professional journey meant I understood the importance of exploring and having space to reflect upon practice and therefore I began this doctoral journey hoping to create the professional space for other practitioners to engage with PfT.

## 1.6 Research design and methodology

This thesis is based upon a case study design - the case being, teachers’ perspectives related to the barriers and benefits of PfT. The methodology was developed from a critical realist standpoint, seeking to understand the lived experience of participants, acknowledging the role of hegemonic structures in shaping their experience and understandings of it, whilst also being cognisant of the potential asymmetric power relations between myself and participants.

Fifteen primary teachers from one multi-academy trust (MAT), self-selected onto the project following a MAT Conference which in part, referred to the potential limitations of fixed ability grouping. The project provided two sessions of introduction to the purpose and rationale for PfT and then encouraged participants to explore how they might enact its core principles in their classroom for 6-8 weeks, before meeting back within a focus group. Discussion in the focus group was prompted through an open question asking participants to share what they had done and to explain the barriers and benefits they had experienced. Participants were encouraged to draw on the experiences of others in the group to determine new practices they would explore over the coming half-term. This cycle was repeated twice. The project took place over a six-month period and culminated in a final semi-structured interview, undertaken individually or in pairs. Data was collected through initial surveys, focus group transcriptions and recorded interviews, and analysed using thematic analysis.

## 1.7 Research aim

The aim of the research is to understand teacher perspectives related to the feasibility of implementing PfT in a UK primary classroom.

Current research surrounding pedagogy related to fixed ability thinking and related practices (FATAP), has focussed on the impacts of these approaches (Section 1.2). This study seeks to understand the barriers and benefits for the implementation of an alternative approach to the current practices. It focusses on teachers’ reported understandings, adjusted practices, and context specific issues in relation to implementation and what barriers and benefits these present. The social, emotional, and academic effects on the children of teachers’ new understandings and practices are another key element of the study.

## Use of the term ‘ability’

Throughout this thesis, acknowledging the contested nature of the term ‘ability’ explained in section 2.5.2, whenever it is utilised by the author it is written within inverted commas. This approach is also used to highlight that the author seeks to distance themselves from the pervasive and normative use of ‘ability’ within the primary school context (Yarker, 2011) to differentiate children as learners.

## 1.9 Structure of the thesis

In Chapter 2, a critical review of the literature establishes the current educational context within a neo-liberal system focussed on raising standards and accountability mechanisms external to the school, and the neo-liberal conception of social justice. It then explains the effects this context seemingly has on teacher identity, autonomy, and pedagogy, before presenting an alternate understanding of the purpose of education and social justice from a critical pedagogy standpoint. This viewpoint is established as a lens through which teachers’ perceptions of their own pedagogical practices whilst aiming to implement PFT are explored and understood.

Conceptions of ability and how this potentially guides current classroom practice are critically analysed. Literature related to practices based on notions of fixed ability is then explored, highlighting the rationale and effects of these practices. The notable prevalence of fixed ability grouping in mathematics is highlighted. A framework for Pedagogy for Transformability (Appendix A), as an alternative to these practices, is then explained before considerations for the use communities of practice (CoP) are explored as a mechanism for enabling teacher reflexivity about their practice.

Chapter 3 presents the research design and methodological framework underpinning this thesis and their rationales. The research methods are discussed and the case for a case-study design is made. Asymmetries of power in the researcher-participant relationship are brought to the fore and mitigations are explained as part of the ethical considerations.

Following core processes of thematic analysis, as outlined by Braun and Clarke (2022), across the three different data sources in the project, the findings are presented in Chapter 4, using an analytic framework underpinned by Kemmis (2009) theories related to practice architectures. The findings are organised to illuminate the practices teachers engaged with, the challenges they faced considering the effects of these practices on themselves and the children, and their emerging understandings about their current and future practice. This is to mirror the narrative of the participants’ experiences on their journey through the project. The findings seek to represent typicality of teacher perspectives and extrapolate the views and experiences of different teacher typologies – early career and experienced teachers, and those who present differing mathematical identities.

Core themes stemming from the findings are developed in Chapter 5. There are two sets of themes which are inter-twined – a primary and secondary set. The secondary set of themes are created from distinct themes which run through each of the primary themes. The two sets of themes are presented as elements of a warp and weft structure to the fabric of the discussion. The primary (warp) themes of Control, Competence and Confidence are discussed in relation to the research questions and examined considering existing research and knowledge in the field. The secondary (weft) themes – Over Time and Changing Identities – are evident threads through each of the core themes.

Chapter 6 draws the thesis to a close, presenting the contribution to knowledge and application of this knowledge to the field of education. Recommendations for practice are made, which may have the potential to support the work of policymakers, teacher educators, school leaders and teachers in primary education. The chapter considers how this research might be further developed and new avenues of study which potentially emanate from the new understanding gained. Finally, the limitations of the research are discussed, concluding with reflections on my doctoral journey.

## 1.10 Summary

This chapter has introduced the context of the study, its aims, objectives, and the questions which drive the research process. It outlines the policy context and how teacher perspectives on the feasibility of implementing PfT in primary classrooms were explored. My researcher standpoint and how this underpins the research methods taken has been established. The following chapter is a review of relevant literature which examines the policy and professional context of the study.

# Chapter 2 – A review of the literature

## 2.1 Introduction

This chapter provides an overview of the current research and literature, creating the foundation on which this doctoral study, and its contribution to knowledge, builds. The positionality of the author, and the lens through which the current educational context in England is viewed is established from the outset.

Section 2.2 presents and critiques the literature related to the purpose of education from a critical pedagogical perspective and outlines the understanding of social justice articulated as part of this purpose. The next section draws upon elements of the works of Foucault as a lens through which the current, neo-liberal educational context can be understood and analysed.

Section 2.3 argues that neo-liberal educational policies have promulgated teaching practices and classroom cultures based upon variable notions of academic ability as being quantifiable and fixed – understood as a given entity in each individual, and which can be made visible and therefore comparable between learners. The proliferation and rationale for fixed ability grouping, in its various guises, are outlined before the effects of these pernicious practices are expounded in section 2.4. The effects on children, teachers and society are considered.

The penultimate section presents the pedagogic approach at the heart of this study. This alternate approach to learning seeks to challenge notions of fixed or given ability and establish core principles to guide teachers practice towards enhancing the learning capacity and self-efficacy for all children, by removing barriers to learning in the social, affective and cognitive domains of children’s learner identity – PfT

The final section brings to the fore CoP and practice architectures, as the sites for both current teacher practice and potential sites for emancipatory change.

## 2.2 The double purpose of education – the critical pedagogue perspective

The purpose of education and how its quality might be judged is discussed from the perspective of critical pedagogy. This starts with a foundational premise that education and society are each a construct of the other, in a mutually creative way, and this is developed through a critique of Dewey (1916) and Kemmis (2012).

From this point, a working understanding of critical pedagogy - its goals and processes - is presented. Once this theoretic and pedagogic positioning is conveyed, a working conception of freedom, social justice and human rights is developed to explore how judgements about educational quality might be formulated within the critical pedagogy perspective.

### 2.2.1 Education and society

Dewey (1916), an early critical pedagogue, describes education as a process of bringing up to be part of and to contribute to society. He suggests that society and the beliefs that underpin it are not inherent to those born into it, they are assimilated through interaction. These beliefs are assimilated, in part through education. This understanding could suggest that the primary purpose education is to assimilate people into society, maintain the status quo and set societal norms. Therefore, arguably, education can be understood as a hegemonic structure within society. However, if the norms and traditions are related to a continual re-organising, re-constructing, and transforming society for the benefit of all, as Dewey also suggests, then accusations of hegemony might be partially dispelled.

Within this understanding of the relationship between education and society, engagement with educative acts has a dual purpose – one articulated by Kemmis as the “double purpose of education” (2012:894) – to both form and transform society. In seeking to form and transform society, Kemmis emphasises relational mutuality of individual and collective societal goals and explains,

“...education is a process by which children, young people and adults are initiated into forms of understanding, modes of action, and ways of relating to one another and the world, that foster individual and collective self-expression, individual and collective self-development, and individual and collective self-determination, and that are oriented towards the good for each person and the good for humankind.” (Kemmis & Mutton, 2011:18).

Therefore the ‘double purpose of education’ can be interpreted as living well (in an appropriate way) in a world worth living in. Part of enacting this symbiotic relationship between education and society is for educators and societal participants to be open to change and not simply repeat the patterns of what has gone before (Biesta & Safstrom, 2011). The current, pervasive perspective on the relationship between education and society is presented in section 2.3 and establish the context for this study.

### 2.2.2 Education and critical pedagogy

Ontologically, this study is founded in critical realism with the aim of understanding the social world and the structures at work within it that frame events and discourses, to change or challenge them, where they are seen to unjust (Bhaksar, 2011). Critical pedagogy is an educational outworking of this positionality (Giroux, 2011) and therefore has centrality within this study. Considering this ontological perspective, there is an inherent difficulty for critical pedagogues in seeking to promote the double-purpose of education, as it recognises that society and education are not mutually exclusive entities. Educational purposes are established and embedded by society (social interactions) and within these interactions there are asymmetries of power, which privilege some and inhibit and bind others (McClaren, 2009). Within society these asymmetries of power are not always apparent and can be framed as the norm through discourse and action (Foucault, 1970). Furthermore, within these asymmetrical relationships established rules and relationships can lead to a lack of social justice – distributive and recognition, whereby resources and agency are inequitably distributed within society (Fraser, 2003, 2009).

Dewey (1910) argues that education exists to ensure that societal rules, which have irrational tendencies, are challenged when they seek to exert influence over others and maintain erroneous habits. He contests that the mind should be exercised to resist the power of language, suggestion, and imitation towards wrong habits of thinking, against the dual purpose of education. Freire (1970), whilst in agreement with this as a goal of critical pedagogy, would also guard against privileging of the mind over action, and argues that theory and action should converge as equal partners in the quest for societal transformation. Critical pedagogues would therefore argue that education needs to have a dialectical nature – seeking out and addressing contradictions in the purpose and process of education and societal formation. Fundamentally, critical pedagogy seeks to intervene in society to create the potential for equitable, societal transformation (Giroux, 2011).

The challenge for educators, therefore, is to identify these structures of injustice and transform any undemocratic and oppressive relationships, within the system, curriculum or classroom, and model attitudes and actions that value the individual as an agent in and for society, to enable learners to grow through experience.

### 2.2.3 Education and critical theory

Critical theorist, Foucault (1970, 1972, 1977), is concerned with power, discourse and influence, engendered and exercised through societal structures, including education. He questions the legitimacy of societal norms which have been established and maintained through unequal balances in power, and the authority of those with power to determine what is understood as the ‘truth’, or the validity of alternative choices to the normative discourse. He argues that truth cannot be absolute. At the same time, he argues it is not relative – rather it is relational - determined by power relations within the context. Foucault argues that power is held by those who control the dominant discourse, and through related technologies of domination, through which preferred practices and identities are normalised. In the domain of state funded education, this discourse is directed and controlled through government education policy and is seemingly embedded through technologies such as Ofsted gradings, high stakes testing and performance-related-pay.

The power of the individual within the state-funded education system to resist such hegemonic structures brings to the fore challenges for the dialectical nature of critical pedagogy. There is a dialectical dilemma in so much as an individual’s resistance is affected by the social and material conditions they engage within, as these conditions can lead individuals to unwittingly internalise the priorities of the wider system as a means of survival (Darder et al., 2009). If individuals are dependent upon and invested within the system, without Dewey’s exercise of the mind, language, attitudes, and actions of the system are inculcated – to challenge or resist them would be to undermine the individual’s own position, stability, or survival.

## 2.3 The current educational context

In this section the current educational context is presented and critiqued from the perspective of a critical pedagogue. The purpose and process of education presented in the government White Paper, *Educational Excellence Everywhere* (DfE, 2016), which creates the framework of expectation in the current context, is interrogated and set in contrast to the purpose and processes within critical pedagogy.

The White Paper (DfE, 2016) is arguably underpinned by a neo-liberal concept of education - a concept which is defined in section 2.3.1. Through this consideration of a neo-liberal perception of the role of education, the discourses of social mobility as social justice, the role of research to support practice and earned autonomy within the White Paper are highlighted. Within this relatively brief presentation of the core discourses, the context and the opportunity for this doctoral study are described.

### 2.3.1 A neo-liberal educational perspective

At the core of neo-liberal education policy, as argued by Ball (2017), is a political conception of the education system as the provider of high and low skilled labour to support economic stability and growth, guiding managerial sensitivities towards enterprise and entrepreneurship, with their impact monitored through approaches taken from the private sector.

This emphasis on education as the driver of economic stability or growth has been a common theme within education policy, across the political spectrum, since Callaghan’s Great Debate in 1976 (Forrester & Garratt, 2018). This trend of focus continues to the present day, with international comparisons of educational performance to ensure the United Kingdom does not fall behind its global economic competitors.

To create impetus for change towards this agenda, the neo-liberal concept of education has been embedded through the marketisation of schools and a system of accountability through measures, monitoring, and comparison. Within the education system, measures of productivity and improvement to capture the worth or value of an individual or institution have been established (Ball 2017). Using Foucauldian terms, subsequent governments have established ‘technologies of domination’ (1977:112), such as league tables, binary inspection judgements and performance-related-pay, to ensure an unequivocal focus on raising standards in education to ensure economic competitivity and responsiveness, recognised through improved academic outcomes in national and international tests.

This conception of the role of education is at the core of the normative drive for ‘educational excellence everywhere’ (DfE, 2016:5); a goal which would appear defensible against any challenge. It would be naïve and inappropriate to suggest any other. That notion however is entirely dependent on what is commonly accepted as *the* descriptor of educational excellence. Furthermore, any descriptor would need to be premised on a shared understanding of the purpose of education and how the quality of that education should be judged or measured. Therein, lie two areas of contestation – the purpose of education and how its quality should be judged.

### 2.3.2 Education for social justice?

Nicky Morgan, Secretary of State for Education at the time, in her foreword to the White Paper (DfE, 2016) acknowledges the power of education to transform lives and to act as a driver for social justice. The purpose of education in this Paper is encapsulated in the following excerpt: “a well-educated population make our country stronger, fairer, wealthier and more secure” (Morgan 2016:6). The White Paper goes on to set out the educational goals of providing a good education for all and addressing the apparent lag in standards for those in areas of socio-economic deprivation or those who are disadvantaged.

Within this articulation of social justice - improving academic outcomes for those children in the most deprived areas – the measure for success is limited to measurable outcomes in standardised tests. Whilst it would not be right to critique the goal of ensuring equity in access to high quality education for all, what is measured in judging the quality of provision reveals the narrow nature of the goal and does not necessarily reflect a universal understanding of social justice. The perspective that improved academic outcomes, leads to better jobs, which leads to improved wealth and stability, supported by Sir Michael Wilshaw (2015), Chief Inspector of Schools at the time, is more readily recognised as a focus on social mobility, rather than social justice, and could be argued to create the emphasis on individual mobility rather than tackling underlying issues of social injustice. An emphasis on social mobility characterises the philosophical tradition of “market-individualism” in political conceptualisations of social justice, as outlined by Forrester and Garratt (2018:41).

### 2.3.3 A new approach to raising standards?

As well as the focus on educational outcomes, within the White Paper there is also a focus on “supported autonomy” (2016:8) and shared practice to support the drive for improved standards. The ‘supported autonomy’ approach provides freedom and power for successful leaders, to support those failing to meet the unapologetically high expectations. As part of this approach the Paper states, “outcomes matter more than methods” (2016:9) and leaders have the freedom to be creative and innovative through the application of their expertise and research. It is within this context that the opportunity for this study arises. This study seeks research-led solutions to addressing the learning needs of every child. It is in the fault lines between the discourses of improving outcomes for all children, particularly disadvantaged children, and the discourse of research-led approaches and pedagogic autonomy (also framed as agency – Biesta et al., 2015), that the voices at the heart of this study are positioned.

## 2.4 The impact of neo-liberal approaches to education

Increasingly, since the Great Debate in 1976, recognising improvement in educational outcomes in primary schools has been based solely around measurable academic attainment and achievement. Whilst policymakers still emphasise the importance of the whole child, accountability for achieving the best educational outcomes is focussed on data generated from children’s performance within standardised tests and an audit culture (Keddie, 2012). These outcomes are monitored and evaluated by Ofsted and its Education Inspection Framework (EIF).

The inspection regime, which provides information to the Secretary of State for Education about the work of schools and the extent to which an acceptable standard of education is being provided claims to also drive and support school improvement. Much of this drive and support for primary schools, has been provided by a focus on and analysis of attainment and achievement data generated by the results of a national testing programme, at the end of each phase of primary education – with a particular focus on discrepancies between outcomes for different groups of children; based on differences in gender or disadvantaged status (such as Looked After, first language, socio-economic background or Special Educational Needs or Disabilities (SEND)). As a further cog in the monitoring mechanism of educational quality, this data is often used to support evaluations of teacher effectiveness, through performance management structures within schools. Subsequently, within this multi-layered monitoring regime, there has become an increased focus on pedagogic and professional practice that is geared towards the apparent attainment of high, test scores at the potential cost of pupil and teacher identity and agency (Ball, 2015; Marks, 2014; Roberts-Holmes, 2015; Sachs, 2016).

### 2.4.1 Panoptic performativity

The notion of performativity is developed by Perryman (2006:155), when he refers to education as an environment of “panoptic performativity”. This idea is developed from the practice of control and discipline through surveillance. The concept of panoptic performativity proposes that once the surveillance mechanisms are removed, for example an inspection is completed, behaviours have been established and are maintained by a consciousness of future surveillance. This idea is developed from Foucault’s (1970) work *‘Discipline and Punish’* and his study of the impact of the prison system governed from the panopticon, where prisoners felt they could always be seen, even when they may not have been under scrutiny. In the case of primary education, surveillance and self-regulation is established through the publishing of outcomes-led league tables and inspection regimes, which presents easily accessible and simplified performance data for stakeholders and the wider public.

### 2.4.2 Impact of performative panopticism

Arguably, performative panopticism has two specific impacts, that relate to both in-service and pre-service teachers. These are compliance (Ball, 2003) and diminished professional autonomy in pedagogic choices (Roberts-Holmes, 2015), arguably highlighted in part by the introduction of the National Literacy and National Numeracy Strategies in the late 1990s.

To demonstrate effectiveness, in pursuit of accreditation, or avoidance of reprimand and stigma, emanating from the inspection judgements, it is incumbent on schools to provide verifiable data of pupil performance. Pupil performance is the output measured to evidence school effectiveness, and through extrapolation, teacher performance, and notionally, pupils’ ability. Within the panopticon, the intention is to establish compliant performance – high quality learning provision. However, considering the constant surveillance, it could be argued that *being seen to be compliant* is a sufficient goal, to avoid reprimand. Ball (2003) suggests that within the panoptic performativity culture, authenticity in practice is lost and genuine efforts to improve standards are diverted by the perceived need to constantly appear to be performing. There is a perceived pressure to present data that demonstrates that targets have been met and progress in learning has been made.

The second consequence of performative panopticism is a sense of diminishing professional autonomy in relation to agency within pedagogic choices. According to Alexander (2008) pedagogy is the act of teaching, founded in theory, values, the needs of wider society. However, when pedagogy has values removed, through intense curricula regulation, promotion of fixed ability practices - as explained in detail in section 2.5 - and a sense of continually being monitored, teachers potentially become nothing more than technicians, resulting in “inauthentic practice and relationships” (Ball, 2003:222).

Within the panopticon, teachers’ can be pressured to adopt practices that focus solely on achieving high test outcomes, potentially ignoring the more holistic needs of the child (Hart et al., 2004), in order that outcomes are privileged over pedagogic process. A wider perspective on the purpose of educating children is narrowed to generating data, to highlight professional effectiveness in neo-liberal terms (Ball,2003). Supporting this evaluation but related directly to the context of education policy in the UK, the concept of “datafication” was presented by Roberts-Holmes (2015:308), as a way of explaining the direct impact of policy on pedagogy in the Early Years phase of education, and the how the children are framed as learners during their primary school experience.

It could be argued that the likelihood of compliant practice and the ‘datafication’ of pedagogy are symptomatic of the changing nature of teacher autonomy highlighted by Gleeson and Gunter (2001). According to their work teachers’ autonomy has been diminished since the 1960s and can be seen in three distinct stages. Until the Great Debate the argue teachers enjoyed ‘relative autonomy’, and accountability was encountered through self-reflection and peer review. As the National Curriculum and standardised tests were introduced in the 19080s, through until the 1990s, a period of ‘controlled autonomy’ was experienced. This period was characterised by formal reviews of teacher performance. They contest the current stage of diminishing agency – ‘productive autonomy’ – is recognised by audits of children’s performance, as a proxy for the teachers’ competence. These audits of performance are in the core subjects of English and mathematics, which raises the stakes in these subjects, and subsequently diminishes the emphasis or commitment to teaching non-core subjects (Collins et al., 2010; Nichols & Berliner, 2007).

Since the introduction of tools such as testing and performance management, educational practices have been tightly directed – in relation to the level of expected outcomes and, in varying degrees, the methods by which these should be achieved. Teachers who started their careers during the period these tools were implemented, are likely to be the school leaders of today. As such they are unlikely to have experienced practices beyond the directed expectations of the day, and therefore can only offer what Lortie refers to as an “apprenticeship of observation” (1975:61) to those they are leading. Thus, under their leadership these directed practices have been “normalised” (Foucault, 1977:72). Emphasis within primary education towards the driving up of standards, using streaming or ability grouping (this practice will be explored fully in Section 2.5), have been deeply embedded classroom practices since that time.

The pervasive nature of this discourse means that there has been limited opportunity for the exploration of alternate practices unless leaders have had opportunity to work beyond the system or engage with further study. Therefore, any increased autonomy towards pedagogic change, as offered in *Excellence in Education Everywhere*, is likely to be limited to what has currently been experienced, without further challenge – much like the learner who is urged to be creative but with only their current experience, sense of identity, and resources to work with (Cassell & Door, 2016).

## 2.5 Fixed ability thinking and practices (FATAP)

This section considers where notions of fixed ability and related practices have emanated from and outlines the different conceptualisations of ability that might underpin current practices in primary education. The different approaches to ability grouping are noted and the rationales for their use are analysed. Finally, the specific case of fixed ability grouping in mathematics is discussed.

### 2.5.1 The genesis of FATAP

Thinking, in the UK primary education environment, related to notions that ‘ability’ is fixed, traces its origins to the period of British imperialism, and a growing ‘eugenicist’ theory borne out of genetic determinism. Chitty (2014) explains how this thinking developed and became established, and still underpins much of current thinking. Bourne (1994) recognises this thinking as unwittingly being the basis for the current common-sense conceptualisation of ability.

This ‘common sense’ conceptualisation seems to ignore the ‘nature/nurture’ debate highlighted in Chapter One of Chitty’s (2014) work, and often forms an uncritical version of the vernacular use of ‘ability’ in, both societal and educational, spoken, and written references. In the opening chapter of Hart et al. (2004), differing understandings of ‘ability’ are presented. Each of these understandings premises a deterministic approach to teaching and learning. These understandings will briefly be explained to present the basis for challenging notions of FATAP. Establishing this basis is important to the focus and methodological approach of this research, particularly within the epistemological and ontological foundations upon which it is built.

It should be noted that whilst conceptions of ‘ability’ are the focus of the next section, that does not equate to an acceptance that ‘ability’ necessarily exists. The idea that ‘ability’ even exists is contested by Claxton (1990) who argues, in the context of education, that children’s capacity to learn is more reflective of the experiences they have been exposed to, the tools they have been supported to develop towards learning, and the social and emotional environment in which their learner identities are established. This perspective is supported through current understandings in neurological science (Boaler, 2021).

### 2.5.2 Different conceptualisations of ‘ability’

The first conceptualisation of ability highlighted by Hart et al. (2004), is that which is inherent, given or inbuilt – the conception Dweck (2000) challenges in her Entity Theory. This view would suggest that people have a given amount of ability which they then utilise within the boundaries it presents. Historically this has been borne out by psychometric testing, such as IQ tests, which enable measures of intelligence (understood interchangeably with ability) to be compared. Accepting this conception of ability as the core driver for learning, suggests that if children gave their best with the given amount of ability they were imbued, different outcomes would naturally ensue. However, whilst this understanding governed education policy in the early twentieth century, and determined which type of schooling children were afforded, the IQ tests that underpin the measures of cognitive ability, are now increasingly recognised as measures of what has been learned (Sternberg 1998).

Another understanding of ‘ability’ acknowledges that environmental factors play a significant role in the formative years of child development. These differing experiences often lead to children being grouped according to their on-entry (to school) levels of ‘ability’. In this way, initial assessments of ‘ability’ on-entry, can become deterministic, with diminished learning experiences upholding predefined ability grouping and arguably life course. This would therefore appear to prove that ‘ability’ is determined by environmental factors in the early years of development, and children have limited opportunity to rise above their designation. Without the effective use of frequent formative assessment (Wiliam, 2018) which involves adjusting the provision made to create access and extension to children’s learning, children can be inhibited in their progress as a result of diminished learning experiences.

Further to these interpretations of ability, the language of ‘ability’ is used as a comparative descriptor and not necessarily understood as a fixed entity. This perspective tends to use ‘ability’ when describing children’s academic performance relative to others and is used within the context of ‘less able’ or ‘more able’. This vernacular use of ‘ability’ becomes a short-hand or common-understanding between educators, for ranking children to make effective provision within their perceived bands of ‘ability’. Through use of this common-place construct of ‘ability’, individual differences in learning needs, characters, interests, potentialities can become lost, and limits are placed on individual learning capacity, again giving children limited opportunity to rise above their designation.

A combination of all three conceptualisations and implicit theories about ‘ability’ are utilised to support the grouping of children in primary school. These expressions of ability are often used as deterministic tools, which fix notions of children’s ‘ability’ or learning capacity and form the basis of practices related to fixed ability grouping (Hart et al., 2004).

### 2.5.3 FATAP in primary education

A challenge when presenting the current research surrounding the impacts of ability grouping is that the range of practices related to ability grouping are often conflated. Hallam et al. (2003) as part of their study of ability grouping practices in England and Wales, note six different approaches to ability grouping; streaming, banding, setting within the same age-group, setting across age-groups, within class grouping, and within class grouping which involves teaching some children away from their class peers (intervention grouping). Alongside these common practices is a generalised form of practice understood as ‘mixed-ability’. Although mixed-ability grouping is often posited as an alternative to fixed ability grouping, implicit theories related to notions of fixed ability can still frame how children are identified and subsequently identify themselves (Marks 2016).

The most common ability grouping practices across the UK and Ireland (Hallam et al., 2003; Hamilton & O’Hara, 2011; Francis et al., 2017; McGillicuddy & Devine, 2018; Bradbury, 2019) is grouping by ability within the classroom cohort. Bradbury (2019) describes this as a ‘mixed-ability’ class which is divided physically into several small groups to sit at ability-based tables, often given names of animals or characters to obfuscate their hierarchical organisation. This approach is also augmented by some groups in this arrangement being taught outside of the classroom, as part of an ‘intervention group’ or to address SEND.

### 2.5.4 Nuance of rationale

The current educational climate encourages the use of ability grouping to ensure effective teaching, as part of the broader goal of raising academic achievement. Whilst government educational policy has rarely, directly instructed primary schools to group by ability, the pervasive standards agenda has created a range of nuanced rationales for the take-up of these practices.

Four key rationales for ability grouping emerge from Hamilton and O’Hara’s (2011) exploratory study of Scottish primary schools. A nationwide survey of headteachers of primary schools with more than 100 pupils on roll, revealed motivations of raising standards, managing behaviour, tailoring education and teaching efficiently. These findings are borne out across a range of other studies (Marks, 2014; Francis et al., 2017b; Hartas, 2018; McGillicuddy & Devine, 2018; Bradbury, 2019; Taylor et al., 2019) from different areas of the UK.

Whilst these rationales might be broadly recognised across a range of studies, that does not necessarily equate that teachers and leaders accept them as universally beneficial to learners – a return to the notion of pedagogic choices divested of values, highlighted by Alexander (2008). Hartas (2018) notes that decisions made about setting are often determined within professional and educational tensions related to national performance agendas and accountability. Bradbury (2019) also found that teachers in her study had doubts about the efficacy of grouping practices for all children. Equally, simply because teachers and leaders may not subscribe to the practice of grouping that does not necessarily mean they disagree with notions of fixed ability, as studies by Horn (2007) and McGillicuddy and Devine (2018) demonstrate.

The reference to a rationale of efficiency, highlighted in Hamilton and O’Hara (2011), is further developed by Taylor et al. (2019) when noting issues of operational and strategic flexibility in any process of trying to mediate the effects of ability grouping. Marks (2014:38) also discusses practices of ability grouping in terms of “educational triage” and assigning resources to those who could possibly achieve the expected standard – a view which speaks to the rationale of efficiency. Anthony and Hunter (2017), in their New Zealand-based research, contend that ability grouping is only of benefit to the schools and teachers, with children often disadvantaged by the emphasis on efficiency of practice.

Further to the studies already mentioned, two more nuanced rationale for ability grouping are drawn out in articles by Boaler, Wiliam and Brown (2000) and Yarker (2011). The former highlights the pressure on school leaders, particularly in areas of socio-economic disadvantage, to organise learning in ability groups. They contest that with the marketisation of schools and the need to attract pupils, leaders feel obliged to bend to the will of ‘middle-class’ parents, who more typically push for hierarchical groupings to seek advantage for their children. Another perspective is proposed by Yarker (2011:225), which highlights the pressure on teachers and leaders to engage with the discourse and practice of ability grouping as a means of “affirming professional competence”. To contest the normative approaches of grouping might appear “pedagogically naïve”. Bradbury (2019) emphasises this point, noting the widespread unquestioned engagement with these practices amongst teachers.

Whilst the practices may be unquestioned, notions of fixed ability also, often lack professional critique. As Marks (2013) emphasises, just because schools may not encourage fixed ability grouping does not mean they challenge fixed ability thinking and its pernicious impact on the framing of learners’ identities. It could be argued that positing ‘mixed ability’ classes as an alternative pedagogy, still leaves notions of ability unchallenged, as suggested within the phrase ‘mixed-ability’ there is still a reference to different ‘abilities’. Yarker (2019) acknowledges the uncontested acceptance of fixed ability thinking allows core questions linked to the purpose and practices within primary education to be avoided. This view echoes Biesta’s (2009) challenge to consider the difference between ‘effective’ and ‘good’ education.

### 2.5.5 Mathematics as a particular case of embedded thinking

Within this study, mathematics is a particular case of concern and a subject in which FATAP are highly prevalent (Boaler et al., 2000; Solomon, 2009). There are three symbiotic reasons for this concern, all stemming from the privileged societal and curricula position mathematics holds (Jorgensen et al., 2014). Firstly, they note that achievement in mathematics is used as an inherent marker of intelligence, suggesting this related to the fact that it is presented within a hierarchy of organised knowledge. This is supported by epistemological beliefs that surround it based the factual certainty of the knowledge it contains (Lofstrom, 2015).

This sense of epistemological certainty can lead to pedagogical choices that emphasise the attributes of speed (Boaler, 1997) and transmission approaches to learning for students recognised as being of the same ability (Boaler et al., 2000; Nolan, 2012), rather than inquiry-based or participatory methods. Furthermore, in the specific case of mathematics, Solomon (2009) emphasises how students require mathematical literacy to navigate learning. She acknowledges the challenges for students in navigating the complex relationship between every-day and mathematical language, which enables access to the discourse about mathematics within lessons, and engagement in the classroom interactions. These elements of mathematical literacy are implicit in participatory identities, which frame students as mathematics learners.

## 2.6 The impacts of FATAP

Arguably, the impacts of FATAP can be recognised as resulting from, and creating new hegemonic structures, which have become part of the ‘established rules’ and ‘common-sense thinking’. A critical review of these practices uncovers how social reproduction, rather than social mobility or social justice, is enabled to flourish and how these practices fail to close the gap in educational outcomes for disadvantaged groups in the primary education system.

From the review of literature undertaken as part of this study, the impacts can reasonably be separated into four categories, some of which are overlapping, mutually related and mutually sustaining. The impacts can be categorised as those which impact on teachers’ choices, both pedagogic, and in relational terms; those which have social and emotional effects on the children, which then become manifest in academic outcomes; and both peer and parental constructions of other learners. The ultimate impact of FATAP, as argued and evidenced through decades of studies (Jackson, 1964; Lacey, 1970, Ball, 1981; Boaler, 1997), is the reproduction of social hierarchies.

The main emphasis of this section is to interrogate the studies surrounding the impacts on teachers and learners. The work of Wiliam and Bartholomew (2004), Marks (2016), McGillicuddy and Devine (2018) are used to explore the impacts on teachers and the work of Solomon (2007), Francis et al. (2017) and Marks (2016) are explored to demonstrate the impacts on learners. This section concludes with a brief exposition of Boaler’s (1997, 2005) studies, highlighting the reproduction of social hierarchies and subsequent barriers to addressing the ‘outcome gap’ for disadvantaged communities. This section starts by signposting the problematics of FATAP.

### 2.6.1 The problematics of FATAP

As highlighted already through afore mentioned studies, FATAP are an area of contestation. However, whilst within the current platform of research, the contestation could be described as dynamic and active, within the platform of the practitioner, whether leader or teacher, the contestation appears less prevalent. This is by no means a criticism, as pragmatics, accountability mechanisms, and “psychological prisons” (Boaler, 2005:5) for practitioners abound to inhibit the space, both temporal and professional, for thinking about practice beyond the practical and instrumental.

Inside the practical and instrumental treadmill of ‘effective education’, the language and notions related to ‘ability’ become conflated, and common-sense understandings and utterings prevail (Drummond & Yarker, 2013). The rationales presented by policymakers, school leaders and teachers metaphorically merge in the ‘emperor’s new clothing’ of justifiable practice (Hamilton & O’Hara, 2011). Also conflated are the different types of grouping, and references to them, in current research. These three problematics, these areas of contestation, are then often combined to create a fourth problematic – that of group allocation and considerations of how that is undertaken, by what criteria, and to what degree is it a neutral act.

According to studies by Hartas (2018) and Taylor et al. (2019) this is a not a neutral act and the criteria are not purely based on addressing pupils needs. Hartas, using the Millennium Cohort Data, draws links between teacher perceptions of pupil characteristics and group allocation, a process seemingly creating a “double disadvantage” (Francis et al., 2017:97) to those in disadvantaged groups. The study shows the extent to which teachers project forward to what pupil’s might achieve or go on to do, based on their attitude to learning, current attainment, behaviour, or background, as they allocate to groups. Studies show that ‘low ability’ groups are disproportionately inhabited by children from disadvantaged families, ethnic minorities, and those born in the summer (Hallam & Parsons, 2013).

### 2.6.2 The impact on teachers of FATAP

Case studies of three, state-funded primary schools, formed the basis of Marks (2012) analysis of the impacts of FATAP on teachers, and subsequent impacts on children. The case studies included interviews with children, teachers, and school leaders, as well as observations of lessons. Each of the three schools professed to alternative approaches to fixed ability grouping but many of the findings found convergence in the ways children experienced learning because of teachers’ implicit theories about ‘ability’. Whilst this qualitative and phenomenological emphasis negates the potential for interpretive generality, this study adds further layers and context to those previously undertaken, which consequently support more generalisable understandings of the impact on teachers. Marks (2016) draws on these findings and establishes three inter-related impacts of FATAP on teachers’ pedagogic and practical choices; relational interactions which frame learner identities, resource allocation and ‘educational triage’, narrowed curriculum access and pedagogic tools. The following description of these impacts will tackle each in order and draw upon studies by others in the field to extrapolate the breadth of current understanding.

Describing the different ways in which a Year 4 teacher engaged with two groups of children, who had

demonstrated identical levels of thinking, in a ‘mixed ability’ class (Marks, 2013:36-37), Marks seeks to highlight how implicit theories about fixed ability framed the teachers’ interactions with children and shaped their learner identity. In this vignette, children framed as low ability, were admonished for laziness and silliness, whilst those framed as high ability were praised and were lauded in front of the class, for demonstrating the same level of conceptual understanding. Boaler, Wiliam and Brown (2000) attribute this kind of framing to low expectations for those in low ability groups. This is not presented as an example of a teacher’s questionable practice, but rather as an illustration of the lack of general criticality and awareness of how fixed ability thinking is pernicious in its manifestation in practice. Further examples of how teachers’ perceptions of ability can frame learner identities, are evident in Horn (2007:48) and McGullicuddy and Devine (2018:93), where children are referenced as “fast kids, slow kids, lazy kids” or as either “’turned off’ or ‘ready to fly’”. In this way, children become ‘othered’ and regarded as detrimental to the progress of others.

A practical outworking of the way in which children are potentially ‘othered’ – regarded and treated as different from the norm – is notable in the ways in which resources are allocated for those in the ‘lowest’ groups or part of SEND provision. Marks (2016) describes how teachers with the least experience or teaching assistants are assigned to the least able groups, in order that the strongest teachers can be utilised to ensure that those who are perceived capable of achieving national expectations, are successful. This is described as ‘educational triage’, whereby less time and energy are expended on ‘lost causes’. This practice, born from fixed ability thinking, is also brought to the fore in a range of other large-scale studies (Alderton & Gifford, 2018; Francis et al., 2017; Hamilton & O’Hara, 2011; Horn, 2007; McGillicuddy & Devine, 2018).

Further to this, children in lower groups are often directed to work outside of the classroom, often in places ill-designed for learning, such as corridors or storage rooms. Learning situated in these inferior environments often makes learning and perceived low-learning status public, adding fear of humiliation to incorrect responses to questioning. Marks (2014a) reports that considerable learning time is lost as staff trail children around looking for available spaces – which then can be without adequately resourcing to make learning accessible. This closely reflects Fraser’s (2009) distributive injustice, whereby there is a lack of equality of resource distribution for children in the lowest groups.

The final aspect of the impact of FATAP on teachers’ pedagogical and practical choices (Solomon & Lewin, 2016) – narrowed curriculum and restricted pedagogic tools – is an area of study where there is some variance in current understanding. Wiliam and Bartholomew (2004) contest it is not solely because of the existence of ability grouping that the widening gap in academic outcomes for children in the lowest groups is caused, but rather because these groups exist, based on fixed ability thinking, children in the lowest groups receive a diminished form of pedagogy. The findings from their study showed a correlation between the degree of progress and ranking of the teaching group, with more progress being made by those in the highest sets. Francis et al. (2020) goes further, arguing that the gaps between the different groups grows exponentially as they move through school. In conjunction with earlier studies by Boaler et al. (2000), Wiliam and Bartholomew, attribute this differential in progress to the style of teaching experienced by the children in each group.

Studies by Solomon (2007) and Black (2004) suggest children in higher sets tend to engage in more investigative and participatory methods of learning, which encourage understanding as well as recall. A further impact on teachers’ pedagogic choices, is that children in the same group tend to be treated homogenously, not allowing for individual understandings, experiences, or characteristics (Marks, 2016). Equally, teachers demonstrate low expectations, provide low level for children in ‘lower ability’ groups; work which puts ceilings on what children can experience and achieve, have little participatory process, and tends to emphasise the need for individual work. Francome and Hewitt (2020), summarise this as a transmissional approach, which they argue inhibits impactful learning in mathematics.

These findings, related to the impact of FATAP in teachers’ pedagogic and practical choices, go some way to explaining the ‘self-fulfilling prophesy’ of ability grouping (Francis et al., 2017), where children are exposed to diminished teacher quality, restricted curriculum content, inferior environments and resources, and low expectations based on learner identities framed by notions of fixed ability.

### 2.6.3 The impact on learners of FATAP

Through open-ended interviews with Year 9 and Year 10 students, Solomon (2007) sought to elicit student perceptions of their experience of mathematics and their learning. These participants had been part of mixed ability classes until the end of Year 7 and then since that point been allocated to sets. Having analysed the student responses thematically, through categories developed from theoretical frameworks related to learner identity and engagement in the learning process, Solomon noted skewed benefits and consequences to ability grouping for different learner groups.

Her study shows how students in the higher sets have broadly positive participatory learner identities, which contribute to negotiated understanding and collaborative, investigative approaches to their learning of maths. The open-ended nature of the pedagogy they experience perpetuates participatory identities and the ability to seek deeper connections and explanations within their learning. This outcome resonates with Black (2004) and Wiliam and Bartholomew (2004). This trend, however, is bucked by the less participatory identities displayed by girls within the study, who are reluctant to engage in the same way as their more gregarious male counterparts – this becomes an inhibitor to their learner identity and outcomes.

A similar pattern is seen in Black (2004) and Marks (2016) research in the primary school context, where those in the lower groups, view the teacher as the authority, with little sense of individual agency in the learning process. Mathematics becomes a performative endeavour, to get by or to meet the expectations of the teacher without falling short. Little of their learning experience is collaborative or investigative and this becomes part of a cycle of marginalisation – non-participatory pedagogy perpetuates non-participatory learner identities, which encourages non-participatory pedagogy (Boylan, 2010).

These studies (Black, 2004; Marks, 2016, Solomon, 2007) show how girls and those in the lower sets/groups develop non-participatory identities which inhibit learning and engagement with mathematics. Further to this, girls in the top sets see themselves as having less right to be in there than boys in the same group (Solomon, 2007), which can be seen to inhibit their willingness to participate and recognise themselves as competent mathematicians, as well as creating anxiety towards their mathematical learning. This was often because of students’ stated belief in an ‘in born’ ability to do mathematics, perceptions of mathematics being for boys and the variation in pedagogy experienced for different groups of children.

Francis et al. (2017) highlights some overlapping impacts of FATAP, following a study of 66 interviews with Year 7 students, funded by the Education Endowment Fund. The study focussed on students’ experiences of both mixed and fixed ability grouping and draws upon previous studies relating to the impact of ability grouping on self-confidence. The study highlighted highly detrimental impacts on students’ self-image and self-confidence, which culminates in low achievement. Ability grouping led to segregation from peers both physically and socially, as students in the lower sets internalised the labels of low ability to be the reflection of their capacity and worth. Grouping that was intended to reflect present attainment instead created fixed identities. These identities were developed because of being positioned as ‘other’ by teachers, and peers, and claims of ‘being treated as infants’, ‘lacking capability’, and being ‘showered with fake praise’. As a result, these internalised identities and diminished self-worth, the groups they inhabit become self-fulfilling prophesies – a “double disadvantage” (Francis et al., 2017:97), particularly when the socio-economic demographic is considered within the lower set membership. This sense of injustice is not simply felt by those in lower sets, it is recognised by those in the higher groupings, although amongst the whole spectrum of children there is limited challenge to the orthodoxy of the meritorious nature of ability grouping.

Returning to Marks (2016), the culturally embedded nature of the discourse around ability, is brought to the fore in children’s reported understanding of the notion of ability, a construct reified in ability grouping in schools. In her study, children’s fluency in talking about ability and its links to classroom practices is clear, and seemingly reflects the accepted orthodoxy forwarded in Francis et al. (2017). Pupil comments reflect the sense of self-fulfilling prophecy and meritocracy of ability grouping already mentioned, as well as the internalised nature of fixed ability thinking and a distinct lack of a sense of agency and capacity for change – described as a fixed mindset by Dweck (2012). Furthermore, the internalisation of identity, is further made real in the construction of learner identities between peers, as Kelly (Year 4) states, “the blue table means you don’t have a clue” (Marks, 2013:5).

From the original doctoral study, Marks also drew out how ability grouping was experienced by the children who formed their membership. Mirroring the findings of Black (2004), Solomon (2007) and Francis et al. (2017), girls in the top-set found the environment intimidating and dominated by garrulous boys, where fear of making mistakes and not being fast enough were pervasive. Children in lower sets reported being bored in maths because of a lack of challenge and not being able to talk about their learning. They report the negative impact of being separated from peers, which is also reported by McGullicuddy and Devine (2020) and McGillicuddy (2021) in their exposition of psycho-social positioning. The children also recognise that their chances of moving groups are limited because opportunities to show what they can do are not provided (McClaughin, 2018; Moran-Ellis, 2017), which leads to low self-concept (Campbell, 2021) – another impact of FATAP. The repercussions of these experiences are dis-enfranchised learners, who become limited in their capacity to achieve because of external forces beyond their control.

These external forces, arguably also impact of the children’s sense of self-efficacy and their beliefs in their own capacity to affect change towards their desired outcomes (Bandura, 1997). The negative self-concept and self-confidence fixed ability grouping generates effects children’s beliefs systems about themselves and what they are capable of. Cognitive, motivational and affective processes towards developing self-efficacy (Bandura, 1997) are restricted through the social and academic positioning of learners in the classroom hierarchy, and this is further compounded by the limiting impacts of broadly transmissive pedagogies experienced in the lower attaining groups. The relationships between learner identity (self-concept), learning environment, and permitted learner behaviours within fixed ability grouping practices, can be seen to mirror Bandura’s interdependent causal structure (1997:6), which can determine individual efficacy within a given social structure.

### 2.6.4 FATAP and social reproduction

The impacts of fixed ability thinking, and practices have so far been shown to have purely negative impacts on students, whether they are allocated to higher or lower sets for their mathematical education, or whether it concerns their academic, social, or emotional welfare. Implicit theories of ability also have negative impacts on teachers pedagogic and practical choices, set within a performative educational culture. However, some school leaders and teachers, arguably because of an apprenticeship of observation (Lortie, 1975), would profess to support the effectiveness of ability grouping for operational and strategic reasons. Boaler (1997) explains this as a change in educational priorities, favouring academic outcomes over equality, querying why this shift was made without any educational research supporting the practice as a means of improving standards.

Boaler’s (2005) follow-up to her original longitudinal study (1997), starkly highlights the most significant and over-riding impact of FATAP. Her original ethnographic case studies, of two secondary schools serving a similar demographic of children, demonstrated the negative impacts setting has on the achievement of children from disadvantaged backgrounds, when compared to mixed ability learning environments. Her study reveals, not only the disproportionate representation of working-class students being placed in the lower sets irrespective of their ability (based on NFER test outcomes), but also that there was a strong correlation between setting and outcomes for working class children – again when compared to minimal disparity of outcomes in a school which does not hold to this practice. The reasons for this have been replicated in findings in the studies already cited in earlier sections.

What is more significant, are the findings of her follow-up study based on interviews with former pupils of Amber Hill School (site of setting) and Phoenix Park School. Boaler found, within a comparable but small sample of respondents from each school, that a significant proportion of those who were placed in sets at Amber Hill had either moved down in their social class categorisation or simply remained the same, where there was distinct trend upwards for those who had experienced mixed ability approaches to mathematics. The adults interviewed, reported how setting had created “psychological prisons” having “formally labelled kids as stupid” (2005:141). Whilst Boaler contends FATAP reproduce social inequalities, both at the point of enaction and subsequently as identities formed within their learning are internalised.

## 2.7 Learning Without Limits Project – a Pedagogy for Transformability

The Learning Without Limits Project was born out of the University of Cambridge School of Education in 1999. The key idea of the research was to seek out and explore the thinking and practices of classroom teachers who professed to rejecting notions of fixed ability in learners. It was intended that through a rigorous exploration of how and why these practitioners undertake their professional practice that core concepts and methods, “distinctive of teaching free from deterministic assumptions about ability” (Chitty, 2004:vii), might be drawn together.

From these concepts and methods, it was hoped that a new pedagogy, free from the constraints of fixed ability thinking, might be developed. At the outset it was decided that the study must be completed through partnerships between teachers and academics, both as co-agents in the process. It was imperative that the findings were rooted in authentic, real-life contexts.

Interviews were conducted to develop a team that represented a balance of practitioners from both primary and secondary phases of education, school demographics and teachers’ subject specialisms. Phase One of the qualitative study established a descriptive account of each teacher’s thinking and practice, through a series of interviews and observations, in relation to learners, learning and teaching, and the inter-relationship between these elements. With all perspective combined, common themes were identified, and differences explored. From this point, a framework for a ‘pedagogy of transformability’ was developed (Appendix A) and the accounts of participants shared. Hart et al. (2004:54), in presenting their findings note, “it is the core ideas, purposes and principles underlying their work that demonstrate why and how theirs is not *just* good practice (minus ability-based judgements), but practice dedicated to learning without limits”.

### 2.7.1 Pedagogy for Transformability

This section expounds the alternative pedagogy – PfT – which was developed out of the Learning Without Limits project. At the root of the pedagogic thinking within this evocation of learning and learners, is an acknowledgement that the pedagogic choices teachers make in the present – both in the environment and interactions they create for each child - have a significant bearing on children’s potential for future growth and development. Returning to Dewey’s conception of education as ‘growth’, these pedagogic choices start with recognising each child’s potential for growth and change – understood as “transformability” (Hart et al., 2004:166).

Rather than relying on ‘fixed ability’ conceptions, or “implicit theories” (Claxton 1990:22), related to learners and learning, PfT, promotes the concept of ‘learning capacity’. A child’s learning capacity is constituted by both internal and external forces; and it has both an individual and collective dimension, which sits comfortably with Kemmis’ view of the double purpose of education. The external influences on learning capacity include the range and quality of learning opportunities, which are contextualised in tasks, relationships, interactions, and the language through which they are referenced. The internal forces refer to a child’s state of mind – their social, emotional, and cognitive resilience – as well as their prior knowledge, skills, experiences, and understandings they bring to any new learning. Dweck (2017:3) recognises the social and emotional elements of the internal forces as “mindsets” and loosely categorises these as potentially growth or fixed, depending on whether learners develop an open or closed mindset respectively. Claxton (1990) also advances this view and raises the idea for the potential for learning strategies to be promoted, which in turn support the strengthening of all three elements of the states of mind. He also challenges the notion of innate or given intelligence or ability, arguing that a person’s capacity to learn is contingent both on the learning strategies they have developed to date and, the prior knowledge, skills, experiences, and understandings they currently have, to which they connect any new learning.

### 2.7.2 Core purposes of Pedagogy for Transformability

The core purposes of PfT – arguably, mirroring Dewey’s purposes of education – are found in three distinct but interlinked domains: the affective domain, the social domain, and the cognitive domain (Hart et al., 2004). Whilst bolstering each of these domains, might be acknowledged as emancipatory – providing freedom to learn – from the critical pedagogue perspective held by this author, a fourth ‘emancipatory domain’ could also be added. This domain would seek to increase children’s capacity to take collaborative action to challenge material, social, political structures and relationships which lead to social injustice, within the spheres which they might be able to influence.

It is important to present the core purposes of PfT in full, in order that these can be held in comparison to the purely neo-liberal purposes of current educational policy. This is most clearly done in a table, created from the work of Hart et al. (2004:172-178) found in Table 2.1.

Further to developing the core purposes, the project also drew out three underlying principles which guided the pedagogic choices made by teachers involved in the study. The principles are Trust, Everybody and Co-agency. The principle of Trust undergirds the basis of all pedagogic choices and is a core premise for the outworking of the other two principles. The Learning Without Limits study showed “everything they (the teachers) do presupposes a trusting relationship between teachers and learners” (2004:191). This is demonstrated as children are trusted to make effective choices about their learning, to use their voice to support the learning of others and themselves, to work to find meaning and purpose in their learning and to participate fully in worthwhile learning opportunities. Therefore, if this principle is upheld, when a child is choosing not to engage, then the teachers need to adjust their approaches to understand what barriers may be inhibiting the learning process.

Once a trusting environment, created through trusting inter-relationships and interactions, is established, conditions for the principle of Co-agency can be enacted – although, both principles are mutually affirming, one being a demonstration of the other. The principle of Co-agency is enacted through a shared responsibility for the learning process, where learning choices are a joint enterprise. This is most clearly articulated by means of children having a voice in the types of challenge they might tackle, with whom, in which way (Milik and Boylan, 2013).

|  |  |  |
| --- | --- | --- |
| **Affective domain** | **Social domain** | **Cognitive domain** |
| Build confidence and emotional security | Increase sense of acceptance and belonging | Create successful access to learning by all young people |
| Strengthen feelings of competence and control | Learn to work as a learning community | Increase relevance and enhance meaning of learning |
| Increase enjoyment and purposefulness |  | Enhance thinking, reasoning and explaining |
| Enhance identities as learners |  |  |
| Build confidence and hope for the future |  |  |

#### Table 2.1 Core purposes of PfT

The principle of Everybody is based on “the unshakeable belief in the learning capacity of all young people” and that “everybody can become a more powerful learner if the conditions are right” (Hart et al., 2004:188). There is no space for practices or choices which only benefit some people, and in this principle the individual and collective dimension is most clear. All contributions to learning are valued equally and attitudes of unity and solidarity are cultivated for the benefit of all.

Florian and Linklater (2010), as part of their teacher education program at the University of Aberdeen, which has adopted PfT as a practical framework to articulate ‘inclusive pedagogy’ to its students, state, “transformability asserts the principled belief that **all** children’s capacity to learn can change and be changed for the better as a result of what people do in the present” (2010:372). Taking the principle of Everybody as a core tenet for transformability they forward the view that inclusive pedagogy focuses on extending what is typically available as part of classroom life for everybody as a way of responding to differences between learners rather than simply adjusting for some.

The headteacher at The Wroxham School, sought to establish PfT as an alternative approach to the prevalent school improvement agenda, having previously been a research participant in the Learning Without Limits project. To establish PfT within the Wroxham, there were two core areas of focus: extending freedom to learn and rethinking learning relationships. These foci were as pertinent for the teachers developing the learning environment for the children as they were for the headteacher in creating a professional learning environment for the teachers. As Yarker (2019) notes, the aim of creating a framework to explain PfT, in terms of purposes and principles, was not to develop a blueprint or recipe, but rather a framework to support establishment learning communities premised on the idea that people will always be able to learn given the right conditions.

Marks (2016) highlights that adopting PfT requires a mindset shift, away from any notions of fixed ability. In her study, schools which had adjusted practices away from ability grouping, often still held underlying conceptions of learners with fixed identities. These were unearthed in the language and attitudes the teachers, inadvertently, displayed towards the children and how the children’s perceptions of one another as learners were shaped by these ‘implicit theories’. Whilst Woods (2019) asserts, with an encouraging emphasis, that PfT is nothing new or innovative in terms of the adjustments to practice needed to enact it, changing the mindset of teachers and how they see learner identities is possibly a more protracted challenge.

## 2.8 Transforming education towards ‘transformability’

This section draws together the notion of discourses mentioned in the title of the study and the core principles of PfT. It explores some of the literature surrounding these key tenets of the study to highlight how researchers in the field suggest the perceived need for a transformation in the UK education should be addressed. This begins by focussing on the need for discourse within a new discourse, drawing upon thinking around CoP (Wenger, 1998). Taking the themes of engagement and joint enterprise, in the formation of participatory identities, these are linked to the work of Kemmis and Smith (2008) and the development of praxis in education, and consideration is given to how these resonate with Habermasian (1972) emancipatory knowledge-guided interests.

### 2.8.1 The need for discourse

Previously, four distinct discourses were elicited from the Government White Paper (DfE, 2016), through emphases on standards, inclusion, research-led practice, and school autonomy. In the current climate, these discourses, their content, and validity, are determined by the Department for Education. Despite the emergence of the Chartered College of Teaching, it is still difficult for teachers to contribute System-validated content to those discourses. Across the range of studies (Anthony & Hunter, 2018; Bradbury, 2019; Hamilton & O’Hara, 2011; Horn, 2011; Marks, 2012, 2013, 2014a, 2014b; McGillicuddy & Devine, 2018), authors concluded with an emphasis on the need for a discourse related to pedagogy of transformability to be established for teachers to engage with.

The challenge of developing engagement in this discourse, amongst all educational stakeholders, is also highlighted within the afore mentioned studies, where it is noted that notions of fixed ability are deeply embedded within UK culture and current understanding. Marks (2013), suggests that teachers need to be given opportunity to critically reflect on the underlying assumptions and implicit theories they hold and how these impact on their interactions and practices. This perspective echoes Sachs (2016) and her work on the need for critical reflection and dialogue as a crucial element of teachers’ professional development. Hart et al. (2019) further support this view and argue that this thinking needs to be undertaken at an individual level within networks of practitioners, whereby there can be agency for change. This might arguably support pedagogical development by practitioners from within the classroom, rather than an emphasis on policies handed down by system leaders.

### 2.8.2 Establishing ‘CoP’

Wenger (1998) might term these networks as ‘CoP’ where learning, meaning and identity are developed. He discusses concepts of mutual engagement and joint enterprise in the shaping and development of ‘participatory identities’ within CoP, which consequently establish meaning and learning within the community. These identities can either be ‘peripheral’ or ‘marginalised’ depending on the degree to which contributions to the ‘economies of meaning’ within the network are adopted. For teachers it could be argued that at the policy level, teachers’ participatory identities within the professional community of practice are increasingly marginalised and moving away from alignment and engagement with the joint enterprise, within the neo-liberal, education agenda. However, the establishment of more localised, both geographically and pedagogically, CoP could lead to a more participatory identity, which suggests an increased sense of belonging and agency.

This construction of meaning – in the case of this study, the thinking and practices related to PfT- which becomes reified in action - could be recognised as ‘praxis’. Praxis, as defined by Kemmis and Smith (2008:4) is described as “action which is morally committed, and oriented and informed by traditions in a field.” This action is developed and refined through engagement in ‘architectures of practice’ which rely on participants having a ‘praxis stance’ – a willingness to challenge their current thinking with a view towards morally and ethically guided practice (Smith, 2008).

### 2.8.3 Research questions

The critical review of the current literature in the field, outlines the policy context and opportunity for this study, as well as highlight a gap in the research. To date, teachers’ perspectives have been sought as to the impacts of FATAP, the rationale and reasons for them, their role in the creation of a framework for PfT, and how from a headteacher perspective PfT was implemented across a whole school. Still missing from the literature is an understanding of teachers’ perspectives on, if and how PfT might be implemented, and their sense of the potential for its effectiveness in addressing the current educational priorities.

This perspective is important for two reasons: teachers’ perspectives are an important voice to be heard as the principal practitioners potentially working within the PfT framework; and due to the currently counter-cultural nature of PfT, implementation is most likely to start at an individual level as there is no current policy impetus in this area. The questions at the heart of this study seek to explore the both the barriers and benefits for teachers and children, drawing on the domains of learning capacity highlighted in the PfT framework as areas to be addressed when challenging notions of fixed ability.

The overarching research question (RQ) is:

**What are the potential barriers and benefits to the implementation of a ‘Pedagogy for Transformability’, from primary teachers’ perspectives?**

To understand the potential barriers and benefits of PfT, two sub questions are asked, pertaining to the effects of PfT on those involved in the enactment of it. These questions are broken down further (RQ1-4), and act as key drivers of the study, to understand what teachers did and how they adjusted to the emerging effects on the children and themselves. These questions allow for consideration of the barriers and benefits of PfT in the process of implementation as well as allowing for reflection on the barriers and benefits related to the of the outcomes of implementation. In this way, contributions to knowledge can be made about the process of implementation and the effects of the adjusted pedagogy.

**Research Questions**

***What are the effects on teaching and teachers?***

RQ1 - How is pedagogy adjusted to challenge practices based on notions of fixed ability?

RQ2 - What understandings might influence teachers in relation to the implementation of pedagogy to challenge practices based on notions of fixed ability?

***What are the effects on learning and learners?***

RQ3 - What are the social and emotional effects on children of practices designed to challenge notions of fixed ability?

RQ4 - What effects do practices designed to challenge notions of fixed ability have on children’s learning?

This study is contextualised by two distinct discourses – earned autonomy by addressing the needs of learners, particularly those understood to be disadvantaged, and the role of research-based approaches in guiding pedagogy and leadership (DfE, 2016).

## 2.9 Summary

This chapter has critically analysed the current research in the field, setting out the current educational policy and practice context of the study from a critical theorist’s perspective. FATAP have been critiqued and an alternative framework has been presented, with current barriers to implementation outlined. A gap in the current research has been identified and the opportunity for this study has been justified, along with suggestions for the kind of research environment for teachers that could be established. The following chapter outlines how this study was designed and enacted to reflect emancipatory intentions of PfT.

# Chapter 3 - Methodology and Methods

## 3.1 Introduction

As outlined in the research questions, this study seeks to understand teachers’ perspectives on the barriers and benefits to implementing PfT. The research questions (Section 2.8.3) enable consideration of the barriers and benefits in the process of implementation adopted in this study, as well as the consideration of the barriers to and benefits of any outcomes. The barriers and benefits are considered in relation to their effects on both teachers and children both in the process and the outcomes.

In this chapter, the ontological, epistemological, and methodological positionings of the study are discussed and the underpinnings of this framework are presented in response to my positionality, as a critical pedagogue, in the research process. In order to ensure cohesive authenticity in the research project, the theoretical framework needed to reflect and navigate the challenge of bringing to the fore competing hierarchies of power embedded in the social, material and discursive conditions in which teachers practice (Kemmis, 2012; Habermas, 1984) in order to ensure the primacy of their voice at the heart of the study, whilst also acknowledging my role within the asymmetries of power and seeking to mitigate that.

Section 3.3 builds upon this theoretical foundation to construct the research design. The rationale for a participatory case study design is presented and critiqued. A table of implementation activities and data collection sessions is also presented with expanded detail. The next section addresses the ethical considerations within the research design before an exposition of the selected research tools in section 3.5. and explanation of the different challenges that were encountered. The chapter concludes with an explanation of the data analysis process and the theoretical framework which guided this analysis.

The study sought to understand teacher perspectives and provide new insights into the potentiality for the wider implementation of PfT. By offering the opportunity for participants to explore, I was cognisant that by engaging in this research of their professional practice, teachers may also through their own reflections and actions join the critical pedagogue tradition, from within which the research was being carried out. Viewed through this lens, the research undertaken had emancipatory potential, in terms of providing opportunity, understanding, skills and professional voice to support teacher agency towards challenging the constraints on teachers’ professional identity and autonomy identified in section 2.6.2, if those constraints were part of the participants lived reality.

## 3.2 Framework for guiding research design

In this section, the theoretical framework guiding the research design is explained and justified. From the outset of this thesis, the context of the study has been viewed through the lens of critical theory, with reference to the need to expose and challenge hegemonic structures (Darder, 2009; McClaren, 2009), and promote alternative, empowering structures which encourage personal and societal freedom, such is the goal of critical pedagogy (Freire, 1970; Giroux, 2011; hooks, 1994). The ontological, epistemological, and methodological positions to which critical theory can be argued to confer, are outlined below before being developed more fully later in this section.

Critical theory acknowledges that the world can be seen and observed beyond our own experience and understanding (Kinchelo & McClaren, 2003). It recognises that the social world is something which can be known by studying the social, material, and discursive structures which constitute lived reality. This understanding is demonstrated in this study through reflections of Habermas’ (1984) exposition of the *Lifeworld* and *System*, and the means through which they form and transform society, and therefore shape a reality which can be observed and interpreted.

For reality to be observed and understood within the paradigm of critical theory, a relativist epistemological position should be adopted. This understanding of how knowledge is constructed, and which knowledge is imbued with authority and status again draws upon the social, material, and discursive structures (Habermas, 1984; Kemmis, 2012; Wenger, 1998) which shape our societal, professional, and learning communities. These structures frame what is known, by whom, who can contribute to the formation of knowledge and who has the agency to establish what knowledge is accepted as knowledge. Habermas refers to this epistemological position through his writings related to ‘knowledge-guided interests’ (Section 3.2.2).

The methodological framework is guided by the emancipatory nature of critical theory and critical pedagogy and draws upon the works of Dewey and Freire – particularly their emphasis on the importance of reflection and action working in conjunction with one another – and the work of Kemmis, focussing on the participant perspective and the importance of encouraging a ‘praxis stance’. This framework directs and justifies a participatory and emancipatory approach to unearthing new knowledge and understandings.

### 3.2.1 Ontological exposition - *Lifeworld* and *System*

In Habermas’ (1984) articulation of the social world, the field of study in this research, there are two competing but increasingly inter-laced spheres of sociality – the *Lifeworld* and the *System*. From Habermas’ perspective, the *Lifeworld* is constituted of the informal and unmarketised domains of social life, such as family, culture, non-party centric politics, and other social affiliations including volunteer or informal work-related groups. These are typically unregulated and are formed of shared understandings developed through communicative action and discourse. In this way, the *Lifeworld* provides the social context where action takes place – actions based upon critical reflection and agreed meaning. Consequently, cultural, and symbolic meaning is both produced and reproduced through participant agency and engagement in discourse.

Conversely, the *System* is the social context constructed for instrumental action, steered by internal sub-systems based around influences of money and power. The teleological goal of the *System* is material production, encouraged and embedded through the instrumental influence of money and power. Within the *System*, Habermas argues that participants have reduced agency, and action is not related to consensus or understanding, as is the teleological goal of the *Lifeworld.* The degree of individual agency within the S*ystem* can be understood as being limited to the means of achieving a *System* oriented goal rather than agency in establishing the goal itself.

### 3.2.2 Epistemological exposition - Communicative Action and Emancipatory Knowledge

Habermas argues that the *Lifeworld* is established, maintained, and replenished through ‘communicative action’. Communicative action is founded in discourse and the ability of different parties to find agreement and consensus in validity claims – the acceptance of the reasoning of others to stimulate action. On the other hand, instrumental action is motivated by expediency and calculating the best means to a given end, often without consensus or understanding.

While both aim at cultivating a particular behaviour, the latter is achieved by superior power relations and the former by reason. He would argue that communicative action is the morally just approach to forming and transforming society within the *Lifeworld* whilst the *System* relies upon three further types of action; teleological, normatively regulated, and dramaturgical, which tend to be instrumental, and ends oriented rather than process based. It could be argued that this exposition of social world can be recognised within the educational context described in Chapter Two, recognising the impact of neo-liberal education policy and goals as part of the *System*, and the encouragement of participatory learner identities, free from labels and determinist views of ability as part of the *Lifeworld*.

Habermas (1984) acknowledges the influence of the power structures of education by highlighting three types of knowledge-guiding interest: technical, practical, and emancipatory. The technical knowledge-guided interest teaches people within the instrumental working goals of the society, the practical knowledge-guided interests which “refers essentially to the interaction between human-beings” and the emancipatory knowledge “challenges power as domination” (Torres 1999:99), which is achieved through self-reflection. All three knowledge-guided interests are intrinsic in the facilitation of learning in the state education system, however, the inclusion of emancipatory knowledge enables the potential for educational transformation, as opposed to reproduction of current educational norms and outcomes. Recognising these knowledge-guided interests and goals of this study, guides the epistemological stance taken in this research and the emphasis on developing emancipatory knowledge. As Habermas (1984:194) states, “the task of emancipatory knowledge-guided interests is to restore to consciousness those suppressed, repressed and submerged determinants of unfree behaviour with a view to their dissolution.” This task directly correlates with the need for, and nature of, discourse referenced in section 2.7.1.

### 3.2.3 Methodological exposition - critical educational research

Within the interpretivist, rather than positivist paradigms, of research, the goal is to understand and interpret the world in terms of the actors. However, critical educational research (CER), a field to which this study aligns, would suggest that both paradigms are incomplete. In a study of social behaviour, or in the case of teachers, ‘practice’, it should be recognised that these practices take place within political and ideological contexts. Kemmis (2012), drawing on what he describes as contemporary practice theory, acknowledges the importance of contextual drivers of teachers’ practices (outlined in Section 2.3.1), noting that practices are socially, politically, and historically created, and context bound. In this thesis, the focus is on understanding teachers’ perspectives on a particular type of practice or pedagogy, and therefore the participant view is the crux of the research. Kemmis explains participant perspectives on practice as research of educational praxis – action which is morally committed and informed by traditions in the field. When researching practice from within practice traditions – in this study, the practice tradition of critical pedagogy – the understanding and interpretation of praxis is expanded to include the goal of change making, in line with the double purpose of education (2012).

Lovat (2013), in his writing about social theory and educational research, makes note that critical reflexiveness leads to praxis and subsequently actions leading to change. His thinking is related to Habermas and the nature of authentic learning. Lovat’s assertions suggest that praxis could be the outcome of participatory research on practice rather than the focus. This understanding draws together concepts of research of educational praxis and communicative action towards emancipatory knowledge-guided interests.

Further to this, Kemmis and Grootenboer (2008) emphasise, that teachers’ practices take place within practice architectures. These ‘architectures’ are constructed in the cultural-discursive dimension, the material-economic dimension, and the social-political dimension of practice. These are described as the ‘sayings’, doings’ and ‘relatings’ of practice and these dimensions of practices enable or constrain the practice of individuals as they shape dispositions to act in a particular way towards a particular goal. This study recognises ‘practice architectures’ as the context or lens, in which or through which teacher perspectives develop and are explored. These architectures could be described as the interface of the *Lifeworld* and *System*.

### 3.2.4 Critiques of critical educational research

Critical educational research (CER) however is not without critique (Cohen et al., 2018). The critiques centre around the ability of CER to achieve its own goals and its strong positionality as an undermining factor in its wider validity because of the potential for bias.

As a research methodology which emphasises the intent to bring to the fore participant consciousness of, and challenge to, hegemonic structures; transform the social world and how participants act within it; and empower participants to effect change, CER encompasses bold teleo-active claims. It is argued in Cohen et al. (2018), that the effectiveness of CER should be determined by researching the impact of CER approaches – determine the extent to which change has occurred because of engagement in the research. Returning to the work of Habermas and Kemmis, it should be recognised that participants have a limited locus of power through which to effect lasting change.

This is a point further developed by Francis et al. (2017) who also highlighted that the often qualitative and phenomenological methodologies are not imbued with the same authority and credence as randomised control trials by those with the genuine locus of control. A counter position could be that if a sufficient body of CER was established which demonstrated patterns of new knowledge across a range of educational contexts, then there could be a point where the sheer volume of research establishes authority and credence. Through establishing CoP within this doctoral study, it was hoped these might act in support any last-lasting change desired by the participants and establish their own locus of control.

The political positionality of CER can also be seen as an obstacle to validity (Cohen et al., 2018). As a value-laden approach to research, which has an ideological goal to effect societal change, the traditional role of the researcher as a dispassionate, disinterested, and objective observer can be seen to be impossible and therefore potentially discredited (Bryman, 2021; Dunne, Prior & Yates, 2009). This perspective, however, is an ideological standpoint, in that empirical research is the only measure or description of reality. Dreze (2002), an advocate of ‘barefoot research’, which is more fully explained in section 3.3.1, contests that a researcher’s personal commitment does not necessarily prevent objective considerations but rather it requires intellectual honesty.

## 3.3 Research design

At this point it is important to acknowledge the assumptions upon which this research project stands. By bringing the assumptions to the fore enables the rationale for a case study design to be explained. The first assumption accepts that teachers understand their role as enabling learners to attain as highly as possible. The evidence presented in section 2.6.3 however, contests that the application of FATAP can negatively impact this goal for some learners. This raises the question as to why FATAP are therefore so prevalent. Again, based on the evidence presented in section 2.4.2 surrounding the impact of the accountability systems on teachers’ pedagogic choices, the study leans on the assumption that a lack of access to alternative pedagogies supports the prevalence of FATAP. Therefore, this study asserts, based upon these two assumptions, that when presented with access to an alternative pedagogic approach to those based in FATAP, there is value in understanding teachers’ perspectives on its potentiality - the barriers and benefits it presents.

According to Bryman (2021) qualitative research has five pre-occupations:

* Description and the emphasis on context
* Seeing through the eyes of the people being studied
* Emphasis on process
* Flexibility and limited structure
* Concepts and theory grounded in data

each of which can be argued to acknowledge and facilitate participant agency in the research process – a core goal of critical pedagogy, within the traditions of Dewey and Freire. Therefore, adopting a research design framed by critical theory and one seeking to explore teachers’ narrated perspectives, is supported by a qualitative approach to the study.

The following sections outline the research design - understood in terms of Bryman’s (2021) premise that the design provides the structure for enacting the research methods and subsequent analysis of the data. Next, the rationale for a participatory approach within a case study design is presented before attention turns to the research sample.

### 3.3.1 Participatory research

The parameters established above in the pre-occupations of qualitative research, support the primacy of participant voice within the study, which in turn prompts the research design towards a participatory approach.

As noted by Cohen et al. (2018), participatory research, an approach in line with critical theory, breaks with conventional research, by seeking to do undertake research *with* people rather than *for* or *of* them. Much of theory and practice of participatory research has its roots in the experiences of research approaches in ‘developing’ countries (Gaventa & Merrifield, 2019) and draws on the work of Freire (1970) who intends that all involved in the research process are gaining and creating knowledge - knowledge which develops consciousness and the possibility of mobilisation for reflective and reflexive action - ‘conscientizacao’. This is a key element of the research positioning in this doctoral study.

The notion that participatory research is conducted *with* participants rather than *for* or *of* them, raises further challenge to the premise the traditional role of the researcher as a dispassionate, disinterested, and objective entity. If both the instigator of the research project and the research participants are recognised as co-agents (to varying degrees) within the research process, the traditional goals of dispassionate and disinterested become more of a challenge – however, within this doctoral study clear parameters for my engagement were established. For example, I was bound by the role of facilitator of discussion, and therefore would not direct participants to specific practices or understandings, rather I would only value and acknowledge contributions of participants and pose questions to prompt discussion. Further issues related to asymmetries in power relationships and research ethics are addressed in section 3.4.1.

Whilst recognising the dilemma of research integrity - the desire to understand participant perspectives whilst maintaining the desire for ‘accepted’ new knowledge - participatory research seeks to challenge the notion of what should be ‘accepted’, based on research practices within natural science and actively seeks to understand phenomena within the social world, giving voice to the existing knowledge within people, within their social arena. This goal accepts that ‘knowledge is power’ and people within their social arena should have the power to inform the knowledge (understandings) of their reality (Tandon, 2019). As highlighted in section 2.2.3 however, the agency to ‘know’ differently from the dominant discourse within the current education system in England can be limited.

A further dilemma of participatory research is related to the questions of ‘who are the participants?’, ‘how and why did they become involved?’. Answers to these questions form the foundation to understanding the degree to which participants are exercising their freedom to be engaged, and the power relations which might shape the nature of their participation. These questions are addressed in sections 3.3.3.

Drawing again on the roots of participatory research, often in so-called developing countries, there is a degree to which this study can be premised as ‘barefoot research’. The original term was in reference conducting research with those who were hard to reach geographically but has been adopted to describe research with reference to the hard-to-reach voices, in marginalised communities (Kidwai et al., 2017). Lindquist’s (1979), interpretation is based within an industrial setting and the marginalised voices of workers – he conceptualised barefoot research as ‘digging where you stand’, recognising workers as experts in informing others about their work. Arguably, the voices of teachers have gradually become marginalised against the backdrop of the neo-liberal educational agenda (Sachs, 2001). Therefore a ‘barefoot’ approach, which both equips the marginalised with the tools to uncover and present their knowledge, is pertinent in the context of this study.

Kidwai et al. (2017:vii), emphasise that “research needs to be embedded and relevant to the local context and to use tools that empower barefoot researchers” and “should be repeated over time until change takes root at local levels and captures policy attention”. This perspective reflects closely the work of Marks (2014), Hart et al., (2019) and Francis et al. (2017) in direct relation to challenge of engaging teachers in reflections about potential pedagogic change and supports the Freirean goal of raising reflective consciousness for action.

Participatory research is based upon partnership, communication about meaning and negotiated understandings and sits well within the historical-hermeneutic context of knowing. It typically acknowledges that power is centralised amongst the elites and therefore actively seeks to return the power of knowing to the grassroots of practice (Cohen et al., 2018). A relative weakness of this research project, against the principles of participatory research (Hall, 2019), is that participants were not involved in the formulation of the research question, nor did the problematising of pedagogy arise from their challenge to their lived experience. However, an intrinsic element of critical research is to awaken the consciousness of those involved to the inequities of the context in which they act, which have been suppressed or hidden from common discourse or notice – this element of critical research is the starting point of this study.

### 3.3.2 The case for a case study design

Miles (2015), highlights the case for a case study methodology to underpin the critical positionality of this study, noting that case study research is the study of something which is pre-existing whether it has previously been recognised or not, and can therefore be constructed as a case in the researching of it. Therefore, it is important within the case study design, that the purpose of ‘study’ and the nature of ‘case’ are clearly defined, in order that knowledge coming forward is bounded and accessible.

Stake (2005) outlines three types of case study, as defined by their purpose: intrinsic, instrumental, and collective. These are described, respectively, as fulfilling the purpose of purely wanting to establish a better understanding of a case, or for the purpose of achieving another goal, or to determine whether individual cases share a common characteristic which can be generalised. There are multiple ways of defining and categorising case studies, which will not be addressed here, but the limitations of Stake’s are evident even in articulating the purpose of this study.

As critical pedagogue there is in an intrinsic interest in understanding all voices for that purpose alone, however, this study also seeks to understand the teachers’ perspective, to explore the potentiality of a particular pedagogy, which may, due to the multiple voices intended for the study, reveal a commonality of perspective, which may or may not be generalisable. However, if it is possible to accept the intentionality can be both intrinsic and instrumental, and wider applications can be found, then Stake’s typologies hold for the purpose of this project.

The ’case’ in this study is, teachers’ perspectives on the barriers and benefits to the implementation of a particular pedagogy. Their perspectives on the process and outcomes of implementation are gathered through their reflections on the impacts on both them and on children in their care. The individual reflections and those of teacher typologies - early career teachers, experienced teachers, and those with a weak perception of themselves as mathematicians – constitute the bounded nature of the case.

Further bounding of the case is reflected in the ‘presentness’ of the teacher perspectives. The focus of the study is not a comparative of the alternative pedagogy against past practice, or a projection forward to teachers’ future intentionality, it focussed on teachers’ perspectives on what they are doing ‘now’, whilst recognising their freedom to reference comparatives and intentionality as they articulate their current perspective.

Throughout the remainder of this section, the terms teacher and practitioner are used interchangeably, as this study acknowledges teachers are situated within practices, thus justifying the term practitioner, and the ‘case’ equally being referred to as the ‘practitioner perspective’. Critically, this study notes practitioners are situated in practices, which are similarly nested within meta-practices – practices which shape practices within them; policymaking, initial teacher education, inspection regimes (Kemmis, 2012). Further nesting of ‘the case’, is the recognition that practitioners, practices, and meta-practices are constituted in time (in-the-moment), place (institutional and geographical), history (past understandings, relationships, and experiences) which shape the implicit theories (Claxton, 1990) latent in the practitioner.

Whilst case study would appear justified as a methodology for this project, its importance as a methodology in social science is contested on a range of grounds (Flyvberg, 2007). Two prevalent arguments against the effectiveness of case study methodology, come from comparisons with intended outcomes from the natural sciences – primarily the generalisability and theory generation forthcoming from the findings. It is important to note however, that advocates of the case study methodology do not make claims to generalisability.

Flyvberg (2007) advances the emphasis on the role of case study as expertise generating, as the complexity and peculiarity of cases becomes known in a way that generalisability does not inform. It generates expertise in concrete, context dependent understanding – expertise that equips a teacher to meet the individual needs of a child, beyond the scope of generalisable principles of learning. Miles (2015), notes that the specificity of knowledge generated in context dependent cases, mirrors the practice for developing further learning in medicine and law – each case becomes an example to be learned from (often cases based in the particular or extreme). As in law and medicine, case studies in in educational research, “connections that the reader makes between the case and their experiences is powerful in working to inform everyday practice” (Miles, 2015:311) – the connections become manifest through agency and rely upon it. In this way, the value and contribution of case study methodology is in its purpose and generation of meaning, rather than generalisability and theory generation.

The position held in this study is the aspiration to present new knowledge noted for its trustworthiness and authenticity (Bryman 2021) rather than being prized for its generalisability. In this way, if findings are tested as trustworthy and authentic, they have the potential for wider application – when considered as a potential framework for practice to be adapted rather than a blueprint to follow. The criteria for trustworthiness can be recognised by the following indicators: credibility, transferability, dependability, and confirmability.

The research design therefore was determined with a view to understanding the potentiality of a new practice, guided towards emancipatory pedagogy (as understood from a critical pedagogical position), from multiple participant perspectives, for others to connect with and draw their own conclusions and applications.

### 3.3.3 Sampling

To reflect the agency critical theory seeks to establish, the selection of participants for the project was undertaken through a combination of convenience sampling and self-selection. The virtue of this approach is accessibility; however, this approach can make generalisability difficult. (Bryman 2021). For the purpose of this study, this critique is less of a concern as its primary purpose is to present findings for display, and for future readers to consider the application for their particular context. The wider objectives of the study are not to provide a generalisable theory which can be adopted as policy, but rather to act as a prompt for professional engagement in the topic and self-determination of future policy and practice.

As a head teacher within a multi-academy trust (MAT), at the time of the research project, I was part of a ‘convenient’ network of 15 schools, from which the sample was drawn. Following the keynote address, at a MAT Conference, where Dame Alison Peacock was the speaker, I invited all schools within the MAT to engage with this research project and provided an opportunity for any schools interested to attend a further session outlining the project plan (Appendix B). The keynote had outlined the core principles of PfT and its potential impact for learners.

Eighteen teachers and three headteachers, from five schools (three of the schools were part of a federation under the leadership of one headteacher) attended the meeting. All five schools self-selected to join the project, although the key stage one teachers from the federated schools were not involved (either in the introductory meeting or the project once it started) and three other teachers chose not to be involved – reasons were not offered or asked for in relation to why individual schools or teachers chose not to engage. It was accepted that these were professional choices and understanding what these were was beyond the remit of this study, although the rationale for non-engagement could be an area for future study. No participants left the project once it started and therefore the study started and concluded with fifteen participants from five different schools.

These schools were a broadly similar demographic: rural or based in a market-town and had received an Ofsted grading of ‘Good’ within the last twelve months prior to the study - this potentially created the perception of time to explore alternate approaches before their next inspection. The teachers had a range of experience, educational backgrounds, and subject specialisms. Data extracted from an initial survey of participants (Appendix C & D) is presented to reflect the degree of heterogeneity in the sample. Whilst not necessarily statistically representative of the balance of school types within the English education system, there are a range of schools and teachers within the sample (Gobo, 2007), in support of the ‘usability’ and validity of any findings.

Addressing the emphasis within critical theory and critical pedagogy for agency development, self-selection was the criteria for engaging with the project. By adopting this approach, ethical considerations were evident, in terms of teacher participation and how access might not be available to all and therefore the offer to engage might not be fully inclusive. In the first instance, access to the project would be determined by their headteacher and their perspectives on the value of the project and their judgement about whether it was of strategic benefit to the school. This might be based upon consideration of current school priorities, established ethos and pedagogy, concerns around accountability, teacher workload or practical logistics. Decisions at this level may have precluded some from being involved. On the other hand, the interest from the school leadership may have created an opportunity and impetus to engage in research that may not have been of interest to the participants.

At the participant level of self-selection, the intention was for teachers to make an informed choice about giving their consent to engage with the study. Whilst this element of selection sought to maintain individual agency, it was noted that there was the potential for individuals to feel they ‘had to’ engage as part of a collective engagement within the school team, or because engagement had been written into their performance management targets. From my perspective as a former headteacher, performance management targets were understood to be part of a negotiated process within each school and therefore a degree of autonomy was potentially available to all participants. Equally, all participants signed consent forms (Appendix E) acknowledging that they were able to withdraw from the research process at any point, and this was explained during the introductory session provided for all potential participants, including headteachers.

## 3.4 Research ethics

This doctoral study has been located within the context of neo-liberal agenda for primary education and highlights the negative impacts of this agenda upon teachers and children (Section 2.6.2 and 2.6.3) and presents an alternate approach for teachers to consider (Section 2.7). This positioning therefore establishes the project as values-led or has having a strong values commitment. However, the emphasis within the study is not to create change; the primary emphasis of the study is an exploration of the potentiality for change. As cited in Kelly (1989:101), Barnes (1979) explains, “in advocating change, values have to be made explicit” and in this way both participants and those who engage with the findings can take this into account in their reflections. Silverman (2021) notes that it is only through the existence of values, in all forms of research, that certain problems become identified and are studied in a particular way.

Acknowledging the values-led nature of the study (Griffiths, 1998), before the research process began, I was already established as holding a particular stance in relation to PfT – my school engaged with it as the basis for practice. Considering this, it was incumbent on me to cloak the study with an additional emphasis on ethical considerations related to participant agency, particularly in relation to the influence of potential power dynamics inhabited by the participant perception of my researcher-identity (Ryen, 2007). This had to be clear, authentically, in word and action throughout the research process, and that adjustments to my understandings from my initial stance were part of the reflexive process encouraged by all parties within the study – expounded in section 2.8.2. My exploration of other teachers’ perspectives had the intention of developing new understandings and agency for all involved.

Being cognisant of this ethical responsibility, and both maintaining and encouraging teacher agency in the process, the commonly agreed ethical principles of the BERA (2018) were upheld: participants maintain autonomy, outcomes have observable benefits and harm is avoided. When acknowledging the importance of avoiding harm, this principle was addressed not only in relation to the welfare of the participants, but also to the welfare of children and the school’s concerns within the accountability agenda. The concern with not causing harm brings into sharp relief the expectation the ethical considerations are not a once and for all matter, they should be reflected upon and responded to, throughout the whole process.

Having provided a degree of context to ethical considerations in educational research, section 3.4.1 addresses ethical issues related to power, including researcher identity; the avoidance of harm; and protecting data and participant identities.

### 3.4.1 Ethical considerations related to power

The existence of asymmetrical power relations in the conduct of social research is unequivocal and unavoidable (Griffiths, 1998). The researcher most frequently initiates the research agenda and sets its parameters. Within the democratic research paradigm typical responses to this reality include attempts to reduce the power differential by delegating a degree of autonomy to the participants in the decision-making process or by seeking to establish a rapport and relationship of trust, in order that perceptions of power are at least obfuscated. This might often be done regarding establishing points of contact between the researcher and the participant, such as personal background, shared experience or even a shared sense of limited agency against a common foe or towards a common goal. Issues related to the role of power, and its impact of participant voice, using discussion groups and interviews as research tools in this study, are addressed in later sections.

Within the context of this study, I sought to establish their insider-outsider identity (Miller & Glassner, 2008). As co-learner and practitioner, determined to improve learning for children, it was hoped an insider identity could be established – however, this would be largely dependent on the participants’ perception of me and my authenticity in establishing a genuine rapport and open relationship with them. Attempts to achieve this were premised during the initial introductory sessions related to sharing the philosophy for PfT. The core principles of Trust, Everybody and Co-agency, were mirrored in the delivery of these sessions as a template for how the research would be conducted. In this way, I did not present in the role of expert but rather as a co-learner, enabling personal perspectives to be developed and explored from the outset.

As a researcher and headteacher of another school, there was also a clear ‘outsider’ relationship with the participants. This could not be avoided. It was intended that the collegial approach to the study, facilitated through regular group discussions, would mediate any perceived sense of judgement of participant’s professional competence from an ‘outsider’. Mitigation of potential teacher concerns related to judgements of their professional competence were also a consideration in the choice not to use participant observation as a methodological tool – participants would only report what they had done and describe the relative success of what they had explored. The position I held in this study mirrors the view shared by Scott (1996:71) that the “researcher’s role is not to sit in judgement but to represent as dispassionately as possible the contributions of each participant”. As important as it was for me to recognise this element of my role it was equally important to authentically deliver in this manner, for the sake of richness in relationship and research evidence.

The ‘insider-outsider’ identity was also potentially constructed in terms of my relationship with the individual school leaders in the different settings. The insider identity was constructed in terms of ‘one of *our* multi-academy trust’ and by reputation established during network meetings, as ‘one of *us,* who understands the challenges of the job’. The outsider identity however was constructed through my leadership role and the alliances I held with the school leaders in their setting. This outside identity may have raised some concerns related to ‘feeding back’ to leadership peers about content of the sessions or interviews. This concern was in part mediated by the head teachers at the participant schools, enabling the opportunity for engagement, through a free and deliberate choice of their own to have engaged. It is possible however, that participants may still have felt inhibited in what, and the degree of honesty and fullness with which they could share. However, all three headteachers were part of the welcome or joined at least one session, and there was no evidence this adversely effected the discussions.

### 3.4.2 The imperative not to do harm

The imperative not to do harm is widely premised in notions of physical harm (testing of experimental drugs, placing participants in dangerous contexts etc) but there is also a strong element of not exposing participants to harm socially, professionally, emotionally, and psychologically (Denscombe, 2017). The study of social science, particularly of professional practice, and even more so, perspectives on professional practice, are unlikely to cause physical harm, although from the outset of the study I made clear my determination not to add to teacher workload. This could cause harm in all the ways previously mentioned and undermine the ‘good’ the sharing of an alternative pedagogy might be understood to provide.

Protection against harm in this way was addressed in two ways and was guided by teacher agency in the development of the project. Firstly, the initial project discussion meeting was delivered during a session which would usually have been designated as a staff meeting or internal in-service training at each participant school. It was agreed that for future sessions the group would be split in half along geographical lines, to minimise travel time for participants and that no session would last for more than one hour at the end of the school day.

Another element of potential harm for participants in the project, was an acknowledgement of the accountability frameworks in which participants conducted their practice. An element of this framework is performance management which was in part judged through data gathered on pupil performance and progress. To mitigate any potential harm to participants and children, caused by adjustments to pedagogy which subsequently adversely effected pupil outcomes, it was established that teachers always held pedagogical autonomy and should explore the pedagogic principles, shared within the project, at a pace and to the degree with which they deemed appropriate. This approach also reflects the principles of a PfT.

### 3.4.3 Protecting data and participant identities

Ethical considerations in relation to confidentiality were considered. Data collection within the projects relied upon the use of audio recordings of discussion groups and interviews through the means of a Dictaphone. Whilst participants shared their names when speaking within the data collection studies, to support the accurate attributing of comments to the right participant, all transcripts of the sessions were coded to anonymise the identity of all participants. The codes for participant identities were stored separately from the data itself on a password protected electronic devise.

## 3.5 Research tools

The selection of research tools is an important process in the development and delivery of a social research study. The collection of evidence should reflect the ontological, epistemological, and methodological goals and positioning within the study (Cohen et al., 2018). With respect to this study, based within the paradigm of critical theory and emancipatory, participatory research, tools which establish the primacy of participant voice and agency were paramount to embedding the authenticity and cohesion of the evidence. The selection of tools for this task should enable the opportunity to explore the ‘what, how and why’ of participant perspective on their own practice.

At the same time, with an emancipatory emphasis, the selected tools should enable the potential for personal reflection and reflexiveness to effect change, for the benefit of the participant and wider society. By emphasising knowledge from the ‘roots’ of practice (garnering teachers’ perspectives), the ‘routes’ through the research process may be become unpredictable at best, diversionary at worst. The project needed to be a genuinely shared enterprise and therefore, effective, and skilful use of the research tools was required to uphold the key principles at the heart of the study: Trust, Everybody and Co-agency.

Evidence of teacher perspectives is found in their words, an imperfect reflection of thoughts, and therefore the tools selected in this study focussed on capturing words through recording of dialogue – during focus group sessions and summative interviews (Appendix F) at the end of the research process. The following sub-sections of this chapter define the intentionality of each of the two phases of evidence gathering within the project and how the selected research tools sought to achieve those intentions. Considerations related to analysis of the evidence collected and approaches to coding are addressed in section 3.6.2

### 3.5.1 Initial CPD

Following the initial project presentation session, two CPD sessions (Appendix G and Appendix H) were offered to all teachers in the participating schools, whether they chose to later engage with the study or not. These two sessions shared, through a broadly dialogic (Phillipson & Wegerif, 2017) and participatory (Chambers, 2007) approach, the context, and findings of the Learning Without Limits project and PfT. Following the lead of the initial project and the critical pedagogic stance advocated by Yarker (2019) and hooks (1994), no ‘blueprint’ for practice was presented.

Potential participants were encouraged to explore what an application of the principles of Trust, Everybody and Co-agency might look like in their own practice, in their own context. The only guidance provided was the sharing of excerpts from children’s experiences of fixed ability grouping (Marks, 2016) (Appendix I). These excerpts were selected to demonstrate the effects on learners of different approaches. The initial intention was for teachers from my school to share some of their emerging pedagogy, in a collegiate approach. This approach was dismissed however as a form of ‘presenting’ expertise rather than ‘developing’ expertise. Participants were encouraged to consider how they might give agency to their children about what, how and where they learn, as a starting point – however, no specific practices were presented. At the conclusion of these sessions, participants discussed approaches they might try with one another informally, of their own volition.

I was also minded of Freire’s perspective on freedom (Section 1.1) in this context, understood as ownership of one’s own practice, which is won not given – therefore any adjustments to practice must be individually reasoned and enacted. Those who chose to engage with the study from this point were established in CoP, which met every six weeks, in line with the school’s half-termly calendar to discuss changes to their practice and its impact on learners.

The details of the research activities in support of implementing PfT and data collection are presented below in Table 3.1.

|  |  |  |  |
| --- | --- | --- | --- |
| **Timeline** | **Activities supporting implementation** | **Researcher actions within activities** | **Data collected, tools and method** |
| Week 1 | Initial CPD session to share rationale for PfT | Presentation of current research related to the effects of FATAP on children.  Shared video of ‘Fleas in a Jar’ highlighted the effects of capping children learning experiences.  Revisited project outline  Distributed some supporting research papers for further reading. (Appendix G) | Teacher experience, year groups taught and subject leadership. Teachers views on FATAP and teaching mathematics.  Paper copies of surveys distributed (Appendix C) |
| Week 2 | CPD session sharing children’s experiences of FATAP | Presentation of children’s understanding of the grouping – teachers asked to reflect on what they noticed.  Potential participants read different excerpts of Marks (2016) highlighting how different groups of children experience FATAP and fed back what they had read to the group.  Notion of learning capacity from PfT framework explained and discussed.  Current and potential practices in support of PfT discussed and participants encouraged to explore one new practice in their classroom to feedback on at the first focus group session (Appendix H) | Initial surveys collected and collated (Appendix D)  Consent forms distributed (paper versions) (Appendix E) |
| Week 8/9 | First focus group session | Each session started with a welcome and outlining confidentiality protocols. I then opened the discussion with the invitation for participants to share the practices they had engaged with and the effects they had noted on themselves and the children (both practical and attitudinal). Discussions were then directed to address issues or challenges that arose during their exploration. I did not offer solutions but drew other participants in to offer their perspectives. Where necessary, to ensure all participants were able to contribute, individuals were invited to respond. Sessions concluded with participants verbally sharing their practice focus for the next half term. | All focus group discussions were recorded verbatim using a Dictaphone. |
| Week 15/16 | Second focus group session |
| Week 22/23 | Third focus group session |
| Week 27/28 | Final interviews | Semi-structured interview conducted. All participants within SEC conducted interviews in pairs due to a clash with sports day and reduced time available. All interviews were conducted at the participants school within their teaching day. | Semi-structured interview recorded on a Dictaphone. (Appendix F) |

#### Table 3.1 Research activity and data collection timeline

My conduct at each point of contact with the participants, as outlined in Table 3.1, was directed by the centrality of upholding the core principles of PfT in order that an environment for personalised understanding and development was created for all participants. The purpose of each session was to elicit and record teachers’ reports and perspectives on the practices they engaged with and their effects. This mean that I needed to be constantly and consistently responsive to the needs of individuals (social, emotional and cognitive), whilst supporting the group’s collaborative dynamic. There was no set script to guide the structure of each session although there were four core tenets to each one: the teachers having the opportunity to share what they had done, reflect on challenges or issues that arose (for them or the children), consider the effects of their practices (on them and the children) and be able to engage with the perspectives, solutions or challenges of their peers. These were was consistent within each session. Delivering this involved giving more time to particular responses so all participants could contribute; recapping previous discussions as a starting point for the next reflective focus; reframing participant responses to make them accessible to others; and summarising discussion points to acknowledge and demonstrate the valuing of contributions. For these reasons, direct replication of this study would not be possible or desirable, as each session should reflect the priorities and realities of those involved and it is therefore incumbent on the researcher to adapt and adjust to the participants accordingly.

The study, and emphasis in practice exploration for the participants was intended to focus on challenging the use fixed ability grouping in mathematics. As explained in section 2.5 the prevalence of FATAP is most keenly noted in the teaching of mathematics. However, not all participants chose to focus their explorations of practice in this subject and chose to start their exploration in subjects where they felt more comfortable, such as English. Whilst this was not the intent of the study, upholding the principle of co-agency took primacy and this focus was accepted, although participants who chose this approach were consistently encouraged to translate their new understandings from the subjects those chose, to the context of mathematics teaching. All participants engaged with PfT in the context of teaching mathematics by the conclusion of the project and were able to provide perspectives to support the initial emphasis of the study.

### 3.5.2 Why CoP?

When trying to articulate or label the form and purpose of the sessions mentioned above, research methods manuals (eg. Bryman, 2021; Cohen et al., 2018; Denscombe, 2017; Dunne et al., 2009; Gilbert, 2015; Seale et al., 2007) suggested tools and methods, including group interview, focus group and discussion group as potential descriptors. Each of these have overlapping elements and virtues in line with the intentionality or process of this element of the study, however, they each also have points of divergence; therefore, Wenger’s conception of CoP was adopted.

Having first outlined the intentionality behind re-gathering the participants on a six-weekly cycle, the subsequent paragraphs explain why Wenger’s conception of a ‘community of practice’ was adopted as a way of clarifying the inter-relationship between myself and the participants. However, the term focus group is utilised alongside CoP within Chapters 4 and 5 in this thesis, as a more readily understandable term for the reader.

The core intention of the re-gathering cycle reflects the suggested need for collegiate professional engagement, to support individual critical reflection on practices related to fixed ability thinking, previously highlighted in the review of the literature (Bradbury, 2019; Hamilton & O’Hara, 2011; Hart et al., 2019; Marks, 2014b; McGillicuddy & Devine, 2018). Therefore, these sessions sought to provide physical, temporal, professional and intellectual space to explore and develop new practices, with collegiate support. This support would be provided through sharing experiences – positive or negative – providing new ideas, motivation, and suggestions from lived experiences of how to overcome potential hazards or barriers in practice, to engender a full understanding and informed perspective on the potentiality of PfT. The sessions were established as a self-perpetuating learning environment based on the principles of PfT. Recording these sessions as part of evidence collection, offered the opportunity for narratives to develop, both within the group and for each individual, which could later be utilised to illuminate responses within the interview phase.

To support the process of Phase 1 of the evidence gathering, a new research method needed to be wrested from research theories (Kemmis, 2010), practice theories (Kemmis, 2012) and social theories of learning (Wenger, 1998), as these areas best reflected the nature of research method employed. Wenger (1998:47) acknowledges that participants come together with their own theories and experiences and “communities of practice are places where we develop, negotiate and share them”. This development – also articulated as learning – negotiation and sharing, takes place within a community. Learning through establishing community closely reflects the purposes of PfT, thus establishing this conception of sessions as valid and appropriate.

Community here refers to a grouping of practitioners, but this understanding could also be expanded to include the wider communities or meta-practices that practitioners are nested within – the practice architectures (Kemmis & Grootenberg, 2008). These architectures need to be acknowledged as they enable or constrain educational practices (Edwards-Groves et al., 2008). The interactions within the ‘communities of practice’ formed for this study needed to ensure agency and voice, despite possible constraining architectures, and ensure that all within the community enabled the same agency for one another.

Much of Wenger’s (1998) work focusses on how new participants are drawn into established CoP and add to established practices. In this study, the community of practice is formed, not of ‘old-timers’ established in practice, but rather of participants committed to a mutually beneficial exploration of new practices, that might arise out of those established. In this way, the goal of the ‘community of practice’ in this study is closer to Kemmis’ understanding that “practices are enacted and composed of communication and discourses” (2008:47), rather than a site of practice for others to be inducted into. This difference conceded, much of Wenger’s thinking related to CoP based upon mutual engagement and joint enterprise is pertinent, as too is his thinking surrounding the establishment of participatory identities and the importance of negotiability and identity in this process.

The importance of recognising power relations has already been established when referring to the relationship between myself and participants (Section 3.4.1), but now the importance of power is at the forefront of establishing participatory identities – in the same vein as it was referenced in Boaler (2005) and Solomon (2007) when discussing learner identities in mathematics emerging from fixed ability grouping. According to Wenger, identity within the community of practice is formed and transformed through negotiated interactions and the degree to which legitimacy to is given to the right of individuals to contribute and for their contributions to be valued and adopted - in the case of this study, ‘adopted’ reflects the active consideration of what is contributed. Wenger (2008) notes the importance of valuing all contributions to avoid non-participatory identities emerging, which may lead to the marginalisation of any member of the community. I was mindful therefore to avoid this situation and to be cognisant of those who may feel anxious about the prospect of marginalisation, which might inhibit their ability to contribute, thus creating a marginalised identity (Leshem, 2012).

### 3.5.3 Interviews

Interviews are an increasingly popular tool for qualitative research and social science (Cohen et al., 2018; Denscombe, 2017). Dunne, Prior and Yates (2009), suggest the use of interviews places emphasis on the importance of the voice of social actors. However, this is caveated with a point of equal importance; careful consideration of issues relating to why and how interviews are conducted. These issues are considered in turn.

Understood as a conversation, based on inter-views (Kvale, 1996), interviews offer the potential for elaborated and detailed descriptions of participants understandings (Rapley, 2004). There are a range of spectra along which interviews might sit - these include structure, purpose, context, scope for response, role and contribution of the researcher in the interview. The choices available to the researcher are shaped in response to the afore mentioned question of ‘why’ the interview is being conducted.

Kvale (1996) presents the metaphors of the ‘miner’ and ‘traveller’ to describe the broad purposes of interview, which also reflect researcher perspectives on the creation and nature of knowledge. The ‘miner’ is understood as seeking to unearth knowledge as facts which can be verified and remain beyond the influence of the researcher – a metaphor closely reflecting positivist approaches. The alternative descriptor – the traveller – places emphasis on understanding, unfolding, and uncovering the meaning of peoples’ experiences and perspectives.

The metaphors are also indicative of how interviews might be conducted. The ‘traveller’ is a metaphor for an interview carried out alongside the interviewee, recognising that inter-views, to varying degrees, co-construct knowledge and acknowledge power relations within the process of travelling together through the social world of the interviewee. This approach does not seek to uncover pre-existing meanings but supports the interviewee in articulating their meanings. This suggests an inter-relational approach, distant from the ‘miner’s’ process which seeks neutral and uniform interaction with the interviewee (Denscombe, 2017).

Within this study, there was a deliberate intention to establish authentic, social interaction based on ideals of reciprocity and agency. It was imperative relationships were founded on principles of Trust, Everybody and Co-agency and therefore these had to be reflected in the interview purpose and process.

Methodologically, this approach relies heavily on establishing rapport and a reputation of trustworthiness and credibility with the interviewees. The challenge here lies with a researcher-participant relationship built on intermittent snippets of contact throughout a project rather than daily interaction. Within this study, to support authentic engagement, openness, and acknowledgement of mutual humanity (Fontana & Frey, 2000), self-disclosure of my related experiences of PfT was facilitated. These were sporadic within the CoP sessions and were based upon my sense when they were needed. This understanding of how and when to do this was developed through positive relationships with the individual participants. I was ever mindful not to promote my current perspective in response to the imbalanced power relations (Griffiths, 1998).

The goal of participant agency and autonomy within the interview process was brought into sharp focus, at a very practical level, when requests were made for some of the interviews to be conducted in pairs. The requests were made to help some participants overcome the anxiety of being recorded or as a support to demonstrate an “adequate interviewee” identity (Rapley, 2004:16). In some cases, it was viewed by the headteacher as more expedient at a busy period in the school calendar. Whilst it could be argued that this approach could undermine the validity of the evidence, validity in terms of the natural sciences, was not a priority of the study. The priority was focussed on ‘trustworthiness and authenticity’, as well as applicability. Neither of these three goals was undermined because of assenting to the request, therefore the request was facilitated without question.

By concluding the project with an interview, it could appear that the evidence gathered through this tool is a summation of the participant perspectives. This is contrary to my understanding of the status of the evidence gathered at this point. Building on the metaphor of researcher or interviewer as a ‘traveller’, the interview concluding the study is a point in the journey of exploring the barriers and opportunities for PfT; a point when participants could articulate their perspectives to date. It also provided participants with space to reflect, determine their next steps in the journey, test their thinking and validate, to themselves, their experience in words; whilst facilitating the same opportunities for me.

## 3.6 Interpreting evidence

The final phases of the research process are described by Dunne, Prior and Yates (2009) as the transition from field to text. This process however is iterative, moving back and forth between the field and the evidence, and between the evidence and the written report or thesis (Denscombe, 2017). The nature of the transition from field to reported text, always by means of the evidence which has been co-authored, has various routes and considerations. In this light, the transition should be recognised as a recontextualisation of evidence in the field. As Dunne et al. (2009:76) explain, “writing acts to remove the word from the context of its production.” The recontextualisation involves the writer in developing understandings, explanations, and interpretations of the evidence before decisions related to presentation are made (Taylor & Gibbs, 2010, cited in Cohen et al., 2018).

When considering how to interpret the evidence, particularly regarding interviews, Kvale (1996) suggests this is guided by consideration of the questions of ‘why’ and ‘what’. Why was the interview undertaken from the outset? What is to be analysed in the evidence? Responding to those questions in relation to this study, the answers direct the interpretations to analysis of the purpose of exploring teacher perspectives related to the barriers and benefits of PfT. The interviews explored questions about the practices teachers undertook as part of the study and their observations of what happened, focussing particularly on the impacts on children, the impacts on their professional selves and the impacts of their context on their choices.

### 3.6.1 Objectivity, generalisability, and validity

In so much as the researcher is attempting to report on the reality they have understood, in social research this may be recognised as one interpretation of the reality. As Miles and Huberman (1994:56) note, what the researcher chooses to ‘see’ in the evidence is “inescapably selective”, depending on the lens through which the evidence is surveyed; lenses of ontology, epistemology, and purpose. This leads to the potential of multiple interpretations, which consequently undermines any claims to objectivity – a goal taken from the natural sciences. Within this research project, whilst the test of objectivity cannot be met, a test of confirmability (Bryman 2021) can be. The reader should be able to determine the basis for any interpretations presented, when viewed through the research lens - foregrounded throughout the study. The challenge for any interpretation of evidence, is to acknowledge research as a “potentially coercive tool *that* must accomplish something beyond itself” (Dunne et al., 2009:131).

The relatively small and narrow demographic of participants restricts any claims to generalisability; however, this does not diminish the applicability of the subsequent findings. The validity of the findings would hope to be found in their ‘catalytic’ impact (Dunne et al., 2009) for change in both the participants and those who engage with the report. Validity in this guise reflects an outworking of credibility and transferability - interpretations of internal and external validity respectively, within the qualitative research paradigm.

### 3.6.2 Transcription and coding

The data collected were initially prepared through transcriptions of the CoP sessions and interviews on completion of the project. It is acknowledged that the act of transcription itself can already lose data from the original interactions (Cohen et al., 2018) and that words can lose meaning when abstracted from the social setting in which they were first created. The transcriptions recorded the coded identity of the speaker and the words that they spoke. Pauses, inflections, emphasis, and body language were not included. The unit of analysis was what was said, rather than any attempts to analyse the nature of interactions, and patterns in discourse. My contributions to the different sessions were included in the transcriptions to reflect the co-authored nature of the meanings recorded in the field (Kvale, 1996) but were not utilised in the presentation of the findings – my perspective was not being explored.

Following transcription, the text was read and re-read, and a sense of the whole text was established (Creswell, 2012). Next, the text was grouped deductively, using the analytic framework in Table 3.2, to support a focus on data which was relevant to the research questions (Braun & Clarke, 2013, 2022). This had the dual purpose of reducing the volume of data to that which was relevant and to start the process of reflecting on meaning. The framework draws on Kemmis’ (2009) work about capturing practitioner perspectives through a focus on what they do, what they understand and how their actions and understandings are shaped by the relationships within their context. The framework was designed to capture teacher responses in relation to RQ1-4, about the effects of PfT on teachers and learners, through the lens of their reported actions, understandings and relatings.

Following this initial phase, an inductive approach to coding was developed to give voice to the participants’ perspectives, whilst being cognisant that pure induction was impossible because of my unavoidable role in shaping meaning. This notwithstanding, I had to avoid cherry-picking and fore-closing analysis (Braun & Clarke, 2022). This process was undertaken by assigning semantic codes in the first wave of inductive coding to data which provide report of the same thing (Gibbs, 2007). Initial, tentative themes were developed through coding clusters, and then a further round of coding, which included codes to data which had latent relationship to the original semantic codes (Appendix J), which added to the richness and depth of the themes ultimately established.

This process was done manually without the use of a computerised programme – and was undertaken using the review in Word to log codes, and different colours to highlight code clusters which were then used within further word documents that collated code clusters within the themes created (Braun & Clarke, 2022). The choice not to use NVivo or other similar coding software was a purely practical decision. As a full-time headteacher, it was not practicable to undertake a sufficient level of training and practice to make the use of coding software efficient. Moving forward, training in this area will be a priority, as the quantity of data generated in this study was difficult to manage and organise by physically handling all the data – however, repeated engagement with the data enabled thorough familiarisation and the ability to recognise patterns and themes (Miles & Huberman, 1994).

|  |  |  |
| --- | --- | --- |
| **DOINGS** | **SAYINGS** | **RELATINGS** |
| Practice | Effects on learning and learners | Challenges related to effects on learners |
| Effects on teachers | Challenges related to effect on teachers |
| Adjustments  (Effect on teaching) | Teachers’ emerging understandings | Challenges related to external drivers and internal systems |

Key: RQ1 RQ2 RQ3 and RQ4

Table 3.2 Analytic Framework

There are a range of concerns posited against coding. These include concerns surrounding the consistency of code application, a loss of the temporal and contextual basis of the original spoken text and over-coding (Glaser & Laudel, 2013). Each of these concerns can negatively impact the overall narrative or sense of what was spoken because of fragmentation and seeing the written text as ‘brute data’ (St. Pierre and Jackson, 2014) that might precipitate false patterns and meanings. To combat these concerns, Adair and Pastori (2011), emphasise the importance of capturing the ‘emic’, ‘etic’, priori and posteriori in coding – using terms meaningful to the participants, the world outside of the study, pre-ordinate codes and emergent codes – to capture deeper meanings in the text.

### 3.6.3 Using the analytic framework - the dance of teachers’ doings, sayings, and relatings

As outlined in section 2.3.1, the over-riding practice architecture in which primary school teachers practice has been presented as one which is bounded by neo-liberal conceptions of educational purpose and mechanisms of accountability, within a marketised system. Within the whole system however, schools establish their own ‘practice architectures’, with their own mediated ‘doings, sayings, and relatings’, to guide the pedagogy of their teachers (Section 2.5.4 and 2.6.2). In turn, teachers will have their own ‘doings, sayings, and relatings’ (Kemmis, 2009) which constitute their enacted pedagogy within the classroom, depending upon the degree of agency they have been able to develop.

As Kemmis argues however, in considering the doings, sayings, and relatings of teachers work in the classroom, not one of these elements holds primacy over the other, and each is inextricably linked. This presents a challenge when seeking to extrapolate the findings related to pedagogy in a coherent and logical manner. Kemmis describes the relationship between the three elements as a ‘dance’ where each one attempts to shape the others by asserting itself and simultaneously reacting to the assertion of the others. This makes describing what teachers do, or the adjustments they make to their practice, impossible without referencing the teacher understanding which has led to it, which could be in response to reflections on practice already undertaken. Equally, it is likely that there are inherent challenges to the choices teacher make in their classroom, emerging from the conditions of their practice, as well as challenges which emerge from their reflections on the impacts of their current or previous practice. This understanding has been borne out in the data collected with the participants.

Figure 3.1 Cycle of pedagogic exploration

The framework in section 3.6.2 attempts to demonstrate this dance pictorially, with the research questions emersed within it. At the heart of the framework however, it can be recognised that there is a broadly cyclical process, as seen in Fig 3.1. This cyclical process guides the structure for the sections of the chapter. Findings from the initial surveys emphasise teacher’s initial understandings related to fixed ability grouping, as well as the challenges related to their confidence as a mathematician but with no reference to their practice, as this was not part of the study at that stage. All elements of the cycle are considered when presenting the findings from the focus groups, however, as the elements ‘new or adjusted practice’ are already established prior to the final interviews, these are not featured in those sections.

## 3.7 Summary

This chapter has situated the research design within the study’s critical and emancipatory purposes, highlighting the primacy of the participants voice in the choice of research tools, enabling the research questions to be answered. The research program is explained, and attention is given to the asymmetries of power within the research process along with a clear acknowledgement of my positionality.

# Chapter Four – The Findings

## 4.1 Introduction

This chapter presents an understanding of teachers’ perspectives on the potential for implementing PfT within the primary classroom, as a means of challenging practices related to notions of fixed ability in children. This is achieved through analysis of teachers’ understanding of the barriers and benefits of the adjusted practices they chose to explore, through the project, towards this goal. The barriers and benefits are analysed by considering the effects of PfT, reported by participants on both learning and learners, and teaching and teachers. All practices or pedagogic tools explored in this study, were used in conjunction with responsive and adaptive formative assessment both within and at the end of each lesson, to underpin the participants’ knowledge of the next steps in learning needed for each child. The pedagogic tools were explored within a learning environment where children were typically sat in groups which supported classroom and behaviour management, reflecting participants’ understanding at that time.

As outlined in section 3.5, information was gathered through initial surveys, focus group discussions and final interviews. The findings from these sources are presented in turn, mirroring the chronology of collection, in support of presenting the emerging narrative of the teacher’s perspectives: initial survey findings (Section 4.2), focus group findings (Sections 4.3 – 4.6), final interview findings (Sections 4.6). Section 4.6 draws on findings from both the Focus Group sessions and the final interviews. An overall summary of the findings is in Section 4.7.

Each section draws upon different elements of the analytic framework shown in Table 3.2. to answer the four questions (RQ1-4: see Section 2.8.3) underpinning the study. Throughout the presentation of the findings, the research questions are addressed in the following sections: RQ1 (4.3 and 4.5), RQ2 (4.2 and 4.4), RQ3 (4.5), RQ4 (4.5).

## 4.2 Teachers initial understandings and challenges (RQ2)

The findings from the initial surveys highlight the variety in teacher experience and perspectives prior to the start of the project, and therefore convey the range of starting points for each participant in terms of their initial thinking at the outset of the project. The Initial Survey Form, and subsequent collated data (Appendix C), had two questions to explore the teachers’ initial perspective about themselves as a mathematician (ISQ1) and the role of practices related to fixed ability thinking (ISQ2).

### 4.2.1 Teacher’s mathematical identities (ISQ1)

The responses to ISQ1, are grouped into two categories - those who present as a confident mathematician and those which refer to limitations within their mathematical identity. Responses of the confident mathematicians are typified by:

*As a mathematician I have always enjoyed maths and found it easier than English* – OliverE

*Confident – I feel happy enough to explore and play with lesson structure and differentiation* – HannahD

The first comment is related to a seemingly inherent mathematical identity and this identity is described as a comparator to English. It could be argued this suggests there is an understanding that people are either mathematical or literary, possibly negating the option of having competencies in both core subject areas. This understanding could contribute to the framing of learner identities as being mathematical or literary which may subsequently influence teachers’ expectations of children’s potential attainment. The second comment, however, alludes to how teacher confidence in mathematics might positively support the range of pedagogic tools they could draw upon to meet different learner needs. Mathematical confidence in this context, with reference to differentiation, is potentially expressed as a willingness to explore different ways of meeting children’s learning needs in mathematics.

The second group of responses drew upon limitations within their mathematical identity and relate to its changing nature, for examples:

*Maths was never my strong point when I was a child. My confidence and ability have improved with age.* - NoraE

*I always found maths difficult as a child and remember being labelled in primary school. I worked hard and achieved a ‘B’ at GCSE –* JoE

Both responses, which are typical of those who did not identify as a strong mathematician, refer to their sense of mathematical ability as a child. The first comment makes a link between confidence and ability. It does not it make clear whether one of the elements was the precursor to the other but rather the suggestion is that both have developed with time, and this may be linked to consistent exposure to mathematics through the daily teaching of it. This comment appears to understand mathematical ability as something that can be developed or nurtured over time, rather than something purely intrinsic or judged as a comparative against an established norm.

Contrasting the posited interpretation of the first comment, the second comment appears to allude to a struggle and hard work being involved in their demonstration of mathematical competence. There is no reference to mathematical ability, rather, reference is made to attainment, and possibly more importantly reference to a recognised measure of competence in mathematics. It could also be noted that impetus for future attainment in mathematics came from within the participant when the phrase, “I worked hard,” is considered, rather than reference to any latent ability. This may suggest recognised attainment could be achieved by most people – if they work hard enough.

All four of these responses, either directly or indirectly, suggest implicit theories about mathematical ability; where it comes from, how it is developed and how it is recognised. These implicit theories, which the teachers may not even be aware that they hold, according to Claxton (1990), are likely to have an influence on how learners in mathematics are framed and how they are taught.

### 4.2.2 Initial perspectives on notions of fixed ability (ISQ2)

Prior to the start of the project teachers may or may not have considered the effects of notions of fixed ability, and therefore responses may have been tentative or without foundation as fixed ability grouping is part of normative practice, often adopted without critique (Bradbury, 2019; Yarker, 2019). It should also be noted that the teachers from the SEC group had engaged with CPD related to challenging fixed ability grouping during the previous academic year, and therefore could possibly already have been adjusting their perspective considering those earlier sessions.

The responses to ISQ2 can be categorised in three ways: acknowledgement of their potential to limit children’s learning; reference to different areas of learning in maths; and reference to teacher experience or mindset. Typical views within the first category of responses are represented in the following extracts:

*It could lead to children not meeting their potential and could put barriers up for future learning* – IzzyE

*I do not believe in any form of fixed ability. Children should be able to choose their own level of challenge* – JoE

Whilst both comments assert negative perspectives related to fixed ability grouping, the statements differ in their emphasis. The first comment appears to focus on the negative academic effects of ability grouping both in the middle and longer term, and that the effects of fixed ability grouping are on-going. Within the same comment however, there is reference to ‘meeting their potential’ which might suggest a perspective which sees potential as fixed and stable, and therefore linked with a sense of pre-determined latent ability.

In the second comment notions of fixed ability are refuted. The role of pupil agency in determining the degree to which they are challenged is suggested as an alternative to fixed ability grouping. In both responses, the rationale has not been presented or developed, and therefore may not stand up to the rigour of challenge or scrutiny. A key element of the study was to encourage a robust examination of the barriers and benefits of pedagogies which challenge notions of fixed ability grouping.

The following teacher comments typically reflect the second category of responses:

*In maths particularly children can have real strengths in some areas and find others more challenging. No two children are the same – so to have fixed ability grouping would not meet the needs of any child* – CharlotteA

*I’m not a fan. Children can change from day to day. Maths is such a broad subject, with so many areas of skills. It is a mistake to assume a child will excel or struggle across all areas* – BeckiA

Both responses suggest that the nature of mathematics – the breadth of conceptual elements in the curriculum – require a more nuanced approach to meeting children’s learning needs than fixed ability grouping. The first comment forwards the understanding that fixed ability grouping potentially does not meet the needs of any child, based upon the recognition that all children are different. This view suggests that any chosen pedagogy should seek to address the needs of individual children rather than focus on the needs of children within a group of those with assumed homogenous needs. The second comment contributes further to this point of view, noting that the basis of fixed ability grouping in maths is an assumption that perceived mathematical ability enables learners to achieve in all areas of maths. The phrase, “I’m not a fan”, might suggest however, that this practice is still utilised by the participant but without a pedagogic commitment to it – it is simply an expected practice.

The final type of response noted references a need for fixed ability grouping but also the importance of mindset when considering alternatives. This view was typified by the following:

*Open-minded. There is a time and a place but willing to try. Always had fixed ability groups so my mindset needs to change and will* – AbiA

This response most typifies those recognised in the study as experienced teachers. It projects a view that fixed ability groups have always been used and can be recognised as effective. Possibly most notable in this response is the reference to teacher mindset, or maybe more pertinently, individual mindset. The teacher is presenting as ‘open-minded’ whilst at the same time suggesting both an embedded mindset in support of fixed ability grouping and a willingness to be open to alternate approaches.

## 4.3 Effects on teaching (RQ1)

In this section, the focus shifts to address the findings from the focus group discussions. As explained in section 3.6.2, pedagogy is constituted of teachers’ ‘doings, sayings and relatings’, and these elements are part of a complex cyclical process, involving the symbiotic interactions of practice, the constraints on practice (challenges) and reflections or understandings related to the impacts of practice and/or the challenges. By definition, a cyclical process has no pre-determined starting point, however, as pedagogy is enacted in the doing of practice, that is the starting point for the presentation of findings in this section.

As already outlined in section 4.2, each participant engaged in the project started with differing levels of experience and understanding related to notion of fixed ability. Coupled with the intended agency for participants to plot their own path, at their own pace throughout the period of exploration, the different starting points contributed to multiple, overlapping narratives of individual teachers’ exploratory journey with new or adjusted practices in relation to PfT. To make sense of the emerging perspectives, which developed because of reflections on their own practice and the reported practice of their peers within their community of practice (CoP), the narratives have been merged to form an over-riding narrative. This narrative subsumes individual sub-plots and presents a narrative of typicality in terms of participants emerging ‘doings, sayings, and relatings’, whilst not foregoing the presentation of pertinent outlying voices, or those which reflect distinct teacher typologies.

Within the data, four broad elements of new or adjusted practice were described: mixed ability grouping, choice of challenge, choice of learning partner and flexible intervention in-the-moment. The practices reported were undertaken by participants supported by on-going formative assessment, which informed future areas of exploration and adjustment.

When describing their approaches to mixed ability grouping there was nuance in the approaches taken. These reflected some of the potentially implicit theories related to notions of ability that the different teachers held. In one classroom, shared by an experienced teacher (ET) and an early career teacher (ECT), mixed ability grouping consisted of *“using the middle as the glue to kind of stick the high and the low”* (DanA). This conception of mixed ability suggests that the children worked together as a group to address their mathematical learning, with mediation required for all children to be able to fully participate collaboratively. This approach is seemingly founded in an understanding of children having a given amount of ability which can differ relative to others.

The choice of collaborative emphasis within this approach, created issues of pedagogic tension for both teachers – how would the needs of the higher and lower ability children be met without adequate stretch or scaffolds for the respective groups? Further to this, the reflection, *“I wouldn’t want to think my child had spent their day teaching someone else”* (AbiA) suggests that there is a sense that within this approach the lower attaining children would have their needs met at the expense of the needs of the higher attainers being met. Equally, it was argued that the needs of the very lowest attaining children could not be met within this approach, with them having *“their own little island”* not within the mixed ability group arrangement to access a *“mathematical diet”* limited to fluency and number-based work because they could not *“meld with the rest”* (DanA). This suggests a theoretical and physical othering of some children.

Another teacher at School A had also explored utilising mixed ability groups, but had deliberately constructed the groups, considering on-going formative assessment, to ensure that each child was paired with someone more closely matched in their current understanding, to avoid children being at *“polar extremes”* with the person they sat with. This also enabled partnerships where similar levels of understanding between the children created an *“achievable aspiration”* (CharlotteA). In this arrangement, the children would work independently but were able to collaborate with the person they sat next to. This approach was echoed elsewhere,

*I tried the ‘more knowledgeable other’, because I thought it would scaffold those lower ability children because if they are with someone who is above age relate expectations then they aren’t going to get anything -* IzzyE

This approach to grouping or pairing was adjusted as deemed appropriate once the children’s learning had been assessed.

‘Challenge by choice’ was adopted as a generic description for practices in the project which encouraged the children to choose the tasks or challenges they engaged with following the initial input from the teacher. This approach was reported across all other classes, with all teachers adopting this approach at different stages within the process – the latest point of adoption was after the second focus group session. Once adopted however, this approach was reportedly maintained throughout the rest of the project in all classes. Access to the challenges were either undertaken at table groups with the same challenge or seated with a partner of choice.

In the SEC CoP, the challenges were labelled Bronze, Silver, and Gold across the school as part of establishing a shared language and understanding of the choices amongst children and staff. Some teachers reported that they started by holding on to the decision about choosing the level of challenge and that all children started at Bronze, and then moved through as they chose, before *“gradually taking it away so they could choose whether they started at silver”* (OliverE). The reference to ‘gradually taking it away’ was described by others as loosening control. This was typically done in a gradual manner, although one teacher reported diving straight in and letting the children *“take control. It is putting that responsibility on to them, isn’t it?”* (CharlotteA). In section 4.4, some of the reported challenges related to relinquishing control are presented.

A third approach involved allowing the children to choose who they worked with – their learning partner. This approach was adopted as an alternative to grouping, whereby the children would select their level of challenge and then go and sit alongside a partner of the choice – someone who would support them with their work or someone they felt comfortable with.

In most classes, participants explored how to engage children who were known to regularly struggle taking learning on board or were struggling with new learning during a lesson. Prior to the project, teaching assistants would typically be assigned to a low ability group to guide and support them through the tasks, whilst the teacher might be supporting another group elsewhere. Once the project had started two different approaches to intervening in the learning process, for all children, were explored.

The first involved having a space where the children could visit if they were finding the new learning tricky: *“We have a surgery. You can access help from each other, the teacher, whoever and then they go back to their own space”* (JoE). This intervention was competency-bound, and as soon as the children were able to access the learning independently again, following intervention from those working in the ‘surgery’, they returned to their place to continue.

The second involved *“moving around the room marking as we go and answering questions”* (BeckiA). This practice allowed the adults to quickly recognise those with a similar issue with their learning – either in terms of struggling with understanding or needing further extension – and sending them *“out as a little group”* (BeckiA) before returning to continue. This approach was also adopted as a short, competence-bound intervention for individuals, whereby as soon as they understood, following some additional input theywould work independently having returned to their seats,rather than relying on on-going support.

## 4.4 Challenges in the process of implementation (RQ2)

This section focusses on the next phase in the cycle of pedagogy exploration (Fig 3.1), and the challenges teachers reported they faced during their pedagogic exploration. This directly addresses the ‘relatings’ element of the analysis framework and is constituted of challenges emanating from the effects of new practices on the children and on themselves as practitioners, as well as from the external drivers and internal systems. The perspectives covered in this section are recognised as the precursors to the development of new understandings related to their practice, which led to further adjustments to their practice to reflect those understandings. The new understandings are presented in section 4.5.

### 4.4.1 Challenges related to effects on teachers

As part of the iterative process of analysis (Section 3.6.2), four key elements of challenge were recognised in participants’ reflections as they shared their experiences in the focus group sessions. These are presented as the challenges of ‘letting go’, meeting the learning needs of the children and challenges to their sense of professional competence. Whilst these challenges are tackled in turn, there are overlaps and inter-relations between them. Within this section core themes which shape the discussion chapter begin to develop.

As mentioned in section 4.3, giving the children choice about the level of challenge they engaged with or the learning partner they chose to sit next to, were practices explored by participants. A key theme that emerged was around the issue of control, which arguably resonates with the teachers’ perception of their role – control of the environment, control of the learning. Having control of these elements in some ways were potentially understood as displays of professional competence visible to any onlookers. This is most clearly encapsulated in the following comments:

*It is the biggest mess with my head because it is just letting go and saying to them ‘go and choose’. They sit anywhere and do whatever they want, and it is so unstructured in some senses - BeckiA*

*I think literacy is a calmer lesson. I’m a control freak I’m afraid, but it seems more manageable. With maths you have got so many different things happening and so many possibilities that can happen within that lesson and it is being in the right place at the right time whereas with literacy I feel like I can guide and look down - AbiA*

A telling point is made at the start of the first comment, and the notion that challenges to implementation and may be linked to ‘letting go’. It is not clear from this comment whether this is related to pedagogic practice, subject knowledge, classroom management or linked back to a will to be, and appear to be, competent.

In the second comment, the need for control is explained as being intrinsic in the participant and therefore character related. However, as is shown in presentation of findings from the interviews, this characteristic is arguably more tightly related to being a teacher more generally. Possibly most telling however is the reference to perceived differences in teaching maths and English, the former perceived as having multiple variables which might be difficult to manage, whilst the latter is presented as calm and requiring less teacher intervention. Returning to the initial survey completion, AbiA, presents as an Art lead, therefore opening the consideration that perspectives related to control, may also be linked to a sense of relative competence.

This suggestion gains more credence considering the comment below, which is reflective of many of the teachers who were subject leaders in curriculum areas other than mathematics:

*I am more confident with literacy because that is my passion . . . with the maths because children can be capable at one area of maths and then really struggle with something else. There is a challenge managing it - CharlotteA*

In this extract, the view that mathematics has multiple variables is reiterated, and is linked to the challenges this presents in managing the children’s differing needs and ensuring the children make effective choices to address their own learning needs. This perspective relates directly with a challenge highlighted in the next section.

A significant observation was presented by a headteacher, who attended the first of the focus groups in their CoP and had been informally visiting classrooms during the first cycle of exploration. They draw the link between the challenge of letting go and teacher confidence and acknowledge that a lack of confidence in the teachers might be related to concerns surrounding headteacher perceptions of their changing practice, and how it may appear.

*I think a lot of this is to do with staff confidence as well as children’s confidence and allowing staff opportunities to let go of the reigns that they are used to holding on to by putting these children in to groups - letting staff have that free reign and then not being afraid of having to change your planning in different ways - HeadA*

The notion of ‘free reign’ is a different conception of control to that already presented – in this context the control is related to teacher’s choices rather than control over the children’s choices.

Fundamental to the role of a classroom teacher (*Teacher Standards*, 2012, DfE) is the requirement to address the learning needs of all children. Therefore, in exploring PfT, this issue was at the forefront of teachers’ minds and is reflected in two separate sections of this chapter – both here and in section 4.6. In this section, the challenges teachers faced in addressing the children’s needs considering the four core areas of practice they explored are exemplified but more particularly to challenges perceived around giving children choice about the challenge they engage with.

The next comment arguably links to the previous section and challenges of ‘letting go’ of control over the work children access and possibly more pertinently, when to intervene – a challenge considered in more roundly later in section 4.4 – if the children’s choices are not effective in supporting their own learning. Effective choices can be understood as addressing their next steps in their conceptual understanding and application:

*I am not quite sure how long to leave him choosing his own work before I can say ‘is this the right challenge for you?’ - EllieB*

This concern, raised by most teachers in the MSS group in the early stages of the project, suggest that teachers were unsure about how or when to intervene, possibly even whether they should intervene, if allowing the children agency over their choices. As the project progressed and teachers refined their role in the classroom, this challenge was less of a consideration. These new understandings are covered in section 4.5.

Other statements of concern in this area are considered in section 4.4 and relate to meeting the needs of higher and lower attaining children. It is notable that currently middle attaining children are not referenced at all – possibly because they were on track to meet age-related expectations and would not affect the final attainment distribution for the class.

A recurring topic of conversation during the first two sessions highlighted concerns about being seen as naïve (Yarker, 2011) and having their professional identity questioned. The following reference to naivety was seemingly reflective of concern about voicing a perspective that was counter to a normative professional understanding:

*It is interesting because what you were saying about going back to filling gaps and I am really sorry if this sounds a bit naïve, but I am finding that some of those gaps are a bit self-fulfilling now –* BeckiA

In this instance the teacher is discussing ‘gaps’ in the knowledge of children in previously recognised ‘lower ability groups’ caused because of not having access to the same depth of curriculum as other ability groups in the class. Fixed ability grouping is typically used to address gaps in children’s learning, by clustering children with similar needs together and providing a reduced curriculum diet – a point made in section 4.3.

The sense of pedagogic naivety is also present in these comments,

*I haven’t had my children sit in an ability group. I feel like I am making some kind confessional -* BeckiA

as the teacher engages with mock-confessional, for not undertaking what might be perceived as expected practices, to effectively meet children’s differing learning needs. Other comments allude to professional identities of competence associated with quiet classrooms and ensuring no time is wasted:

*I found, because I was allowing them to sit anywhere it caused too much disruption trying to get books out - OliverE*

*It has had an impact on noise levels within the class. I thought they might go up because they chose where they want to sit during the morning, and they haven’t. They have actually reduced - JoE*

In the final example in this section, there appears to be a degree of reflexivity and regret, emerging from reflections about prior practice, having observed children accessing higher levels of challenge than they might have been able to access if the children had not chosen for themselves:

*You just cringe, thinking how many times have I done this? Under my old system, I would have said ‘you can do that one, and you can do that one’ and would have put a lid on what they can do, and they have just gone and shown me that clearly, I didn’t know what I was doing - BeckiA*

Whilst this comment is presented as a challenge to teacher’s former understanding of what it might have meant to be a competent teacher, it was used as a spur to further reflection for this participant rather than a barrier to future practice. The challenge to prior thinking can be seen as the basis for developing new understandings.

### 4.4.2 Challenges related to effects on children

The second source of challenge to the implementation of PfT, emerged from how the children engaged with the new approaches to teaching and learning, particularly in the early phases of the project. Section 4.5.2 highlights the effects on the children over the longer term and demonstrates that many of the challenges forwarded in this section were overcome. Teachers adjusted their understandings and practice accordingly, to mitigate the challenges occurring at the outset of their exploration. These challenges, like those on the teachers, are linked to tensions related to competence, control and confidence; tensions which overlap and are intertwined, one arguably a precursor to the other, in a dance similar to those between ‘doings, sayings and relatings’.

From the outset, participants’ greatest concern and challenge surrounded questions of intervention if a child made ineffective choices about the level of challenge they selected, or the learning partner they chose. As noted in section 4.3, teachers were concerned that children may not have their learning needs addressed, which in turn would mean that teachers were not fulfilling their role leading to the challenge of demonstrating competence. Another challenge reported emanated from concern about the impact on the children and their sense of themselves as learners.

The three primary concerns were posited by participants about intervening when ineffective choices were made, when to intervene and how to intervene.

*With continuous provision we do try and have different levels for maths and things but often the higher ones will go for the you know the lower activity. It is interesting -* MorganE

In this comment, unlike the two which follow, the teacher is arguably presenting their perspective as a passive observer, with no power to intervene, noted by the closing remark, ‘it is interesting’ rather than framing the observation as a query about how to respond. This participant had been on maternity leave for a large portion of the project and returned to an environment where children appeared to have unquestioned autonomy and had not yet fully comprehended that practice within the group had evolved to include the teacher’s responsibility to support reasoned and appropriate choices. This had been a challenge for many teachers at the start of the project as they wrestled with the boundaries of children’s agency in their learning. The following extracts, highlight some of the questions raised in the process of adjusting participant understanding and subsequent practice.

*It’s a case of how long can you give? -* CharlotteA

*I am not quite sure how long to leave him choosing his own work before I can say ‘is this the right challenge for you?’ -* EllieB

The first challenge presented above is raised as an on-going question, and the need for professional judgement of when to elicit more control over children’s choices. The second statement, in suggesting that a question to the children about their choice, seems to acknowledge the role of the child in reconsidering and refining their choice, as part of a shared decision. In this way, it can be recognised that the principle of co-agency is present in the enactment of pupil choice.

At the heart of the next comment, the participant seemingly seeks to understand the potential emotional barriers to effective choices, and as addressed in section 4.5, new approaches were developed to support children in this situation.

*They automatically went for the option that was going to give them the least challenge in case they got it wrong because they were frightened of making a mistake’ -* EllieB

One unresolved, and on-going, challenge related to ineffective choices when choosing learning partners.

*It hasn’t worked for all because there are a couple of boys who are choosing their learning partner, but it doesn’t really work well for them -* JoE

In this instance, the choice of learning partners was removed, until the children involved could work within the culture embedding within the classroom. The cultivation of classroom culture is explored in section 4.5, as a part of supporting effective choices.

The second area of challenge reportedly presented by the children was in relation to ingrained learner identities. When encouraged to choose a challenge or task which would help embed or extend their learning, some children struggled not to frame themselves or others by the challenge they chose to engage with.

*They were perceiving things as, ‘this is the hard piece of work or this is the easy piece of work’, without you even saying those words. Those thoughts are already in their heads by the time they are in Year One -* CharlotteA

*The sets and the abilities are the things that I have done in the past, and that’s how they have been taught because that is what we have been doing. It is really heavily engrained in them -* BeckiA

These participants highlighted the role that their prior pedagogic choices might have had in framing the children’s sense of learner identity and how early in their learning careers this identity and understanding can take hold. Other comments highlight how perceptions of competence are shaped using manipulatives and prior attainment. These are presented as challenges to children making choices which will support their learning. The next seemingly suggests an awareness of how other children may perceive the learner involved in the comment and how that influenced her choices.

*‘I don’t want to use equipment because that is what the babies do, that is what we did in year two’, she wanted to show me or her peers that she was grown up -* HannahD

The next comment followed an occasion when previously higher attaining children had opted for a higher challenge, without considering whether it would be beneficial for them, and subsequently could not do it. It maybe emphasises how a need to present as competent as a high attaining learner, framed the children’s choices, and the challenges this then presents.

*It grounded them as well a little bit as they still had to actively choose the activities –* FlorenceB

### 4.4.3 Challenges related to systems internal and external processes

Some challenges to the implementation of PfT were noted as being from external drivers, what Kemmis would recognise as relations to power – the political preconditions of practice. The CoP discussions included reference to two different sources of challenge – those which were related to internal school systems of accountability, and those from outside of the school.

The internal system referenced most prominently was Pupil Progress Reviews, used by schools’ senior leaders to monitor the effectiveness of provision for the children, typically against normative milestones children should be meeting throughout the academic year. The first comment highlights the teacher’s consciousness of the monitoring program, even when discussions are focused on practices they are undertaking. It is only as the teacher is sharing her concern that she realises that she will be aware of children’s progress during the lesson, and there is a need to respond to children’s needs and intervene in the moment. This refocuses her mind to what could be done within a lesson and that she has a responsibility act – she has agency to adjust her approach and to challenge children’s choices if progress is not being made.

*What happens when you come to like pupil progress meetings and you realise that some children are not moving along. How do you deal with that in a maths lesson? -* HannahD

The second comment aligned to this challenge, is more focussed how to justify and evidence assessments of progress that have been made. This is highlighted as a particular challenge to evidence progress for those children who might be working below age-related expectations but achieving elements of the age-related curriculum, without reaching a threshold score that indicates progress. She contests that evidence for recognising progress is more than a score on a grid and learning gains should be looked at more holistically.

*He has got a secure understanding and I prove this by showing his books. I can show you everything else and again it is very naïve but to me, that is progress as well, it is not just you know ticks on a grid -* BeckiA

Other teachers raised the challenge of external processes in their discussions. They suggested the need to prepare the children for SATs and collecting sufficient evidence in the children’s books to justify the levels they had reported, meant that a more tightly controlled approach to teaching and learning was required. The underlying sentiment from the following statements is arguably that if the teachers have no choice, the children have no choice. The teachers seemingly feel they must prove their competence, by demonstrating the children’s competence in the guise of high attainment and accurate assessment of the levels achieved.

*We have been doing SATs so there isn’t much choice there but hopefully as this half term goes on, we can get away from all of that and get back into what we were doing -* KaroE

*It is very much you have got to do this bit of work right at this moment as we need the evidence but after next week, we will get back into the children choosing where they need to be -* JoE

The participants also presented a determination to return to practices which promote children’s agency and a classroom culture of choice – both for the teacher and the children.

## 4.5 New understandings (RQ1 - RQ4)

This section brings together all the accumulated understandings reported by the teachers during CoP sessions and the final interviews. These understandings are collated to be representative of the adjustments teachers made to their practice to address the challenges raised in section 4.4.

### 4.5.1 Adjustments to practice (RQ1 and 2)

The findings related to the adjustments in practice have been organised to reflect the teachers’ application of the three pedagogic principles at the heart of PfT: Co-agency, Trust and Everybody (Section 2.6.1).

A significant challenge to most teachers at the start of the project related to concerns about children making ineffective choices. These concerns were whether, when and how teachers should intervene to ensure children were accessing the learning opportunities they needed to make academic progress. The concern about whether they should intervene emanated from a sense that authentic pupil choice would be limited if the teacher stepped in to either re-direct or challenge children about their choices. This was linked closely to teachers’ fears of ‘letting go’ and giving the children control. Letting go was initially interpreted as allowing the children to choose without support or accountability. Through sharing these concerns, within the focus groups, enabling the children to choose their level of challenge was re-interpreted considering a shared understanding of a fundamental role of a teacher (DfE, 2012), which is to ensure children access learning which meets their needs. This was articulated in the following statement:

*I am not afraid to step in if it isn’t working with a child at a point in a lesson because we wouldn’t be doing our jobs if we didn’t -* GillianC

This extract also highlights an understanding of when to intervene - at any point that the choice is no longer effective. This view is also reflected in the next extract, which maintains children’s agency by *“allowing them to make their own choices initially but if it is not a wise choice, they are scaffolded”*(SECH1). This scaffolding was typically reported in the form of questions and dialogue with the children, which sought to support both current and future choices. This is represented in the following excerpts:

*I say, ‘tell me about why you have chosen that one’, and then see if they understand what they need to be able to do and what they might need to achieve it –* CharlotteA

In later elements of this section, where the impacts on children are discussed, it is noted that the children became increasingly effective at making appropriate choices about which challenges to engage with.

Another perspective teachers shared in relation to guided choices was the importance of ensuring that children were not complacent in the degree of challenge they exposed themselves to. Teachers adjusted their practice to both encourage children to push themselves and to address barriers to learning related to the child’s affective state. The first comment below encapsulates both adjustments, whereas the second addresses issues of fear and subsequent encouragement.

*It is kind of pushing them but letting them choose their own way, giving them autonomy over their choices -* EllieB

*Even yesterday some of my children stayed on silver and I had to say to them ‘if you are getting it and you’re doing okay, don’t be scared of having a go at the gold. You will probably surprise yourself’-* KaroE

In these instances, the teacher is exercising a degree of control whilst supporting the children to make effective choices of their own.

Following the second cycle of exploration, the comments from participants began to develop around the importance of establishing a shared classroom culture based on Trust.

*It is about having a culture as well, isn’t it? Where it’s okay to get it wrong, and it’s okay to challenge yourself . . . it is just about building up the confidence in them to have a go -* GillianC

Developing a culture where it is okay to fall short, or to struggle*,* because the children could trust they would be supported was emphasised as a means to supporting children into effective choices. The children were also able to articulate the impact of this cultural change.

*They were happy that they knew that I trusted them to be able to choose their own work -* EllieB

Within the SEC CoP, as they had previously engaged with CPD related to PfT, a whole school culture was already developing, and children were openly encouraged to adjust their choices depending on whether they were being stretched or struggling too much. Although the comment was made within a different CoP, the extract below captures this cultural element but also emphasises the temporal nature of struggle with reference to the word ‘yet’:

*Giving them permission . . . it’s alright not to be able to do it yet -* GillianC

Referencing the principle of Everybody, a widespread observation from amongst participants was a recognition that their practice had become more focussed on meeting each child’s individual needs. It was reported that prior to engagement with the project, much of their previous practice had focussed on planning and delivering for a group:

*I think we’re teaching for individuals now rather than the group . . . now for every child it’s like the learning is for them not for the group –* MorganE

Teachers provided numerous examples of how their knowledge of, and engagement with individual children had helped them understand the barriers preventing the child from progressing or helped create moments where a child experienced academic success or acclaim from their peers for the first time. For example:

*I think she just needed that lightbulb moment to say I can actually do this on my own –* HannahD

Equally it was also noted that an important element of teaching within the PfT framework is the need to know the children in class. This is captured succinctly in this observation:

*I think you know the children better . . . you know what makes them tick, what they find difficult, where they need the challenge and maybe we didn’t do that before as much –* AbiA

Another way in which the principle of Everybody was enacted was a heightened awareness of how language can frame not only the tasks provided for the children to engage with but indirectly, frame a child’s ability and perception of themselves as a learner. By adjusting the way in which tasks were presented made everybody’s engagement with learning valid, whichever task was deemed appropriate for each individual. Rather than describing tasks as easier or harder, teachers started to describe the content of the task and the kind of things the task helped children to practice, or how they might be stretched:

*I describe the things to the children and at the end of my exposition. I explain to them if you have found this . . . have a go at . . . They know that they can choose something suited to their challenge, suited to what they’re comfortable with –* EllieB

Other teachers, rather than referring to ‘feeling comfortable’, referred to feeling confident. In the context of the reports, both comfortable and confident can be conflated, rather than comfortable being interpreted as an option not to ‘push yourself’. A persistent challenge however was trying to prevent the children *“labelling it themselves”* (AbiA). A teacher from the SEC CoP, explained the importance of establishing a classroom culture which encouraged everyone to work to their own strengths and where all achievement was valued.

Pertinently, as shown below, much of the language used by teachers when talking about tasks or children was ingrained or habitual, and conscious effort was needed to combat language related to notions of fixed ability, as it shaped implicit theories. It could also be argued that implicit theories related to notions of fixed ability might also shape the language used.

*There has been a big challenge in the language I have used because that is habit, and that is quite tricky to break –* CharlotteA

A consensus around the centrality of this adjustment to practice is captured below. It suggests, based upon the comments already presented, that adjustment in the language teachers use to frame tasks or talk about children, is a starting point for wider intrinsic change in teacher thinking and pedagogy.

*It is my language that has to change – that has to come from me –* BeckiA

Arguably, and substantiated by the comment below, the accountability systems within which schools work, to a certain degree might contribute to this challenge, as was highlighted in section 2.6.2. The following comment suggests that change needs to start at the national level.

*I think that the majority of teachers that you speak to would love never to have to talk about that again but until things change at a national level . . . -* HeadE

### 4.5.2 Impacts on learners and learning (RQ3 and 4)

This sub-section is structured to mirror the intended effects of PfT, shared in section 2.7.1. In this way, the teachers’ perspectives as to whether PfT can positively impact on children’s learning capacity, as it intends, is addressed. It was noted in section 2.6.3, that barriers in the social and affective domains are often at the root of academic barriers.

Both duringand at the end of the project, teachers reported improved levels of collaboration. This was exemplified by children working more effectively with learning partners, or within groups.

*I find that they like the discussion and are more resilient when they sit together –* EllieB

Collaborative discussions as a whole class also supported the development of a shared culture and shred understandings, as highlighted below:

*We had an active discussion with everybody about, ‘Do you feel that is the right choice? What makes you think it is the right choice?’ -* FlorenceB

Teachers also promoted the idea that children felt an increased sense of worthiness – as they accessed new levels of challenge and were able to sit where they chose, their sense of belonging increased – although some children were sometimes noted to be the last chosen which prevents claims of a universally positive impact. Where this challenge was overcome, it was stated that PfT *“encouraged relationships as well as friendships”* as they were not always in the same group or *“being labelled in a group”* (NoraE).

The emotional effects on learners reported by the teachers are loosely grouped into four – those which relate to the children’s own sense of self; those regarding a sense of empowerment and liberation; those reported as distinct to particular pupil groups; and those related to confidence and resilience. The references to increased confidence and subsequent resilience were reported by all participants, and this theme in the comments was prevalent through each focus group session and within each final interview.

The effect on the children’s sense of self was noted through comments related to the children taking ownership of their learning and being responsible for their choices, as is evident in the extract below.

*‘Do you know what, I can do this actually, and I’m going to move myself on to the next challenge, I’m going to push myself’ –* FlorenceB

The change from fixed grouping also gave the teacher chance to see the children differently, and how being given choice engendered confidence which led to more resilience.

*I never thought in a million years that they would be the child that would be sticking at something - like a dog with a bone he wouldn’t let it go –* BeckiA

A sense of empowerment in the children seemingly arose because of increased access to a choice of activities, which stemmed from being trusted.

*They felt like they were accessing the lesson in exactly the same way as all of the other children. It just really empowered them –* LizE

From the comments above it would appear that an increased sense of agency in their own learning and sense of belonging were potentially a stimulus for increased confidence both in their choices and their learning. The comment below provides evidence for this finding:

*I think that once they’ve got that mathematical confidence, soon comes the resilience and then they have got that ability to be knocked back, so they’ll try different methods -* DanA

This view is also borne out in the comments below highlighting how increased confidence was the basis for the children to take more risks with the level of challenge they engaged with.

*It goes back to this confidence thing. They’re prepared to have a go more than they ever were before. They’ve got more resilience and I don’t think they are afraid of getting things wrong like they used to be -* KaroE

Whilst not all pupil groups were mentioned in teachers’ comments, pertinently considering both mathematics research (Marks, 2014) and the goals of *Educational Excellence Everywhere* (DfE, 2016) for social mobility and inclusion, reference to the emotional effects on girls, those currently lower attaining and those with special educational needs (SEND) were prevalent.

*I’ve got quite a lot of quite bright girls in my class, but they are lacking in confidence. To start with they wouldn’t challenge themselves but over time we have chipped away at that, and they’re now more confident at choosing from a whole range of tasks -* GillianC

*Her confidence to participate in class discussions has improved. At the beginning of the year, she would’ve been one that sat at the edge of the carpet but not really becoming engaged without an adult. For those children I think it works –* NoraE

*In their minds they might think I’ve got a bit of breathing space and ‘I haven’t got to go and do this bit of maths in that room and… I can… perhaps learn to enjoy it more’ –* CharlotteA

This final comment might also allude to a sense of no longer being ‘othered’.

In this section, comments related to the effects on children in the academic domain of learning capacity are presented. The comments are grouped across three areas: effects of children’s attitudes to learning; their competence at making effective learning choices; and reports related to academic outcomes. It is noticeable that during the early focus groups meetings the comments largely related to changes in children’s attitude to learning, before more of an emphasis on the children’s ability to make effective learning choices in the middle phase and the balance moving more towards outcomes in the latter group sessions. Interview data, which encouraged a holistic review of the effects, typically addressed all three areas which had arisen for discussion in the focus groups. This suggests there were different phases in the reported effects on the children academically during the implementation process.

In terms of the changing attitudes to learning highlighted by teachers, the following comment demonstrates how this was articulated, and how the children were more willing to engage with activities which would challenge them, and how they were able to work more independently and give more attention and focus to their work.

*The children are adapting as well depending on what the objectives are, they’re not always going for the same level. They’re looking at the level of challenge and they’re thinking about it*. *I’ve found it has made them more focused during the carpet input because they know they’ve got to be responsible for choosing what they’re doing* - BeckiA

Because of loosening control and enabling the children to make choices over their learning, teachers reported increasing competence and effectiveness in the children’s decisions.

When discussing the effects of the implementation of PfT had on learner outcomes, findings suggest that typically there were positive effects for children at all levels of current attainment. As explained in section 3.2.3 quantitative data related to measurable pupil progress was not intended to be part of this study, and therefore the reported outcomes below are anecdotal and were not tested for validity.

The following teacher perspective supports the comments above related to the progress of those previously recognised as lower attaining. They explain that because children had access to the same curriculum as their peers, they were able to achieve some age-related expectations, where this opportunity would not have been available previously.

*I’ve seen huge impact those working below are related expectations. They’re doing challenge by choice and they’re getting to silvers, which they’d never have done before. They are narrowing the gap between what they’re actually achieving and national averages –* IzzyE

As stated in section 1.9 and 4.3, the presentation of findings seeks to represent typicality in the teachers’ responses and draw out contrasting perspectives, where these supported a deeper understanding. The next comment suggests that not all children made progress:

*There are two that were always going to struggle, who have met virtually none of the year four targets, but through doing this, they had the opportunity to do work actually that suited them –* HannahD

The final comment was the only one which made direct reference to progress which was externally validated. This comment was shared between two Year 2 teachers – the only two engaged with the project – and suggests that the implementation of PfT had a significant impact. It should be noted however, that the school also introduced other smaller scale adjustments to practice which may also have contributed.

*We were just saying the SATs data is better than it has been in the past three years, but it (PfT) has had a huge impact on the year two cohort –* KaroE & LizE

### 4.5.3 Effects on teachers’ future practice

The final interviews provided a range of considered views from the participants about the impact their emerging understandings have had on their plan for their future practice. Some started by reflecting on how they understand and perceive their practice prior to the project. These offered insights into how they recognised that their former practice may have unintentionally restricted the opportunities for some children. In the case below this was reflected in type of task and resources the children were enabled to use.

*Initially, I would’ve felt that I was quite open anyway, I didn’t cap learning, but when you look back the lowers did concrete, the middles did pictorial and the uppers did abstract, and you grouped them whether it is obvious or not –* OliverE

Others were surprised by the effective choices children made once given the freedom, and acknowledged that their perceptions of children had been limited, which then limited the opportunities children were given:

*I was surprised in a good way but also ‘how have I missed so much? And been so closed?’ –* CharlotteA

More still cited examples of individual children who have had their learner identities transformed through being able to make choices about the levels of challenge they engaged with and the people they worked with. These examples were exemplified as changes for children that would not have happened because of purely teacher directed provision:

*I’ve got two in my class who have done amazingly, and I wouldn’t have given them a chance to even try the gold work this time last year because I wouldn’t have thought them capable –* KaroE

Other teachers emphasised the need to give the children more control and agency over their learning, acknowledging that they are capable of making effective decisions.

*I have also learnt myself that I don’t need to have so much control. They’ll manage themselves and they’ll learn to think about where they’re sitting and how they’re working -* KaroE

*I think my biggest challenge has been that just letting go of control and letting them lead the way a little bit more –* GillianC

The last statement was preceded by *“teachers tend to be a bit controlling don’t they”.* Referring to previous statements in the section 4.3, it is clear that teachers often feel that there are many variable factors in a classroom that need to be managed or controlled. As well as the effective functioning of the classroom, in the moment of teaching, there are multiple external factors, such as monitoring visits, book scrutinies, progress reviews and statutory tests to consider, as well leadership roles and safeguarding responsibilities, which have not been mentioned in this study, but must be managed.

The final pair of comments, represent teachers’ perspectives on how their new understandings have impacted them as professionals and how they understand their role as an educator of children. The comment below highlights the time for professional reflection was valued:

*The biggest thing for me is being more reflective . . . thinking about the kind of teacher I actually want to be. Not the kind of teacher I’ve become. It’s going to sound cliched but as I am giving the children the opportunity to choose where they go, I have got to do that for me as well and not just get led–* CharlotteA

This perspective is mirrored in the final extract below, which seemingly links this section of the findings back to the effects of fixed ability grouping:

*We are all busy as adults going ’don’t you pigeon-hole me’, but is it alright to pigeon-hole children? –* BeckiA

## 4.6 Perspectives on the process of pedagogy exploration

This final section of the findings presents teachers’ perspectives on the CPD they experienced during the project and covers views about the initial CPD sessions and the cyclical focus group meetings. Teachers comment on the value of the collaborative approach, the opportunity to reflect, the benefits and challenges of the outcomes being open-ended, the benefits of engaging with research papers and being trusted.

The first comment highlights the benefits of sharing ideas and being the solution to one another’s challenges. It points to the idea that the learning is a longer-term process and that there is struggle in learning, and strength in working with others.

*We’ve had regular opportunities to discuss and to learn from each other, not just from yourself. We’ve all brought something that’s been positive to meetings and that has sparked somebody else’s ideas –* JoE

The idea of a shared process of establishing competence is noted in the next comment. In this extract however the notion that the knowledge for improvement is already embedded within the school team is shared and set as an alternative to seeking external expertise to ensure improvement.

*Barriers that you had found on your routes, other people had already found and demolished and telling you ways so you’re able to overcome and I think a lot of CPD is lost because everyone goes externally whereas in house, there are so many different skills –* NoraE

The idea of internal and context based CPD is developed a little in the next response, suggesting that all CPD ultimately gets adjusted to suit the context, or is ‘diluted’ in line with people’s understanding at the time. The importance of time for reflection and time to build upon what you are doing emphasises the ‘continuing’ element of CPD.

*It’s always interesting when you get chance to actually do something, then reflect upon it, build upon it and talk to other people about it. Normal CPD is just ‘I am going to talk at you, you’re going to go away’, and it gets diluted in some sense –* EllieB

The CPD approach used within the study also brought challenges:

*I found it difficult at first because it was a whole new concept and I wanted to know the answers - to know what it was going to look like, so I’ve got a kind of picture in my mind what I’m aiming for or where I’m heading or whatever. I know I don’t say much in the conversations, but it has been a pleasure to listen to everybody when we’ve had the meetings and pick up on everybody else’s ideas, concerns, positives and everything else–* AbiA

It is not clear what lay at the heart of the challenges explained above, whether it was a concern related to competence, the need to know rather than discover, or whether there was a sense of expediency about the comments. This respondent, it is worthy of note, was an experienced teacher who had only ever worked with fixed ability grouping and throughout the project maintained a positionality which suggested an acceptance of a given amount of ‘ability’. This would likely make it very difficult to re-imagine how children’s needs could be met without the use of fixed ability grouping – not necessarily implying they did not want to adjust but more that they could not see how. This perspective is in stark contrast to the penultimate comment which highlights the value of being trusted to make professional decisions.

*We’ve all done it in our own ways and because you said to us there’s no right or wrong answers. None of the children are coming to any harm during the making of this programme, they’ve done it in their own way, they’ve responded to it in their own ways because we’ve done it in our own ways. I can’t remember the last time we were trusted as professionals to ‘Right, well you know what you’re doing, use your judgement, you know your children, you know what works, off you go!’ –* BeckiA

## 4.7 Summary

The findings highlight the importance of teachers’ implicit theories about themselves and about children’s learning capacity, which to varying degrees impacted upon their perspectives towards the implementation of PfT. Teachers were able to engage with four core practices to support their enactment of the guiding principles for PfT, and their understanding and sense of competence in relation to these improved throughout the research project. Challenges to implementation expressed early in the project were typically overcome by the conclusion, with conceptions of co-agency, most notably, being refined and teachers recognising that they could enact their professional identities differently from the normative approaches and still address the standards agenda. As a result of adjusting their practice as part of creating a new classroom culture, teachers reported positive changes in the children’s social, emotional, and academic domains. All these elements took time to embed and involved a period of struggle, either in adjustments to implicit theories about themselves or the children, or with refining their practice. This process was seen to be ongoing and supported through professional discussion and time for reflection. Throughout the presentation of findings, reference is made, either directly or indirectly, to notions of control, competence, and confidence, related to both the teachers and the learners. These three concepts have been identified as significant themes which frame the discussion of findings in the next chapter.

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# Chapter 5 - Discussion

## 5.1 Introduction

In this chapter the barriers and benefits of PfT from a teachers’ perspective are discussed. The chapter is structured to answer the four research questions (RQ 1-4) underpinning the study, before addressing the overarching research question about teachers’ perceptions of the barriers and benefits to implementing PfT.

Simply stated, the first two questions consider findings related to teachers and teaching, and the second two questions focus on the effects on learners and learning. The implementation of PfT started with changes to teachers’ practice and concluded with their new understandings, with the effects on both the learners and teachers informing their new understandings. Arguably therefore this chapter could have been structured to address the questions in an order which more closely reflects the process outlined above. However, as highlighted in section 4.7, three themes were identified from the teachers’ responses across all data sets: Control, Competence and Confidence.

These are used to structure this chapter. Section 5.2 outlines how the themes were identified and explains their substance. The next sections (5.3 – 5.5) address the findings in relation the research questions in numeric order, with RQ3 and RQ4 covered in one section (5.5). Section 5.3 discusses how teachers adjusted their practices in relation to the core principles of PfT and ties these to the theme of Control. Section 5.4 makes the links between the themes of Control and Competence whilst addressing RQ2. In the following section, the theme of Confidence is addressed and how this is related to effects on children of increase control and sense of competence. The final section addresses the overarching research question and addresses the barriers and benefits of implementing PfT, drawing on ‘weft themes’ of Over Time and Changing Identity. The chapter closes with a summary and links forward to claims to new knowledge in the final chapter.

## 5.2 Identified themes

The themes identified reflect the reported effects of implementing PfT on both teachers and children. It is recognised through the previous chapter that these three themes also support the narrative of implementation and emerging understanding of the teachers towards PfT.

Reference to the theme of control was created in response to teachers’ comments related to losing and relinquishing control of the learning diet that the children engaged with, as well as comments related to calmness and order in the learning environment. The comments in relation to this theme changed over time, as teachers gradually ‘let go’ of control of choices about where the children sat, who they sat with and what type of challenge they engaged with. Comments about an initial reluctance to cede control were replaced with comments about the effects on the children of them having more control over their learning choices. This theme continued as teachers were then concerned about managing children’s ineffective choices and where, when, and how they should actively engage the children in discussions about their choices. References to control were also made in direct relation to some teachers’ self-identifying as ‘control-freaks’ and linking this to a need to control multiple and simultaneous demands in the classroom, and from beyond, when referring to accountability mechanisms.

The theme of competence can be understood as being directly and inherently linked to the theme of control. Teachers, throughout the process, were conscious of their need to ensure that the children made progress with their learning and demonstrated competence in relation to age-related expectations. The findings suggest that for the children to demonstrate their competence, teachers had to be competent in managing children’s learning. Therefore, the theme reflects teachers’ comments related to them ensuring learning; proving and evidencing that children have learned; and how changing from normative practices might be detrimental to these processes, and subsequently suggest a lack of competence. Furthermore, the theme reflects teachers’ comments related to their initial sense of a lack competence and understanding in relation to how they initially enacted and began to refine their new practices in support of PfT. As the project progressed, the theme became pertinent in relation to the children’s growing competence at making effective learning choices and progressing further than might have been anticipated within sessions or over the academic year. The penultimate aspect of teachers’ comments, which generated this theme, were connected to their concerns about how others might have judged their competence – colleagues and school leaders. These concerns about perceptions of competence (their own perceptions and those of others) arguably fuelled fears of ‘letting go’ or ceding control of some elements of learning to the children. The narrative within the theme however is completed with reflections about a new ownership of what it means to be a competent teacher, away from the neo-liberal exposition of professionalism.

Finally, the theme of confidence was also prevalent from the outset of the project through to its conclusion. Teachers reported lacking confidence to cede control, lacking confidence in their ability to do and think differently from practices linked to fixed ability thinking, lacking confidence in teaching maths without fixed ability groups, before talking effusively about the positive impact on the children’s confidence to take on new challenges, to make effective decisions and to show resilience amid struggles. As teachers explained their new understandings and shared their solutions and experiences with their peers, they also referred to their confidence to intervene if children made ineffective choices and in trusting in their own professional decision-making related to their pedagogic choices and desired teacher identity, as they saw their positive impacts on the children.

Without consciously drawing upon the PfT framework, the three themes legitimated in this study, closely reflect the affective purposes of PfT. These themes emerged as a reflection of teachers’ doings, sayings and relatings. These articulate what teachers do and understand, and how these are connected to the environment within which they do and understand things. These elements of practice could be seen to overlap with the cognitive (understandings) and social (relatings) domains, at the heart of PfT, but do not seemingly include the affective domain, unless the doings element of teaching is understood to be closely related to a sense of identity.

It is recognised that these themes are intertwined and so addressing them sequentially is difficult. What is apparent however is that particular themes are more prominent in the discussion of each question – their prominence and emphasis is explained in the chapter structure outlined above. The structure has therefore been determined by the decision to prioritise bringing to the fore, the interplay between the themes, and the subsequent interplay between the effects on teachers and the effects on learners within these themes.

If the themes can be understood as the warp of the fabric of this chapter, to draw upon a metaphor to clarify the interrelationship between different elements of the discussion, two further themes – ‘over time’ and ‘changing identity’ – can be described as constituting the weft. These ‘weft themes’ run through each of the ‘warp themes’ and contribute significantly to the conclusions drawn from this thesis.

## 5.3 Teachers application of core principles of PfT

Within the project the core aims of PfT were shared with the participants and it was explained that PfT sought to remove barriers to learning for their children in the social, emotional, and cognitive domains, by enacting practices underpinned by principles of Trust, Everybody and Co-agency (Hart et al., 2004). No blueprint for recommended practice was provided - teachers had to consider the how the principles might be enacted. Within the original PfT framework, the principles were not intended to be understood as instrumental ideas for achieving the sole purpose of expanding children’s learning capacity but, rather as ethical ideas about the right ways in which to engage with learners (Hart et al., 2004) and to living well in a world worth living in (Kemmis, 2012). This resonates strongly with epistemological stance of this doctoral study, situating the approach firmly within Habermas’ ‘Life World’ rather than the instrumental nature of the ‘System’.

It is not clear within the findings from this study whether, and/or to what extent teachers involved were determining their practice from the basis of instrumental or ethical ideas. Utilising the legitimisation typologies devised by van Kan et al. (2013), for teachers to position themselves as part of the initial survey may have given a basis for understanding this, however consideration of teachers’ motivations within the study was not a planned element therefore any analysis at this stage would be based upon supposition and therefore is avoided. This is a potential area for future study.

As the themes, outlined above, are discussed in the following sections, the degrees to which the principles were fully embedded or enacted, in the limited time frame of the project, are also considered.

From the outset of the study there were challenges for teachers in terms of ‘letting go’ or relinquishing some control over learning choices to the children. Two principles at the heart of PfT – Trust and Co-agency – are arguably enacted by giving children a role in the choices they make about their learning. Despite understanding this, it was reportedly difficult for teachers to let go, and this process of relinquishing control was typically done gradually or with limitations to the choices that could be made (Section 4.4.1). The following sections focus on four potential reasons why this might have been the case and reflects on the degrees to which these principles were enacted with reference to current research in the field. Firstly, it is suggested that the importance of high attainment in mathematics as a gateway for social mobility may have been an inhibitor, followed by discussions about how the principle of Trust could be further extended, how implicit theories related to ability can form a barrier to learning opportunities being extended for everybody and how a refined understanding of co-agency underpins notions of control.

### 5.3.1 Control - mathematics as a gateway to social mobility

Returning to the context for this study, outlined in section 2.3, the *Educational Excellence Everywhere* White Paper (DfE, 2016), emphasises that improved academic standards for all children, particularly for those in disadvantaged groups, will lead to social mobility. This conception of social justice is difficult to contest, as outcomes for individuals in statutory tests, determine which pathways through life might be available and which gateways to further and higher academic qualifications are accessible. As a result, teachers working within this educational discourse, have a responsibility to ensure that the children in their care attain as highly as possible.

Working within this normative discourse however, with its emphasis on measuring, labelling, grouping and test outcomes, could be seen to cause an ethical dilemma for the participants in this study. Whilst in response to addressing the Teachers’ Standards (DfE, 2012), teachers must meet the needs of all children to ensure academic progress, the study encourages them to relinquish control of some of the decisions related to the children’s learning. This potentially creates a situation of ethical ambiguity (Boylan, 2016). By utilising grouping practices based on notions of fixed ability to privilege of an emphasis on outcomes, which potentially open new gateways in the future, teachers are arguably contributing to conditions of social reproduction (Boaler, 1997), self-fulfilling prophecies (Francis et al., 2017) and psychological prisons (Boaler, 2005). Boylan argues however that “learning for attainment and learning in ways that promote more creative and agentic identities need not be in opposition” (2016:400). This idea is extended in section 5.3.4.

Potentially, the challenge facing teachers in this midst of this ethical ambiguity, is whether they could trust that by changing their practices, positive academic outcomes would follow. Equally, when devolving some control to the children, could the children be trusted to make effective choices to ensure their future gateways are not restricted? It is here that the fault lines in current discourse are clear – the perceived risk of research-in-practice being used as an exercise in teacher agency for the sake of learner agency, towards the goal of improved outcomes and inclusive practice which addresses disadvantage. As Boylan notes above these elements need not be oppositional, on either side of fault lines. Teacher agency or autonomy can be the conduit for pedagogy development towards ending social reproduction of low outcomes for disadvantaged children and not repeating the patterns of before (Biesta & Safstrom, 2011).

## 5.3.2 Control and the principle of Trust

To varying degrees, and over time, teachers in this doctoral study relinquished elements of control over learning related choices and children were trusted to make effective choices about which challenges they would tackle and where and with whom they would tackle them. This mirrors the pedagogic approach outlined in Milik and Boylan (2013). An important part of the discussion in that paper also reflected on the collaborative and open-ended nature of the learning the children were given opportunity to engage with. This is not an area for discussion that arose within the focus groups sessions or final interviews of this study. As a result of the researcher stance, allowing the participants to determine the development of their practices and subsequent discussions, no intervention was made to broach this topic.

By extending the option of choice about their learning to the children, the principle of Trust can be seen to have been enacted. The principle of Trust in the original *Learning Without Limits* study presupposed a trusting relationship between the teacher and the child, whereby the children are trusted to make meaning of their learning, trusted to find relevance in meaningful and relevant activities, trusted to contribute to one another’s learning and to accept the invitation to co-agency in the learning process (Hart et al.,2004). When considering the practices explained by the teachers in this doctoral project, it would suggest that the invitation to co-agency was presented, as too was the opportunity to contribute to the learning of others, however within the focus group meetings and final interviews, as already mentioned, no reference to making meaning and finding relevance was discussed. This does not necessarily mean these elements did not occur, they may simply not have been given primacy in teachers’ individual reflections and subsequent contributions to the group discussions. Given more time, through a more extended period of exploration, and possibly further professional development opportunities within the project, these considerations may have emerged.

When considering the work of Boaler (2008, 2016), the opportunity for meaning making and finding relevance are integral to enhancing children’s participatory mathematical identities. These require a pedagogy and culture that encourages all children to explore and investigate mathematical concepts and problems in collaboration with others. Through her studies, Boaler demonstrates how collaborative and investigative approaches enhance learning capacity by providing access to pedagogy typically reserved for students understood to be higher ability (Black, 2004; Wiliam & Bartholomew, 2004). Boaler (2016) also advocates that the children are encouraged to find their own pathways to develop solutions to the problems and present the solutions in ways which are meaningful to them and creates effective education for all, which is aligned with EEE (DfE, 2016).

Trusting children to find meaning and relevance through meaningful and relevant activities, also relies on trusting that the children will make effective choices about behaviour. Whilst managing behaviour was not directly referenced during the study, it was alluded to when controlling levels of disruption when giving out books was mentioned, also when referencing the relative calm of an English lesson where the choices were understood to be more limited and potentially time on task was less collaborative. This aspect of control – the control of classroom behaviour – was not expressly addressed in the review of the literature but was possibly a contributing factor to some teachers’ initial reluctance to cede control. Attempts to understand why this reluctance was present could be the focus of future study into this potential barrier to PfT implementation.

Typically, due to the epistemological certainty of mathematical knowledge (Lofstrom & Pursiainen, 2015) it tends to be taught through transmissive means, an approach particularly prevalent for those teaching children in lower attaining groups (Boaler, 2000; Black, 2004; Nolan, 2012). This is contrary to how Lave and Wenger (1991) would conceive learning. They would contest that participation is learning. Whilst an articulation of legitimised peripheral participation would be upheld by Solomon (2007) and Braathe and Solomon (2015) as a pre-cursor to successful mathematical learning, Dweck (2012) would argue that adopting a growth mindset – one which recognises one’s own limitless capacity to learn – is also a pre-requisite to learning rather than participation. PfT however, is premised on an understanding that both elements need to be addressed to enhance children’s learning capacity, as highlighted in pedagogic purposes in the social and emotional domains. Both elements are evident in Boaler’s (2016) work and could form the basis for further professional development, in line with the MAsT provision referenced in Milik and Boylan (2013).

### 5.3.3 Control and the principle of Everybody

The principle of Everybody is possibly the simplest to conceive and understand but potentially the hardest to embed. This principle is based on practice that ensures that choices the teachers make are made for the benefit of everyone in the class - not to the benefit of some and exclusion or detriment of others – which is at the heart of EEE (DfE, 2016). This relies upon all members of the classroom community being valued; observed through affirmation of their contributions and achievements, in both word and deed. Part of this practice involves developing the classroom as a learning community, where there is mutual affirmation and inclusion between all participants (Hart et al., 2004). The potential barriers to embedding the principle of Everybody are possibly implicit theories about ability which might limit teachers’ sense of control over the choices they can offer, and the time it takes to embed a culture within a classroom community.

The practice of Alison, reported in *Learning Without Limits* (2004:78-88), closely reflects the practice reported within this study. She sought to create choice, for all children, and valued children’s contributions from whatever their starting point in the learning process. Again, the practice within this doctoral study, purportedly extended choice to all children, valued their contributions and worked to develop social cohesion between all learners, and typically this was the case. However, there were two outlying cases where seemingly implicit theories in relation to ability impacted the teachers’ sense of control over the options they had in addressing the needs of children with currently lower mathematical attainment.

Excerpts relating to these teachers can be found in section 4.4. In these excerpts, children are framed as ‘other’ and that impacted on the learning ‘diet’ they were exposed to as well as who it was deemed appropriate for them to work with. Both teachers worked in the same classroom. Both teachers reported that it is difficult to ‘meld’ these children into a group as they could not contribute and that they could only access number work and fluency - furthermore, it was suggested that higher attaining children should not have their learning disrupted to support a lower attaining child. These comments suggest that these teachers may have had implicit theories (Claxton, 1990) about conceptions of ‘ability’ that recognised it as both innate and unchanging – without necessarily being aware these implicit theories were impacting their choices.

Arguably, these teachers were seeking to explore practices which resisted notions of fixed ability, without challenging their own implicit perceptions of children as having fixed amounts of ability, which potentially risked repeating the patterns of before (Biesta & Safstrom, 2011). The comments suggest that they had no choice or control over how the learning capacity of these children might be enhanced, due to the children’s limited ability. Throughout the study, the more experienced teacher also struggled to find the language to use to talk about children, which did not refer to ability – see section 4.5.1. These observations highlight three related challenges to enacting the principle of Everybody: the need to challenge implicit theories, the role of language in perpetuating these theories (Yarker, 2011), and how the first two issues are complicit in othering children by shaping pedagogy and content choices made by the teacher (Horn, 2007; McGillicuddy & Devine, 2018).

The teachers’ perspectives above, on their struggle to meet the needs of their lower attaining children are mirrored findings in Alderton and Gifford (2018). From their study focussing on teachers’ perceptions of sixteen children identified as low attaining in maths, it was apparent that an inclusive pedagogy, providing a meaningful education for all, was understood by the teachers interviewed, as not being possible. Teachers stated that there were only two options for addressing the needs of lower attaining children in maths; withdraw the children for small group interventions or include them in the whole class with lessons they would not be able to understand. Alderton and Gifford suggest that this perspective is because of tensions between a discourse related to accountability and the need to focus on the children who have the potential to reach age-related expectations (Marks, 2016), and an understanding of ability which posits it as fixed and deterministic, disadvantaging those from a weaker starting point in learning. These tensions are arguably recognisable in the comments made by the teachers in this doctoral study and again reflect the fault line in discourse related to standards and addressing disadvantage.

Yarker notes, “permeating the institution of state education, the language of ability inducts and conditions new teachers in how students are to be perceived and defined” (2011:226). He conducted a study of references in the education policy, political comment, in the newspapers and a range of other widely digested communication platforms and found there to be no question that ability can be measured, quantified, and used to position those who have it and those who don’t. In this context, it is unsurprising that implicit theories arise related to children having ‘given amounts of ability’, even if experience and research (Dweck, 2000; Boaler, 2016) suggest otherwise. If this is the common discourse, then it is difficult to speak differently.

Whilst the excerpt from section 4.5.1, “higher ability . . . can I say that . . . there’s no choice, I’ll have to” most clearly highlights the challenges for some teachers in adjusting how they refer to children, alternative labels such as ‘highers’, ‘lowers’, or ‘Working Below Age-Related Expectations’, which were used throughout the study, all rank children relative to others and have no reference to the temporal nature of attainment or ability. These labels were used as a shorthand for discussing how different children responded to the adjusted pedagogy. There was no sense that the teachers were referencing a fixed or inherent amount of ability in these children, and the participants were actively seeking to challenge themselves in their habitual language choices. However, in referencing generic descriptors which rank or group children for ease of explanation are likely to determine how the children are known and come to know themselves (Yarker, 2011; McGillicuddy & Devine, 2018). If this is how the children are known, this ultimately becomes how they are treated and their ‘group’ needs are addressed, whilst individual identities, needs and strengths can be overlooked (Francis et al., 2017).

Elsewhere within the teachers’ comments, there is an acknowledgement that when children are withdrawn for intervention sessions or a significantly differentiated curriculum delivered by a member of the teaching support staff, the teacher can end up not knowing the child, and that this approach became self-perpetuating, as the children miss out on the new learning the rest of the class are engaged with. In section 4.5.1, it was also noted that by the end of the project, typically teachers reported that because of providing learning opportunities within the principle of Everybody, they now taught to the needs of individuals rather than groups and knew their children ‘inside out’. As part of this provision, where previously children struggled to engage, the deficit was seen as being within the child. Increasingly however, teachers were able to re-conceptualise this as a dilemma for them to solve (Florian, 2012; Florian & Spratt, 2013).

### 5.3.4 Control and the principle of Co-agency

At the start of the project, there was some reported concern or reluctance to relinquish control over the learning choices the children could access, as discussed in section 5.3.2. As highlighted in section 5.3.1 there was also concern about children potentially making ineffective choices and disrupting their learning through either choosing challenges which offered insufficient challenge or conversely choosing activities which were beyond their current levels of understanding. Equally, teachers initially expressed concern that children may lack focus if choosing to work with peers of their choice. However, once the teachers had ceded control to the children the concerns above were re-framed. Teachers began to reflect on if, when or how they should intervene, if they encountered children making ineffective choices. The concern became more about how children might perceive their intervention, and how it could lead to a loss of confidence in the children if they were told to return to an ‘easier’ level.

These issues can be interpreted through a lens of agentic actions and identities. In this section, the principle of co-agency is briefly re-visited, set within the context of PfT to reflect on how it might be enacted. Then, the discussion will return to the purpose of education as expounded in Chapter 2 making links to the notion of agency, before considering how ecological conceptions of agency (Biesta and Tedder, 2007) can be understood as shaping teachers’ practice.

The principle of co-agency, enacted within the PfT framework, seeks to ensure four distinct but overlapping goals: making the learning process a shared responsibility between the teacher and learner; responding to individual needs drawing on understanding the perceptions of the learner; using knowledge of the learners’ concerns in the social, emotional and academic domains to remove barriers to learning; and engendering a meeting of minds between the teacher and the learner (Hart et al., 2004). In practice, it is incumbent on the teachers, who have control of the external forces which affect how children use their power, to play an active role, alongside the children, to navigate the learning journey – it relies on them working with the children to support effective decision-making, through dialogue, to understand the child’s current needs and goals.

In Chapter 2, the double-purpose of education (Kemmis, 2012) was explained as living well in a world worth living in. In establishing the double-purpose, Kemmis draws upon Dewey (1916) and the importance of continual re-organising, re-constructing, and transforming what we understand constitutes living well. These processes require deliberate thought and decision-making, which links closely with Biesta and Safstrom’s assertion that education should have a positive impact on individuals’ ability to exert control over their life which leads to emancipation and autonomy (2011). This presents both education and agency in normative terms but emphasises the need for agency in individual decision-making processes and is situated in the Habermasian *Lifeworld*.

Bringing together the role of the teacher in enacting the principle of co-agency and Biesta’s normative goals of education, it can be understood that teachers’ have agency (control) over the external factors which affect children’s agency, and children’s agency can be understood as being shaped by internal forces in their social, emotional, and academic domains. This notion is further developed in section 5.5. There are challenges for teachers within this role however, as Walshaw (2014) notes teachers are not simply agents in their own right, they are also acted upon through the practice architectures in which they work. This points to an ecological understanding of agency (Biesta and Tedder, 2006), where agency is developed within concrete circumstances, which are both temporal and relational. Agency is developed over time through changing relationships with the structures that bind practice, and therefore agentic capacity is always changing. Again, this links closely with an understanding of learning capacity and its changing nature, determined by similar external factors such as time and relationship to external forces. It could be argued therefore that learning capacity and agency can be seen to have a symbiotic relationship – which can be seen in the purpose of education posited previously. Building upon this, a process which is continued in 5.4, is the potential link therefore between teachers’ agency in their pedagogic choices and their teaching capacity to ensure improved learning outcomes.

Returning to the teachers at the heart of this project, over time the teachers began to take ownership of their understanding of how control in the learning process was exercised. They intervened in children’s learning journey by asking questions and making suggestions with individual children, adapting how they spoke and referenced learning depending upon their knowledge of the child, increasingly enacting the principle of co-agency as described. One participant, during the second focus group session, reported, “It starts with me . . .” and explained how she had to trust the children first, adjust her language when referencing learning activities or how she spoke about children. At this point a degree of agency was handed to the children.

In summary, the effects on teachers practice have been discussed in relation to the theme of control and considered through the lens of the core principles of PfT, which underpin classroom practice. The discussion highlights that over time the participants relinquished control and adjusted their practice to embed a shared responsibility in the learning process between the teacher and the learner. Further to this, potential reasons for the teachers’ initial reluctance to cede control were discussed, with reference to conceptions social mobility and the role that mathematics education has in this, and therefore ethical considerations would necessarily underpin enactment of the core principles.

The theme of control was then considered through the PfT conception of the principle of Trust. It was noted that practices underpinned by Trust were reportedly limited to providing the children with control over their learning choices but did not necessarily extend to the provision of activities that enabled children to develop and present their own understandings of new concepts. However, it was suggested that given further time and professional development opportunities this may have developed further. Implicit theories were discussed in relation to their impact on teachers control over the curricular provision and collaborative learning, and how these theories are embedded in and through language related to notions of ability. The principles of Trust and Everybody were brought together through a consideration of the teachers growing understanding and application of principle of Co-agency, and that the process of cultural change in the classroom starts with the teacher making changes in themselves – their actions, their understanding, their agency. Further discussion of classroom and professional culture is covered in section 5.4.3

## 5.4 The teachers practical and professional understandings

In this section the discussion focusses on RQ2 and how the implementation of PfT affected teachers’ understandings. The core theme in this section is Competence. The theme was created to address teacher comments related to their concerns about ensuring that the children made progress in their learning, thus demonstrating both the teachers’ and the children’s competence. It is posited in this section that the need to evidence competence in this way stems from neo-liberal perspectives in education about how teachers’ professional identities are constituted.

Firstly, the discussion focusses on the theme of competence related to the teachers’ concern with demonstrating competence within their neo-liberal practice architectures – a *System* centred perspective, based upon instrumental actions (Section 3.2.2). The nature of teachers’ professional identities from this perspective are outlined and discussed in relation to how they potentially create a barrier to the implementation of PfT through fears of loosening control and accusations of pedagogic naivety (Biesta, 2015, Francis et al., 2017; Sachs, 2016; Swann, 2010) within their practice. Next, the discussion develops the theme of competence further to consider how the teachers’ mathematical identities impact on their sense of competence in relation to implementing PfT. This section draws upon Boaler’s (2005) notion of ‘psychological prisons’ and how teachers relate to children who may sometimes struggle with mathematics (Alderton and Gifford, 2018).

Moving forward, the discussion focusses on the differing facets and conceptualisations of professionalism and competing agendas in current educational policy. The contradictions are discussed in relation to teachers’ reported understandings (Peacock, 2016; van Kan et al., 2013; Braathe & Solomon, 2015). These are linked to the challenges highlighted in the findings relating to perspectives from experienced and early-stage teachers and how they navigate their stated understanding of the purpose of education with challenges related to developing their practice. Finally, links are made back to conceptions of social justice in section 5.3.2 and developing participatory learner identities and discussion about ways of overcoming the challenge of a sense of pedagogic naivety in section 5.4.1 (Sachs, 2016).

This section also returns to the teacher response ‘it starts with me’ and considers how this understanding is positioned within Sachs’ (2016) conceptions of managerial and activist professionalism and refers back to the rationale for the research design and the role of the school leaders in the project. The teacher response is then considered as a question rather than a statement – ‘it starts with me?’ and draws upon teachers’ emerging understanding that a classroom culture needed to develop in support of PfT for it to be successfully implemented, recognising that this takes time, and possibly requires a school culture to enable this process.

Finally, the links between the themes of confidence, competence and control are discussed, drawing upon a teachers’ reports that as the children developed their competence in making effective decisions and improving their learning outcomes, the teachers were able to refine their understanding of how best to enact PfT.

### 5.4.1 Sense of competence as a barrier to PfT - teachers’ professional identity

Attempts to define and discuss teacher’s professional identity is a topic too diverse to cover in this thesis in detail, as even amongst teachers there is not universal agreement as to what it is (Swann et al., 2010). Sachs (2001) however argues that what it means to demonstrate professionalism is determined by the national practice architectures in which teachers work and that since the early 1990s, this identity has been shaped and developed through a neo-liberal emphasis on efficiency and accountability. During this project, teachers referred to pupil progress reviews, providing evidence to support judgements about children’s learning, preparation for statutory tests and moderation visits – all tools of a neo-liberal system that seeks to measure teachers’ performance through the proxy of pupil attainment. As highlighted in Section 2.4, the pressure to perform and demonstrate competence can be seen to have a direct impact on the pedagogic choices teachers are able to make. Further to this, reporting platforms and audiences of school data categorise children into pupil groups such as pupil premium, looked-after, working below, above or at age-related expectations. Often for expediency pupil attainment becomes conflated with pupil ability and becomes how children are known (Yarker, 2011) – typically as part of a group rather than as individual children with individual needs. As those with similar attainment are grouped together, to support efficiency in addressing perceived similar needs (Bradbury, 2019; Francis et al., 2017; Hartas, 2018), future attainment starts to be predicted and becomes a self-fulfilling prophesy (Hamilton & O’Hara, 2011; Francis et al., 2017) – proof as it were that grouping in this way is effective.

Whilst teachers may hold many different and diverse teacher identities, constructed over time, in response to their past experiences, current priorities or future aspirations (van Kan et al., 2013) what it means to be a competent professional in teaching is very much determined by accountability mechanisms and normative ways of talking about children (Ball, 2003; Cassell and Door, 2016; Roberts-Holmes, 2015; Perryman, 2006). By engaging in this project, the participants were being asked to engage with a pedagogy which was arguably counter-cultural to the professional domain of teachers, and references to concerns about children making ineffective choices or pausing the exploration to prepare children for statutory tests seemingly created barriers to implementation.

Prior to the engagement in the study, the participants were part of practice architectures in school which utilised fixed ability grouping practices to deliver the mathematics teaching. However, teacher comments highlighted in section 4.2.2 typically show that they might not have pedagogic trust in this approach and refer to concerns about appearing naïve when sharing their adjusted pedagogy with colleagues outside of the project, or when questioning whether fixed ability grouping addresses ‘gaps’ in the children’s learning or causes them. This concern or cognisance of the counter-cultural nature of PfT and developing an alternate pedagogy to fixed ability grouping, was also evident in comments of a confessional tone when reporting that they no longer have groups in their class – section 4.4.1.

This is significant because it demonstrates that the teachers involved felt they were doing something wrong or doing something that teachers should not be doing. The confessional tone related to pedagogic choices which were not typical – removing grouping structures and relinquishing some control to the children – but at a different level it could be understood that teachers recognised that taking agentic action was wrong, that professional behaviour did not extend to exploration of new ideas and practices or did not extend to challenging established ideas and practices. Tellingly, a headteacher comment, reported in section 4.4.1, noted that teachers lacked confidence to ‘let go’ even though they had been given ‘free reign’. It was understood in the moment of recording that the headteacher was meaning, letting go of control to the children, but equally it could be interpreted as ‘letting go’ of past understandings of what is expected, ‘letting go’ of fear of judgement, letting go of prior practices. It is likely that all interpretations are valid and were to serve different teachers at different times in the research process, and the comment was made to highlight the professional trust extended to the teachers in that school.

Returning to the discussion of teachers’ sense of pedagogic naivety, this notion can be further developed by considering the some of the responses from both ECT and those with significant teaching experience. Comments from one ECT, suggest that although she had experienced PfT during her training to become a teacher, and desired to embed the core principles within her practice, working in an environment where fixed ability grouping was well established made it difficult to enact her own emerging professional understandings, for fear of being seen as naïve and having to defer to the views of more senior team members. A similar concern was raised by another ECT participant, who was moving to a new school in the next academic year. She wondered whether she would be allowed to move away from fixed ability grouping in her new context and expressed concern as to how she might manage this.

As new members of a team and with relatively limited experience, it can be reasonably understood that ECTs might be guided by more senior team members, through legitimate peripheral participation (Lave & Wenger, 1991). However, if this participation does not develop to include “mutual engagement in the negotiation of meaning” (Wenger, 1998:202) new participants can become marginalised or their desired practice becomes subsumed by the quest for legitimacy – in this case being recognised as competent practitioners, through replicating the established practices within their new community of practice.

The challenge of maintaining a legitimised identity of competence, can equally be seen as a barrier to implementation for experienced teachers. This is partly reflected in comments highlighted in section 4.2.2 where an experienced teacher highlights that they have always engaged with fixed ability grouping and, within an environment of intensive monitoring this has proven to be effective. As noted in the previous section, the apparent effectiveness of these approaches relies on an understanding of ability as fixed, stable, or predictable, and subsequently leads to self-fulfilling prophesies of attainment. If monitoring of pupil outcomes does not reveal any suggestion that there is need for an alternative to current practice, the incentive to change is limited and the risk to a legitimised identity of competence can be seen to be too high.

The findings suggest that the legitimised identity of competence can be understood as both internal and external to the teacher. Internally, the teacher knows how to manage the classroom through the structures of fixed ability grouping, is practised in this and has externally (through accountability mechanisms) been deemed to be a competent practitioner. Adjusting practice, exploring new approaches returns the experienced teacher to the realms of novice or as on the periphery of new understandings. In an educational environment that prizes efficiency and effectiveness and therefore arguably quick results, this period of ‘disequilibrium’, can be unsettling as new understandings connect with prior understandings and new ways of understanding children, learning and practice are established. Teachers are conscious, as evident in the findings (Section 4.4.3) that even during this period of disequilibrium, pupil progress is still be monitored and remains the currency of competence. This is not to say however, that teachers are only concerned with pupil progress as a means of demonstrating their competence; ensuring children learn is arguably inherent in their raison d’etre.

This area of discussion is developed further, in section 5.4.3, when considering potential contradictions in teachers’ professional identities and how these can be reasonably mitigated, as demonstrated through the structure of the exploratory process underpinning this thesis.

### 5.4.2 Sense of competence as a barrier to PfT – teachers’ mathematical identities

The theme of competence, whilst primarily related to demonstrating professional effectiveness in broader terms, also has resonance when considering the effects of teachers’ reported mathematical identities, most notably recorded in sections 4.2.1 and 4.4.1 when referencing preferences to exploring PfT in English rather than mathematics. In these sections, a correlation of staff who report a weaker mathematical identity and concerns related to implementing PfT in mathematics is evident.

Boaler (2005) writes about the ‘psychological prisons’ students in lower attaining mathematics groups carry with them into adulthood, that continue to shape their mathematical identities as they get older. Her study notes that typically children remain in the groups they were placed in aged four throughout their academic career and homes in on the ways in which these ‘prisons’ contribute to social reproduction. Whilst primary school teachers will have achieved graduate level qualifications to practice, their comments presented in Chapter 4 suggest that these mathematical identities instilled at school, still impact their confidence in the current day.

These teachers report lacking confidence in teaching maths and promote their identities as English specialists – it could be argued that when coupled with similar comments related to being a creative person, that these identities are potentially being presented as inherent, which may consequently be indicative of how they perceive learners in their care: either mathematical or not; or mathematical or creative. This in turn could reasonably to be seen to impact on teachers’ expectations of learners – either lowering or increasing them in relation to their perception of them. Equally, adopting a sense of binary identities - creative or mathematical – may preclude the possibility of children holding multiple identities, understanding mathematical learning as creative or accepting that progress in one area may be limited because of being strong in another.

Further study on how teacher mathematical identities impacts on their pedagogic confidence in teaching mathematics – in which ways and for what reasons - might support practitioners in initial teacher education address these potential barriers to teaching maths in student teachers.

### 5.4.3 Creating cultures to support new competencies

As mentioned in section 5.4.1, teachers were concerned to maintain pupil progress throughout the project, and as highlighted in section 4.4.2 they were mindful of the fact that children might initially be making ineffective choices about which activities they engaged with or with whom they sat. As well as exploring the logistics and effects of adjustments to their current practice they were also working with the children to enable them to understand the new approach to learning – the parameters of their choices and the expectations within these choices. In section 4.5.1, teachers’ new understandings began to recognise that the effectiveness of the practices they implemented was determined not only by their own proficiency or competence in managing them but also by the pervading classroom culture in which they were being enacted.

Findings highlight teachers understood that for their practices to be effective, the classroom culture needed to enable the children to adopt particular attitudes and understandings of themselves. Teachers spoke of the importance of the children learning from mistakes and not being concerned if they did not *yet* understand something. The teachers referenced the need for children to push themselves and to take risks with moving on to new learning. It was also reported that children were encouraged to collaborate and to be willing to adjust their choices if they needed to.

Through the repeated process of exploration, reflection, conversation, and reflection, engendered through the CoP design at the heart of this study, over time the teachers began to explain different approaches they took to establishing classroom cultures whereby the desired attitudes above could be cultivated. They emphasised the importance of one-to-one interactions with children. These included core messages related to building resilience and positive learner identities: encouraging the children not to shy away from challenge and understand that learning often comes from struggle; encouraging the children not to be concerned about making mistakes as this can be part of the learning process. As teachers reportedly grew to know their children more closely, understanding the need to recognise their social and emotional barriers to learning as well as their academic barriers, they were able to tailor their responses to individual children, and deliver these messages in a timely manner. This understanding and these adjustments were developed over time. They became pertinent and central to teachers’ practice because they were discovered and determined by the teachers, in relation to their current and previous experience and in relation to the children currently in their care.

Whilst these new understanding and actions were developed within the context of their own practice, and for particular children, general principles were garnered that could, and reportedly would, be applied in new or evolving contexts. It was understood that individual interactions were situated within a wider social field and were contributory to messages which were reiterated within the whole class context. Examples of positive engagement with desired attitudes were shared with all to make the abstract notion of attitudes visible for the purpose of replication by all. In this way, a culture conducive to enhancing learning capacity was being developed in conjunction with the children and was therefore arguably co-constructed and therefore shared. This resonates with Kemmis (2012) with the ’double purpose for education’. As discussed in section 5.5, typically, as the children experienced the positive effects of adopting these attitudes to learning, the co-construction became self-perpetuating.

The attitudes alluded to above can be recognised as a mirror of the attitudes outlined as key indicators of Dweck’s (2012) growth mindset. Dweck argues these attitudes can be cultivated through deliberate and considered interactions which both promote these attitudes to learning but also challenge attitudes which would undermine a growth mindset. This perspective is firmly upheld by Jo Boaler in *Mathematical Mindsets,* who advocates children value mistakes and how this can be addressed individually with the child (2022). However, this is a challenging proposition for teachers within the current performance culture of education, where continual improvement is expected, measured, and reported. A crowded curriculum needs new content to be covered in an efficient manner and time to value mistakes and address misconceptions is limited. This perceived pressure of time is evident in the teachers’ early comments (Section 4.4.1), when asking ‘how long do we give children before we intervene?’

Teachers seemingly addressed this dilemma in three different ways. They encouraged the children to be able to explain why they had chosen activities, adding the reasoning to how this choice supported their next steps for learning. In this way, the children and teachers could be sure that the pitch of challenge the children were engaging with met their current needs and built a platform or reference point to encourage resilience. Equally however, children were also reminded that they could adjust their choices within or beyond the session. Through individual interactions children were told they could work on something else to re-establish confidence or understanding before returning to their original choice, or conversely move forward more quickly once they felt they understood. A further adjustment to practice was teachers an emphasis on the word ‘yet’ – that not understanding was temporal, it would pass, and with further work or collaboration not understanding could be overcome.

Teachers were mindful of the importance of consistency, authenticity and time required to embed the emerging classroom culture. Within the federated schools, senior teachers from Key Stage Two classes, were conscious that children joining from Key Stage One would not have experienced PfT before, as they had not been involved with the project and therefore the culture would need to be re-created from scratch, rather than building on the children’s experiences.

Both recognising the need for an adjustment to culture and devising ways to establish and refine the desired culture, happened over time. At the outset of the study, the teachers did not yet have this understanding. Their new understanding was generated over time, and it required time to explore, reflect, share, and reflect over numerous cycles for this understanding and competence in implementing PfT to become established. As highlighted in section 4.5.4, the participants acknowledge the value of the approach taken to exploring a new pedagogic approach through this study. The teachers mentioned the importance of time being given to explore practice over a prolonged period, which gives light to two different issues: having time and being able to explore, rather than being told. Both issues allowed for the teachers to engage with the project in their own ways, at a pace that fitted their circumstances and their children’s needs. Further to this, it was explained by the participants that the opportunity to share their experiences and understandings with colleagues, in a collegiate manner, gave both time and space for reflection and prevented any sense of isolation or jeopardy in the process.

Sachs (2016) advocates ‘activist professionalism’ which encourages collegiate, research-based and transformative CPD for teachers, in opposition to managerial professionalism which more transmissive and towards the performative educational agenda. This thesis set out to provide an emancipatory approach to CPD and reflects the approach promoted to support activist professionalism outlined by Sachs. At the same time, it acknowledged the educational context established over decades by government policy, including the 2016 Education White Paper. *Educational Excellence Everywhere* (DfE, 2016) posited three educational agendas which arguably shape what it means to be a competent teaching professional: raising standards, improved outcomes for disadvantaged groups and evidence-based practice. The first two agendas seemingly create the measure for teacher competence and the third seemingly directs how this might be achieved. This appears to present the ‘what’ and ‘how’ of competence to be two sides of the same coin.

In summary, the effects on teachers practical and professional understandings have been discussed. The discussions were formulated around the theme of competence which was created from analysis of the findings. The theme of competence was framed in relation to teachers understanding of how competence is demonstrated within the accountability mechanisms of the current neo-liberal conception of educational policy, and how this shaped teachers’ sense of professional identity.

Discussions were developed to suggest that a barrier to the implementation of PfT was based around teachers’ sense of pedagogic naivety or that they were doing something wrong, by not utilising the normative fixed ability groups expected of competent practitioners. Adjusting practice to reflect their understandings or pedagogic agency, was a challenge for both early career teachers and experienced teachers alike, as to challenge the normative approaches could lead to alienation or the need to revise previously held assumptions regarding the notion of ability, respectively.

A further challenge to the successful implementation of PfT was proposed as being determined by the teachers’ own self-identity as a mathematician. It was discussed that teachers were potential subject to psychological prisons of their own which may contribute to pedagogic choices and confidence when teaching mathematics, as well as potentially adversely framing children’s competence in maths due to notions of singular identities – mathematician or not.

Finally in this section the importance of developing classroom cultures that promote growth mindsets is presented. Note is made that establishing new cultures takes time and that this process can be supported by teachers being involved in practice architectures and cultures which promote collegiate approaches to addressing change.

## 5.5 The effects of PfT on children

In this section RQ3 and RQ4 are addressed as the discussion focusses on the reported effects on both learning and learners because of the teachers’ pedagogic adjustment to support the implementation of PFT. The words learners and children are used interchangeably. This supports the authors positionality that whilst children go to school to learn and be supported in attaining positive learning outcomes, they engage with school and learning as social and emotional beings, and therefore there is more to being a child than simply being referred to as a learner.

The themes of control, competence and confidence are used to structure the discussion about the effects of the implementation of PfT on the children and their inter-related and overlapping nature is drawn out. The themes are discussed individually and in relation to one another.

### 5.5.1 Control and improving self-efficacy

As highlighted in section 5.4.1, the teachers acknowledged that change in practice, language, and in the implicit theories they held, started with them. The teachers needed to reframe the perceptions they had of each learner; reflect this in the language they used in teaching and in discussions about children; create access, through individual choice, to all learning activities; support the children in their decision-making through challenge or encouragement; and create an environment where struggle is valued, and mistakes are understood as being part of the learning process. In this way, the teacher started the process of implementation by giving control over elements of the learning process to the children and extending choice to all learners for the activities they engaged with, with whom, and with what resources they worked.

For this adaptation to pedagogy to have any noticeable effect, arguably the children needed to take control of their choices and make choices which were meaningful to them – the opportunity given by the teachers had to be taken by the children. This would involve the children enacting their agency. According to the teachers in section 4.5.2 children felt empowered by the agency and trust given to them by the teachers to make effective choices about their own learning. There are three elements to this observation noted by the teachers. Firstly, the children had power or agency, recognised through the on-going opportunity to make choices, both at the initial phase of choosing which activity to engage with but also about choosing whether to persist with their initial choice or adjust. Secondly the children were presented with a range of appropriate choices to select from and there was access to learning from which ever starting point the children were at in their learning journey. Finally, the children were able to base their choices on an increasingly effective and nuanced understanding of their own learning needs in relation to the content of sessions.

Bandura (1997) outlines the definition of self-efficacy – the belief that your actions can produce the desired effects. In the context of this study these actions (the children choosing their learning activity) should lead to successful learning and improvement. Therefore, without felt or demonstrable success, the children might be unlikely to sustain their engagement with the opportunity for agentic choices.

Without reference to the notion of self-efficacy, teachers apparently understood (Section 4.4.2) that children needed to be successful in their choices, although this might not always have been solely motivated by the desire to ensure development of children’s self-efficacy. The need to ensure children are successful in their choices has been noted previously (Section 4.4.1) as being driven by teachers concerns in three different aspects of their practice: firstly, that children might not make progress and subsequently reflect badly on their professionalism; secondly, as being driven by an innate need for control themselves, either to manage the complex logistics of a primary classroom or to ensure they are able to demonstrate competence by effectively directing the children’s learning; or finally, driven by a desire to maintain children’s confidence in their learning by ensuring they avoid choices which might be in advance of their current learning, or to intervene before the child starts to struggle. It is not clear from the teachers’ comments which of the above was typically the strongest driver for the children to make successful choices, and to what extent this altered through on-going engagement with the study. Whatever the initial motivations however, a sense of growing self-efficacy is evident on the findings.

Further to this, as previously discussed, as the project developed so did teachers understanding of co-agency and working alongside children to help them choose effectively. Co-agency was enacted either by asking the children to explain their choices or to remind the children of their agency in adjusting their choices. Teachers also noted, as discussed in sections 5.5.2 and 5.5.3, that the children were increasingly successful in their learning which prompted growth in the children’s confidence and subsequent competence at making informed choices. This typically reflected a virtuous cycle of action, which was supported by the children’s growing resilience in the face of struggle or a determination to challenge themselves. These findings demonstrate reported growth in the children’s self-efficacy.

For some children, and within the emerging PfT cultures in the classrooms, there were initial challenges to them enacting their agentic choices and establishing their self-efficacy. Typically, as highlighted in section 5.3.3, children’s individual learner identity was a potential barrier to effectively taking control of their learning choices. Although infrequent, this was most typically seen within individual girls or those who may have been more socially on the periphery of their classes (Section 4.5.1). This finding resonates with current research in two different areas – learning cultures in fixed ability groups as experienced by girls in particular and the psycho-social positioning of learners within fixed ability classrooms.

The learning cultures in fixed ability groups as experienced by girls are addressed by various authors (Black, 2002; Boaler, 1997; Marks, 2016; Solomon, 2009). They highlight how the competitive nature of so-called top sets or ability groups can feel “like a zoo” (Marks 2016:52) and that girls can feel inferior to the boys in those groups, as they are usually outnumbered, potentially because of flawed group allocation processes, which promote those who present as confident or quick in their mathematical thinking (Boaler, 2005). A fear of getting things wrong, partly due to the potential response of their peers, or highlighting that they might not have belonged in the first place, can lead to a lack of engagement or selection of comfortably achievable activities (Solomon, 2007). Campbell (2021) also points out the teachers’ role in embedding this low self-concept. The teachers in this study however, typically sought to work alongside the children who felt like this to help remove those social and emotional barriers with reported success (Section 4.5.1).

This study has sought to challenge fixed ability grouping practices and thinking but has not suggested that pupil choice or mixed ability grouping are the only alternatives – these are simply the key findings from the teachers’ then current understandings. Another potential alternative is when deemed appropriate, to employ flexible grouping arrangements based upon marking and assessment of children’s work and group those children who demonstrated the same misconception, same calculation processing error or those who have the same next steps in their learning. This need not be across the whole class or for the whole session but potentially addresses cited teacher concerns about efficiency of practice (Section 2.5.4). If this approach is to be employed however, the membership of these groups needs to also consider the social and emotional barriers highlighted in the previous paragraph by managing the dominant voices, controlling the pace, and seeking to scaffold new learning with the zone of proximal development (Vygotsky, 1978). Arguably, these are considerations within any context of learning but bare particular acknowledgement here to support the development of participatory learner identities (Lave & Wenger, 1991).

Returning to the second area of resonance with current research related to the development of self-efficacy. Moran-Ellis (2017), note that there is an interactional nature to the development of agency and that agency is enhanced or inhibited in part through relationships. McGillicuddy and Devine (2020) argue that the relationship between the child and teacher is key to the development of agency. This can be understood through different interactions they have – those interactions which occur without the child being present and those which occur with the child. The principal interaction that occurs without the child is the process of assigning children to fixed ability groups, a process that McGillicuddy and Devine claim “negatively impacts the psychosocial positioning of children which in turn influences their learner identity as well as their perceptions of their ability to learn” (2020:553). They explain that children have a sense that the teacher knows best and if they are assigned to a lower group that is how the teacher positions them as a learner.

As well as this psychological positioning, there is also a social element as well. As a result of fixed ability grouping, social interactions become limited – limited in the type of interactions open to them and restrictions as to with whom these interactions might be had. This perspective is supported by various authors (Boaler et al., 2000; Black, 2004; Solomon, 2007)) who highlight how more fluency-based diet mathematical content, rather than reasoning and problem-solving or collaborative work, is generally provided for those in the lower groups. This view was borne out in some of the comments from participants in this doctoral study (Section 4.3). Although these were not typical of the general practice described on the project, the teachers did reflect on how previously this might have been the case. As mentioned previously (Section 5.3.2) mathematical pedagogy within PfT seeks to ensure all contributions and representations of knowledge should be valued with all children establishing participatory learner identities, and therefore collaborative problem-based learning approaches should be available to everybody.

Fixed ability grouping also determines who you can interact with – not only during periods of learning in the classroom, but by extension those children might socialise beyond the classroom. This was cited as a challenge for some teachers in the SEC CoP, as they worked to establish a collaborative culture within the classroom. This view is further promoted by McGillicuddy (2021) when addressing concerns about well-being and the opportunity to flourish being curtailed through social positioning within groups in the class. Hallam et al. (2004) and Marks (2013) also point out how the positive relationships and interactions teachers shape with the children in the higher attaining groups further cements their loftier status and subsequently the lower status of those in the lower groups.

The psychosocial challenges children in lower attaining groups face in developing their self-efficacy and willingness to enact their agency, is summarised by McClaughlin (2018:287) when stating, “children’s agency is therefore about how the adults position them, perceive them and provide spaces within which they can operate.” This statement returns us to two prominent elements within the findings: the importance of bringing to the fore implicit theories which suggest children have a given amount of ability – what Dweck (2000) would refer to as ‘entity theory’; and the importance of allowing children to see themselves differently, and be seen differently by their teachers and peers, from the identities ingrained by fixed ability grouping, through enabling choice and control over their learning journeys.

### 5.5.2 Increased competence and challenging fixed mindsets

In this section the discussion centres around the theme of competence and how the children’s competence, in terms of academic progress, improved, as well as their competence in selecting activities and learning partners that supported the improvement in their learning. Through the discussion links are made back to the previous section and the fear of fixity generated by fixed ability grouping and how this was diminished through the pedagogic adjustments made by the teachers within the study. The discussion then moves on to consider how increasing competence is stimulated by pedagogies which promote growth mindsets and the importance of classroom culture in embedding this learner identity.

Before discussing the mainly positive effects on the children, this part of the discussion focusses on extracts in section 4.5.2 which cluster around some children’s reported desire to present as competent or using Dweck’s (2000) assertion they wanted to avoid appearing ‘dumb’. In the findings this was evident on three different occasions. The first related to a child who did not want to use the mathematical manipulative resources because of the association with babies using them; the second stemmed from comments about a currently high attaining group who automatically chose the ‘hardest’ challenge without considering whether it fitted their current needs for the new topic, most likely from a fear of not looking as clever as others by selecting an ‘easier’ activity; and finally, the group of children chosen who were surprised and dismayed that they had been selected to work with the teacher, as that may appear to others that they do not understand or their given ability is insufficient.

The reported incidents potentially highlight examples of children with fixed mindsets. Dweck (2000) argues that people with fixed mindsets understand ‘ability’ as an entity, a given amount. Therefore, if it is seen that you might not be able to do something, it would suggest that you have insufficient ability and therefore you are not clever. Typically, this is observed when learners with fixed mindsets seek to avoid activities that may result in errors, and so tend to avoid challenge. However, in the cases above, this can equally be recognised in the children mentioned not wanting to lose face or have their level of ability questioned.

In classrooms where mathematical intelligence is understood to be demonstrated by speed or the ability to use either abstract (rather than concrete or pictorial) methods or to do calculations ‘in your head’, using physical or pictorial representations to develop or demonstrate learning can be interpreted as having low ability in maths. Equally, in a classroom where it is understood that success in mathematics is a proxy for general intelligence and that some people can do maths and others can’t – described by Boaler (2009) as the elephant in the classroom – not selecting the ‘hardest’ activity, particularly in a classroom where children are grouped by ability, would suggest to others that you are not clever enough, or were getting worse at maths if you were typically in the highest group. Further to this, in classrooms where only those who struggle are given adult support, being selected to be part of a group which may be having support to stretch their current understanding in new directions, may suggest to others a lack of ability to complete the activities independently. The classrooms described in this paragraph are typical of many classrooms in the UK and reflect the classroom cultures and approaches in the schools participating in this study prior to the engagement, and no doubt to a certain degree during the study as well, as they started to adjust their practice (Section 4.5.3).

For other children, who were reported to have been liberated or empowered (Section 4.5.2) by the opportunity to choose their level of challenge, it would seem that they might previously have struggled with a fear of fixity or ‘ability immobility’ (McGillicuddy & Devine, 2020), that their given ability meant they could never improve. The fixity of their ability grouping, it can be recognised, only cemented that perception further. By removing fixed ability groupings, encouraging all children to use mathematical resources to demonstrate their understanding, encouraging children to consider which challenge suits their current understanding and providing challenge and support for all children through flexible intervention, teachers in this project were arguably seeking to remove fixed learner mindsets, and as mentioned in the previous section, stimulate a growing sense of self-efficacy or agency.

In section 5.5.1 the notion of positioning children through fixed ability grouping was discussed. In this subsection, this notion is revisited but this time to highlight how teachers within this study, adjusted their practice to help children position themselves and support their self-efficacy. The teachers reported in section 4.5.1 that they worked to adjust the language they used when they described the different activities or challenges the children could engage with once the expository element of the lesson was completed. They emphasise how they moved away from language related to easy or hard, making both the tasks and therefore those who selected them open to hierarchical comparison, and subsequent positioning of learners by default. In the SEC CoP, a shared language of Bronze, Silver Gold, was used to frame the activities. Initially, these were typically related to activities which represented ‘working below’, ‘working at’ or ‘working above’ age-related expectations, and some children were encouraged to start at Bronze before progressing to Silver. Whilst the labels Bronze, Silver, Gold suggests a hierarchy or progression, that need not have been the case and the children could have and may have been presented with differing challenges that addressed different elements of a topic. The labelling of the choices is an important consideration as too is the content of them if children begin to affix unintended meaning to them.

Some teachers introduced language that encouraged children to choose activities they were comfortable with or confident with as a means of creating access and dispelling stigma. It could be argued though that whilst this approach seems to suggest consideration of children’s self-concept and well-being, it could also be argued that it does not encourage a growth mindset or willingness to seek challenge or stretch. Boaler (2016) would argue that by ensuring success students may not be stretched enough and learn to expand their thinking or mathematical mindsets, which correlate with Dweck’s growth mindset but within a mathematical context.

It is posited here, that when teachers were able to describe the content and learning opportunities available through the activities, children became increasingly able to offer explanations for the choices and describe their reasoning. This would suggest a growth in self-efficacy as children could articulate what they hoped to achieve and why this was important. As the findings suggest, as the children became more competent in making effective choices, supported by the way teachers framed the learning opportunities available each session, the children made accelerated progress, understood by reference to them accessing learning they would not have made available previously. In this way the teachers increasingly competence in framing learning choices, supported the children in making competent choices about their learning journey and resulted in increased competence in conceptual or procedural understanding. As previously stated, the findings were presented as typical rather than universal and therefore, it cannot be extrapolated from this element of discussion that that all teachers, and all children were positively affected, however, the potential for that to be the case has been highlighted.

Reflecting on the discussion in the previous three paragraphs, indicators of growth mindsets and their positive impacts, developed because of the teachers’ adjusted practices and emerging PfT cultures. This is also evident in teachers’ comments in section 4.6.2 that children were increasingly able to recognise the temporal nature of finding new learning difficult, that struggling was part of the learning process and that mistakes were not a sign of failure or lack of competence. Reference to not being able to do something ‘yet’, is indicator of increased resilience in the face of challenge and that challenges can be overcome. It was reported that children developed their competence at selecting supportive learning partners or resources and understanding when to adjust the type or level of challenge they were engaging with, to ultimately move forward in their learning. This is not intended to overstate the effects of PfT on the children but rather to highlight the reported potentiality of the effects on children. The discussions here, suggest that there was evidence of emerging growth mindsets in the children, which supported their growing competence in learning and belief in the competence as learners.

In bringing this section to a close, it is argued that by enabling children to take a role in controlling their learning journeys in ways which were meaningful to them, not only were classroom cultures where growth mindsets were nurtured and promoted but so too is the argument that educational agendas related to improving standards and supporting self-efficacy should not be understood and delivered dichotomously. Boylan (2016) argues from an ethical perspective that the two need not be in opposition, and that by learning for attainment and learning in ways which promote creative and agentic identities participative justice, as advocated by Fraser (2009) is supported. McClaughin (2018) suggests that one agenda is not an alternative to the other, and that this occurs when the debate privileges one over the other, through blinkered perspectives on the purpose of education.

### 5.5.3 Confidence and improving self-concept

The theme of confidence is at the heart of the discussion in this section. It starts by highlighting the development of confidence as a process and the challenges which needed to be overcome for the process to be successful. Next the discussion moves to teachers’ acknowledgement of distinct moments for children – ‘lightbulb moments’ – when they were able to recognise their own potential and break into a new self-concept of themselves as a learner. This will draw upon reflections on the difference between confidence in one’s own ability and confidence in one’s own ability to learn. The next two sub-sectionsfocus on the effects of children’s improving self-concept and discuss how peer to peer collaboration became more prevalent alongside the emergence of more participatory learner identities in the children. The final point of discussion revolves around the notion that increased confidence (improved self-concept) is enacted through improved resilience, leading to improved progress in learning – a virtuous circle of growth mindset effects.

As mentioned in section 5.5.1, for some children, particularly girls or those previously positioned in the lower ability groups, the positive effects of PfT took time to emerge. These were the pupil demographics, from the few comments presented, that took longer to transition to making effective learning choices, took longer to develop confidence and resilience and took longer for their prior, negative learner identities to change. The list of changes in the last sentence could have been created with a different order but as the findings and discussion have demonstrated thus far it is difficult to determine which element was the pre-cursor to which, and whether it was a linear process at all.

When referring to existing research in the field, it should not be a surprise that these pupil groups took longer to engage with and benefit from the adjusted practices and classroom cultures explored by the teachers. Campbell (2021) highlights the negative impact in class ability grouping has on girls’ self-concept – an individual’s beliefs about their abilities and attributes – particularly in primary school mathematics. She argues that this is caused by the value girls place on the teacher perceptions of them, either that they are placed in lower groups and therefore have limited ability or that they have been placed in higher groups and fear being found unworthy of this positioning. This reflects the effects of creating learner hierarchies and establishing classrooms based on comparative ability – it is difficult in those circumstances, arguably, not to concerned about your attributes or abilities in comparison to somebody else.

This challenge to the development of self-confidence – understood and used in this section interchangeably with self-concept – is also highlighted by Francis et al. (2020). Building on earlier research (Francis et al., 2017) emphasising how fixed ability grouping creates self-fulfilling prophesies in pupil outcomes and learner identities, the later study of the same children, concerningly describes the cumulative impact on children’s self-confidence over time. This is described as ‘snowball prophecy’, whereby self-confidence for those in the lower groups diminishes over time as the confidence of those in the highest groups grows, therefore exacerbating and cementing the existing inequalities. In her book, *The Elephant in the Classroom* (2009:13), Boaler beseeches parents and teachers to help children develop their confidence in maths, “even when schools seem to be doing the opposite”, almost pre-empting the findings of the cited above – seemingly, and possibly unwittingly, schools are undermining the confidence of some children.

As explained in section 4.4.2, the teachers in this study, sought to engage the children who struggled with some of their ingrained learner identities on a one-to-one basis, offering encouragement, guided next steps and praise for the attitudes they displayed. Although this was not discussed in any of the focus groups sessions, according to Dweck (2000), it is important when trying to establish growth mindsets and improved self-concept, to praise the attitudes rather than the person or the achievement. In this way, the value is not placed in the achievement thus causing a diversionary emphasis away from the process of learning and engaging with struggle or failure, or that the praise creates a sense of ability being inherent in the person (if the person is praised, for example, “you are so clever!”). Consequently, children need to have their self-concept built around their ability or capacity to learn rather than in a notion of inherent ability. Equally, the emphasis with PfT, is on the teachers’ role in enhancing the children’s learning capacity rather than teaching to perceptions of the child’s given ability.

The theme of confidence was also evident in the findings, when teachers reported ‘lightbulb moments’ or tipping points in children’s understanding of themselves as learners. These moments were always followed with a reference to how the child behaved when faced with a challenge or encountered success, and how the children mentioned had a desire to move further forward with their learning. These references to improved self-concept were typically in relation to the children engaging with their own learning choices in a way meaningful to them. Related to the works of Francis et al., Campbell, and Boaler above, the teachers typically mention the importance of the children moving away from the identities or positioning they had endured because of fixed ability grouping. They did this by effectively moving between degrees and types of challenge, engaging with challenges or activities which might have been the preserve of higher attaining groups previously. One teacher referred to the fact that the mystique had been taken away of what the other children did in their books, and that the fear of failing or making mistakes was diminished.

It can be seen within section 4.5.2 that teachers note an increased willingness to collaborate with others, which they explained as an effect of increased confidence of self-concept – in part that the children from the lower groups now felt ‘worthy’ and equally valued the input of other children, prior to asking the teacher for assistance. Children with SEND, were also more engaged during the introduction to lessons and children were more active in their consideration of the activity they would engage with. This change speaks to the work of Lave and Wenger (1991) the process of establishing participatory identities. They posit that to establish a participatory identity – a learner identity which engages in the value of collaboration – learners (in this case children) must first be able to imagine themselves as a participant. Then they align themselves with the existing participants and the engage in the process alongside others of establishing new shared understandings. This is explained in section 2.8.2 when expounding the role of CoP with the study to support teacher interactions.

As a result of improving confidence and self-concept, children demonstrated higher levels of resilience and determination to push themselves forward in their learning (Section 4.5.2). Teachers reported this led to improved progress and pupil outcomes. These findings return us to the discussion at the end of section 5.5.2, and the importance of challenging the notion that learning for attainment and learning for agency are dichotomous. This discussion suggests these learning agendas are two sides of the same coin. Whereas Boylan (2016) proposes learning for agency supports participatory justice, Francis et al. (2020) whilst not disagreeing with Boylan, posit the importance of recognitive and distributive justice in practices which seek to dismantle fixed ability grouping.

In summary, within this section the inter-relationship between control, competence, and confidence as effects on learners and learning has been presented. The discussions highlight how self-efficacy, growth mindsets and self-concept are established and improved because of teachers’ engagement in the practices and thinking related to PfT.

## 5.6 The CPD approach and the ‘weft themes’

In this final section of the discussion, teachers’ comments related to the CPD approach are addressed. In this section, the CPD approach is not limited to the two initial sessions shared with the study participants. This reflects the breadth of the teacher responses in the final interview, which covered comments about the cyclical exploratory process and focus groups, as well as the initial CPD sessions at the outset of the study. Typically, teachers highlighted the positive effects of the opportunity they had to reflect on, revisit elements of, and refine their practice, within an exploration of a principle-led pedagogy. For many the process also helped them reframe both the children’s learner identity and their own professional identity.

Throughout the whole discussion, as mentioned in section 5.2, a second set of themes, which run across each of the themes of Control, Competence and Confidence, is evident. Those themes are also prevalent in this final section and are therefore utilised to help structure the discussion. These ‘weft’ themes of Over Time and Changing Identity are reflected in the three sub-sections of discussion.

### 5.6.1 Over Time

When reflecting on the CPD approach and the effect that it had on them professionally, and on the implementation of PfT, teachers highlighted the value of having time to focus on this new initiative. Time was set aside in two different ways. Firstly, there were two sessions providing opportunity to engage both academically and professionally – not that these two modes should necessarily be seen as separate – through the sharing of accessible excerpts of research (Marks, 2016). The teachers reportedly valued the opportunity to engage in academic reading.

The excerpts (Appendix I), selected by the researcher to highlight how implicit theories impact interactions and the experiences of children in fixed ability groups, contained examples from classroom practice which drew out some of the normative practices related to fixed ability practices and the effects these had on children. These were shared illustratively and without judgement – the researcher was able to share empathetically about periods during the recent past where they had unquestioningly worked in the same way. The sessions prompted discussion and sharing of current perspectives and understanding and created time for both reflective and reflexive consideration. Marks (2013), emphasises the importance of teachers being given opportunity to critically engage with their own practices, to reflect on the basis for their professional choices.

Time was also given to explore and critically engage with their own practice. There was a practical element to the CPD process which established links between theory and practice but further to that, personalised and contextualised practice. The research shared was drawn from teachers lived experiences, rather than from large-scale randomised control trials, which might negate the nuance and contextual reality of teachers’ daily practice. The practical element of the time provided, was not based upon the application of a solution to a problem that might not be pertinent to the teachers, rather, a more Deweyian (1916) problem-posing approach was utilised. Teachers reported that the time for practical exploration supported them in finding their own solutions. In this way, agency was developed that reflected their histories, their current understanding, and their perspectives on future practice (Biesta & Tedder, 2006).

The third way in which the teachers’ acknowledged and valued the importance of time in the CPD approach, was linked to the opportunity to share their practices with colleagues – without fear of judgement or concerns of naivety. This included the relationship with the researcher, which allowed them to talk with the CPD lead, rather than be talked at. The chance to share their challenges, concerns or barriers helped them realise they had strength, knowledge and experience already contained within their school teams, and as mentioned in the previous paragraph, the solutions could be found between them. In Peacock (2016) the pertinence of this point is made by making direct links to the kind of environments where teachers understand children flourish – in a culture of trust, free from fear and with the safety to explore – drawing out that the same environment for professional learning and practice is equally valuable to teachers.

The final reference to time relates to the theme of ‘over time’. Teachers mentioned the importance of engaging with the programme over a prolonged period. They recognised how over time they were able to overcome the barriers they faced – through discussion with peers, reflection, and refining practice – as part of a cyclical process. The teachers also highlighted the challenges of creating regular time for the project, in amongst competing priorities within school life, that might have prevented some teachers from attending all the sessions, and therefore the increased value of it. Alderton and Gifford (2018) suggest that some of the barriers teachers may have faced, and the competing priorities within school, might be found within the dilemmas within discourses of accountability, ability, and inclusion. Discussion within this chapter certainly suggests this might be the case.

### 5.6.2 Teacher ID (CPD approach)

Drawing on the findings in section 4.5.3 and 4.5.4, it is apparent that through the project that teachers engaged both reflexively and reflectively about their professional practice or identity within the practice architecture of primary education. Reflexively teachers spoke about recognising that they do not need so much control in the classroom and that the children can be trusted to make effective choices about their own learning. They also noted that by employing fixed ability grouping in the past, they had missed so much about individual children in their classes, who had been obscured by the mask of their group identity or ability label. Subsequently this has led to the recognition, that by applying the principles of PfT to their practices they are now much more aware of individual learner needs and characteristics, which has impacted positively on how they plan to meet their needs. Equally, the teachers acknowledge that even when removing fixed ability grouping, if they do not adjust their thinking about the children as individuals, to challenge notions of fixed of fixed ability as well as practices, they are still placing limits on what children can learn. In this way, they are finding resolution to the dilemmas in the inclusivity, ability, and accountability discourses – they are recognising that by developing their own approaches to support the core principles of PfT they can address the current educational agenda surrounding social mobility as well as addressing the issues of social justice highlighted by Boylan (2016) and Francis et al. (2020) (see Section 5.5.3.)

Reflecting on the process of exploring new pedagogic principles, teachers noted how they found working in this way freeing and liberating, suggesting it had given them the opportunity to rediscover and enact the type of teacher they wanted to be. In section 4.2.2, teachers limited professional commitment to fixed ability grouping was presented, but within normative practice architectures this approach was expected. This highlights an element of the contested nature of teachers’ professional identity (Lipman, 2009; Swann et al., 2010) and how through semiotic action - discourse with others and self-reflection – these apparent contradictions can be resolved (Braathe & Solomon, 2015). The sense of freedom to navigate the imposed entrepreneurial teacher identity towards an activist teacher identity (Sachs, 2001; 2016), was brought about through the four aspects of CPD time was given to.

The teachers posited the importance of being trusted to make effective professional judgements as they navigated their way through the challenges and barriers of enacting the core principles at the heart of PfT. This sense of being trusted has already been mentioned above as a core tenet of effective learning environments for children and teachers (Peacock, 2016). Peacock deliberates ‘making generous room’ to allow for children’s agency and challenges in the social, emotional, and academic domains of learning capacity, and the suggestion arguably made by the teachers on this project, was that trust enabled the generous room to be made for them to explore. Cassel and Door (2016), point out that because of the accumulative nature of teacher learning, driven by an open process of development, authentic learning is necessarily a slow, uncertain, and complex process, which needs to be supported by the school’s senior leadership team, within an environment of trust and collegiality.

In summary, this section has discussed the importance teachers placed upon time and the value of working within a school culture that provided trust in teachers professional judgement and enabled teachers to enact the values or principles they supported. It was noted that by providing time, for academic engagement, reflection, professional dialogue and the refining of practice, teachers were trusted to explore and critique their current practice, whilst navigating the accountability frameworks within which they worked. This enabled them to address both social mobility and social justice agendas, and to meet goals of both managerial and activist professional teacher identities. Utilising Habermasian (1984) terms, this was the point where *System*-led, instrumental goals overlapped with agentic goals with the realm of the *Lifeworld*, in a mutually beneficial way, working in the fault lines between discourses of research and outcomes.

## 5.7 Summary of discussion chapter

In this chapter both the barriers and benefits of implementing PfT have been identified and considered. Initially, as teachers engaged with, and considered, new practices which enacted the principles of Trust, Everybody and Co-agency, relinquishing elements of control over the children’s learning journey was a barrier to implementation. This reported reluctance can be attributed to internalised notions of teacher professionalism within the neo-liberal agenda for primary education and concerns related to teachers’ personal mathematical identity. As teachers, developed their understanding of the principle of co-agency and how this might be enacted, they became more competent to intervene in ways which built a classroom culture to enhance children’s learning capacity by addressing their individual needs. This led to increased confidence in their new practice and agency to make informed choices about future pedagogy.

Through agentic interactions with class teachers, children began to demonstrate an improving ability to make effective choices over their learning journey, and they demonstrated greater commitment to the learning process. It is known that subsequently they were able to attain well and grew in confidence. Over time, barriers to implementation were overcome and the benefits were extended to affect both teachers and learners – resulting in a reframing of teachers’ professional identity and the reframing of learners’ identity (from both their own and the teachers frame of reference).

Time was required to ensure successful implementation of PfT. Time was important to enable teachers to engage professionally in CoP, which provided a physical, social, and temporal space for teachers to discuss their practice and resolve challenges they faced – it also provided the opportunity for new cultures to develop – professional and classroom – which supported a reframing of teacher and learner identity, which could also be understood as barriers to implementation.

# Chapter 6 – Conclusion

## 6.1 Introduction

The research reported in this thesis is focussed on understanding the barriers and benefits of implementing PfT within the primary school context, drawing on teachers’ perspectives. Utilising a case study approach, over a six-month period of implementation and exploration of new practices and understandings, teachers’ perspectives were collected, collated, and analysed. This analysis provided a description of the dance between teachers’ ‘doings, sayings, and relatings’ (Kemmis, 2009), during the process of exploration and implementation, and provided an insight into the barriers and benefits of PfT as it was being enacted. These barriers and benefits were interpreted in terms of their effects on both the teachers and the learners, through deliberation about the semantic and latent meaning of teachers’ comments, as they expressed reports about their practice in the moment (within CoP) and following reflection (within final interviews).

Furthermore, through consideration of the research timetable and content, teachers provided insights into the barriers and benefits related to the structure of exploration and implementation process. Due to the longitudinal nature of the study, there was a temporal element to the discussion which created a narrative to the process of implementation. Therefore, the discussion presented in section 5.6 is also addressed in this chapter.

An evaluation of the extent to which the research questions have been addressed is presented in the following section before a summary of the findings relating to the overarching research question is addressed. Section 6.3 highlights the implications of these findings and the contribution to knowledge is foregrounded in section 6.4. Recommendations for policy, practice and future research are presented in section 6.5 and the thesis concludes with reflections on the researcher’s doctoral journey.

## 6.2 Findings related to the research questions

The evaluation of the extent to which the research questions have been addressed is covered in the following order: RQ1, RQ3 and RQ4, then RQ2. This sequence reflects a simplified narrative of teachers’ reports of enacted practice, observed effects on the learners and how this supported new teacher understandings, shown in Figure 3.1 as a cyclical process.

### 6.2.1 How is pedagogy adjusted to challenge practices based on notions of fixed ability?

Throughout the project teachers grappled with their interpretations of the three core principles of PfT. As the project progressed, their practice was refined, reflecting their agency within those interpretations; their competence in enacting their chosen practices; and increased confidence in their agency to make effective pedagogic choices towards enhancing children learning capacity. Typically, teachers chose to engage with four elements of adjusted practice: mixed ability groupings or pairings to support collaboration; challenge by choice to support children’s individual learning journeys and challenge learner identities framed by fixed ability grouping; choice of learning partner to support social and academic integration and emotional well-being; and flexible approaches to intervention which promoted independence, competency-bound support and academic progress for all (see Sections 4.3 and 5.3). To this end the project captured the current practices teachers engaged with, and plotted how these practices were refined over the course of the study. The use of Kemmis’ (2009) work as a frame of analysis, helped differentiate between new practices which were initiated by the teachers and the process of refining these new practices in light of their growing understanding.

Initially, some teachers’ implicit theories related to notions of ability, created barriers to exploring new practices or fully committing to emerging practices. This was evident in teachers who were new to the profession and were mindful of ensuring professional acceptance amongst their peers and therefore sought to demonstrate competence by replicating the narratives and practices of their more experienced colleagues. It was also evident, in experienced teachers – one teacher repeatedly struggled to move beyond her implicit understanding that some children were ‘able’ and others were not. She sought to protect those seen to be ‘more able’ from having their learning affected by those with less ‘ability’. It seemed evidence garnered from years of pupil outcomes based on fixed ability grouping leading to potentially self-fulfilling prophecies, was sufficient to bolster these implicit theories. Whilst the study was able to capture these perspectives and surmise from latent meaning imbued in teachers’ comments, the source of these implicit theories was not explored and the extent to which these were the significant inhibiting factor was difficult to determine.

Teachers’ implicit theories related to ability, particularly in mathematics, and ‘psychological prisons’ alluded to by Boaler (2005) arguably shaped the teachers’ own mathematical identities. The findings showed that teachers’ own sense of low mathematical ability was also a barrier to implementation. These teachers were concerned that their lower degree of confidence in mathematics, could negatively affect their ability to address the varying needs of the children without a clear structure to who learned what, and how. They felt an increased need to control these choices.

These findings also highlighted some teachers’ perceptions that some children are mathematical and some creative. They had not recognised the creativity required to solve problems and therefore the potential for non-binary identities, or for children hold multiple identities – both mathematical and creative. Whilst eliciting this potential barrier, the study was not able to determine in which ways and to what extent this barrier was removed. However, this barrier was only noted during the first round of CoP sessions and was not referenced again.

### 6.2.2 What are the social, emotional, **and** academic effects of adjusted practices on children?

The findings show the predominant effects of teachers’ adjusted practices were seen within the emotional domain of the children’s learning capacity. This was reflected in reports of increased confidence, resulting in improved resilience and collaboration, which arguably lead to improved self-concept and a more established growth mindset. The improved self-concept was evident in the effects within the social domain whereby the children expressed a greater sense of belonging and worthiness, and diminution in their sense of being othered. A combination of empowerment to make choices meaningful to them about their learning, coupled with strengthening of the children emotional and social domains of learning led to improved self-efficacy and learning outcomes.

Whilst these outcomes and effects were not verified within the remit of the study, which could have replicated the circumstances of the tale of the Emperor’s New Clothes, whereby nobody wanted to offer a dissenting voice, there is evidence presented within the findings that alternate perspectives were presented. Further to that, headteachers and colleagues typically supported the comments made by each individual participant. What the study was unable to do was determine whether these reported gains and positive effects were sustainable or sustained beyond the period of focus or whether they were just the consequence of classrooms re-invigorated by a change in practice and culture over the short term. This is a limitation of the study which could be addressed by conducting further similar studies and cross-referencing the reported effects.

The analytic framework supported these interpretations of the teachers’ perspectives, by framing the effects on the children as ‘relatings’. Their work with children is the core relationship teachers engage with during their practice. This ‘relating’ shapes both their practice and their understanding of the effects of their practice.

6.2.3 What understandings might influence teachers in relation to the implementation of pedagogy to challenge practices based on notions of fixed ability?

Throughout the study teachers’ pedagogic understandings were developing both in relation to their initial implicit theories, as addressed in section 6.2.1, and in relation to understanding of the core principles and how their new practices effected the children. The findings show that as the study progressed the teachers’ understanding of co-agency developed. Initially, teachers were reluctant to release control over the learning journey to the children because of their concerns as to how the school leadership team might perceive their professional competency if the children made ineffective choices and failed to make progress. This concern was also related to their sense of professional identity and meeting the teacher standards. The analytic framework used, identified school leadership, teachers’ understanding of their role and external accountability indicators as further ‘relatings’ which impacted on practice and teachers’ understandings, which was helpful regarding interpreting why teachers held the perspectives they reported.

As teachers enabled the children to make choices about their learning, they were able to see that children could make effective choices (sometimes choices they would not have usually facilitated) and understood that they could intervene to support more effective choices. These interventions usually involved discussion with the children and an expectation that the children could articulate the reason for their choices. Teachers also became more conscious how their choice of language when describing challenges could frame tasks as easy and consequently the children who chose them as lacking ability. Teachers adjusted their language, and noted this needed deliberate effort as much of their language was habitual and did not consider the effects it had on the children.

Although teachers sought to adjust their language, some struggled to refer to children without reference to their relative ‘ability’ compared to others. Whatever language choices were made when referring to children (in relation to expected standards or current attainment) they were typically with reference to their ‘group’ identity. This was an on-going challenge for the participants and one which was not fully resolved – more time would be needed. However, teachers did report that they were more conscious of individual needs, planned with individuals in mind rather than for groups and consequently had a better understanding of individual children’s needs. This understanding often helped re-frame the children as learners and made teachers more conscious of how pedagogic choices might restrict a child’s potentiality.

### 6.2.4 What are the barriers and benefits to the implementation of PfT from a teachers’ perspective?

The barriers and benefits of implementing PfT are summarised in the inter-relationship between the three themes developed form the teachers’ perspectives, which have been expounded in both Chapter Five and the three sub-sections above. Figure 6.1 below captures these relationships within a pictorial representation that emphasises how agency to make pedagogic choices, which was extended to teachers within the practice-architectures in the research project and their school leadership, based upon principles of Trust, Everybody and Co-agency, enabled them to adjust their personal, professional self-concept and self-efficacy (agency). By replicating these principles in their classrooms, to enhance the children’s learning capacity, teachers supported the children to positively adjust their self-concept and self-efficacy through increased levels of control, competence and confidence related to their learning. This was achieved by sharing control over the learning process, addressing implicit theories about ability and working collaboratively with others overtime and arguably supported the double purpose of education (Kemmis, 2012).

At the outset of the study control, competence, and confidence, for both teachers and children, were perceived barriers to implementation, however, by engaging with the principles of PfT to guide their practices, teachers reported these elements as strengths. At the intersects of these elements/themes, where a reported sense of control, competence and confidence came together, agency was strengthened. When both teachers and children had increased agency, co-agency was enacted, supporting improved learning and teaching capacity.

Graphical user interface, application, PowerPoint

Description automatically generated

*Figure 6.1 Barriers and benefits to implementing PfT*

### 6.2.5 Limitations of the study

The design of this study and the way it was conducted supported teachers in reflecting, adjusting their practice considering new understandings and having the opportunity to consider the impact of their work. It is difficult to determine whether changes would have happened more quickly, or have been embedded more deeply, if the CoP met more regularly, or whether the role of the researcher could have been adjusted to be a ‘more knowledgeable other’ and outline other approaches as teachers requested. Two teachers reported they would like to have seen PfT in action to support their development however the project set out to encourage the participants to develop their own practices rather than replicate practice they had observed.

Other potential limitations, from an emancipatory and participatory perspective include the role of participants in formulating the question and the extent to which the research emerges from the participants’ response to their felt need, have been addressed within section 3.3.1. Limitations presented by the size and demographic of the sample have also been addressed (Section 3.3.3).

### 6.2.6 Trustworthiness

Robustness in research practice has sought to ensure the four criteria for trustworthiness in qualitative research (Bryman, 2021) have been upheld. The tests for credibility and generalisability will only met once participants and the wider teaching community have had chance to engage with the published findings – these criteria have been tested in part through my participation in academic conferences where my theoretical frameworks, research design and initial findings have been presented for comment and critique. The foregrounding of my positionality throughout the research process has supported the conformability criteria.

A significant emphasis within this research project has been the pursuit of ‘authenticity’, another key indicator for research quality in the qualitative paradigm (Lincoln & Guba, 1985). Under this criterion, this study meets the threshold of fairness – representing the different viewpoints of the participants; ontologically, it supported participants to understand their social setting; it provided educative authenticity by heling participants understand the perspectives of others in their social setting; and supported to participants to take action to change their circumstances.

## 6.3 Implications of the findings

The findings highlight that when engaging with new initiatives, teachers have different starting points in their current understandings and competences, which effects how they interpret and enact new initiatives. However, many current understandings, including the construct of teacher professionalism, are premised from current experiences within the primary education system, which has been tightly directed since the early 1980s. The challenge, as Lortie (1975) posits, is how can practitioners understand and enact their work differently if they have not experienced it differently. In a system that makes notions of fixed ability normative, and discredits those who seek to question them as naïve, this may lead to questioning how change can come about, and the potential for repeating patterns of before (Biesta & Saftrom, 2011). The normative stance makes the marketing of CPD towards principle-led pedagogies, such as PfT, untenable. Therefore, supporting teachers to experience practice different from the norm is arguably, unlikely to be achieved through the attendance at the usual in-service training events hosted by industry experts.

This study suggests, that through establishing CoP towards exploration of current and future practices, which are engaged with over time, supports those involved to acknowledge their starting point in the exploratory process and develop their learning journey at their own pace, in their own way. In this way, implicit theories and constraining identities can be addressed; practice developed in a context-focussed with personalised emphasis; and time can be taken for new practices and identities to become embedded. This reflects the stance Wenger (1998) takes when considering CoP as learning communities. He notes “because learning transforms who we are and what we can do it is an experience of identity . . . it is a process of becoming” (Wenger, 1998:215). This is a point resolutely made by one of the participants in this study, when suggesting the project helped her to start being the teacher she wanted to be (Section 4.5.3).

Further to this, as this study started with the sharing of teacher case studies, which were contextually relevant to the participants, this might be an effective means of disseminating new experiences for others to draw upon. This approach arguably, promotes the social aspects of learning, rather than a primary focus on the scientific aspects of learning largely promoted through large scale randomised control trials exhorted through current primary educational policy. Much like the arguments of Boylan (2016) regarding the purposes of learning, the focus for educational research should not be a dichotomy of cognitive science or social learning processes, it can be a combination of the two.

The fault lines in the discourse for this study, focussed on the key agendas highlighted in *Educational Excellence Everywhere* (DfE, 2016): improving standards to tackle disadvantage (creating access to high quality education for all), professional autonomy (agency) and the use of research to shape professional choices. This study demonstrates that by providing agency to teachers/schools to engage with their own research can have the potential to establish improved learning outcomes. Agency and autonomy should not be limited to those who demonstrate compliance, but rather teachers/schools (Everybody) should be trusted to engage with research which best suits their context, and should have time to develop their approach, in order to benefit all children. Accountability for the choices they have made, through observation, questioning and coaching, could be supported Ofsted, much like the role child-teacher role in co-agency.

## 6.4 Contribution to knowledge

This study was premised in critical theory and underpinned by Habermasian ontological and epistemological positioning. *System* and *Lifeworld* perspectives were used to frame the different spheres of sociality within education ideology. The instrumental emphasis within the neo-liberal conception of education and *System* sphere, was contrasted against the agentic goals of the *Lifeworld* and critical pedagogy. The study highlights how instrumental mechanisms, in the sphere of the *System*, can be colonised through increased agency to address instrumental goals.

Drawing on Habermas’ emancipatory and communicative knowledge-guided actions, agency was created for teachers to share their perspectives and contribute to the body of research knowledge. The use of Kemmis’ (2009) ‘doings, saying and relatings’, enabled the complexity of teachers’ practice and perspectives to be understood, analysed, and positioned within nested practice architectures. The inter-related nature of the differing elements in this framework mirrored the complexity of practice, and posited the teachers’ perspectives as a dance, where the three different elements took turns to lead and guide the others to new pedagogic choices.

This study makes claim to the addition of new knowledge contributions in the field of practice development for PfT, approaches to CPD for principle-led pedagogies and highlights the dual benefits of PfT, from the perspective of teachers.

This study builds on, and adds to, the case studies forwarded by Marks (2016), which exhorted the importance of teachers having opportunity to contribute to professional dialogue surrounding alternate pedagogies to normative practices reported in primary schools. This doctoral study presents the findings from teachers’ professional dialogue towards an alternate approach. It also builds upon the work of Swann et al. (2012) adding teachers’ perspectives on the implementation of PfT, noting both the barriers and benefits of the process, for teachers and children. It also responds to Swann et al.’s prompting to consider the implications of implementing PfT for Initial Teacher Education (ITE).

### 6.4.1 Practice development towards PfT

The teachers’ perspectives emerging from this study, which are new voices in the field, suggest that teachers’ untested implicit theories related to ‘ability’ are a potential barrier to the implementation of PfT in the short-term. It is noted that these implicit theories are potentially untested because the dominant discourse within the field does not challenge the normative use of the word ‘ability’ when applied to children’s learning capacity or academic attainment. When exposed to research, in the form of case studies (Marks, 2016) – which contextualised the practices explored and created resonance with the teachers’ experiences to date – these implicit theories were brought into the open and participants engaged in professional dialogue and reflection to consider their source and validity.

Teachers acknowledged that these implicit theories were enacted in their use of language related to their perceptions of children’s learning capacity. They noted how language they used framed children as a homogenous member of a group with similar academic needs and how this negatively impacted the children’s capacity to move beyond the pragmatic label of convenience they were given. Furthermore, they recognised how learning opportunities were constructed in language which positioned children as able or not able. This was an on-going throughout the study and was never fully resolved. This suggests an alternate way of thinking about children’s learning capacity needs to be coupled with an alternate way of speaking about children’s learning capacity and learning journeys. Teachers recognised that an improved professional language is needed - one which gives import and attention to the temporal nature of individual children’s – and that whilst system change, within all tiers of practice architectures, this process can start with them at an individual level.

### 6.4.2 Developing principle-led pedagogy

Through this case study of participant teachers and the typicality of their experience and perspectives, it is posited that barriers to the implementation of PfT can be overcome, if teachers are trusted to make pedagogic choices towards enhancing children’s learning capacity, over time, with opportunities to explore their practices and thinking with colleagues. The provision of temporal and social spaces to imagine and align new understandings through engagement in one another’s experiences supported the implementation of PfT. The use of CoP as a tool for developing principle-led pedagogy is a contributing perspective to the discourse surrounding research-led practice in EEE (DfE, 2016).

Establishing teachers with participatory identities, in the process of exploring and developing new pedagogies to support improved pupil outcomes, meets the agentic and instrumental goals in the *Lifeworld* and *System* respectively. However, the teleological and efficiency emphasises within the *System*, need to be balanced with the stated social justice goals of challenging disadvantage (DfE, 2016), and interpretations of social justice extended to include issues of recognition and distribution (Fraser, 2003). A conception of social justice beyond social mobility would arguably reduce practices which propagate social reproduction (Francis et al., 2017; 2021).

### 6.4.3 Benefits of enhanced learner and teacher capacity

This study also makes a knowledge contribution to teachers’ and school leaders’ understandings of the benefits of PfT. By utilising this project as a case study for the potentiality of PFT, other practitioners can draw on points of both resonance and dissonance with the lived and reported experiences of the teachers in this case, to understand that children’s learning capacity is enhanced through the implementation of PfT. It is enhanced because of improved self-concept, the development of growth mindsets and increased self-efficacy, which over both the short and longer term, led to improved learner outcomes. This was particularly true for those of previously lower attainment, girls, and those with SEND, without adversely impacting on children who are currently higher attaining. In this way it can be understood that PfT should be a consideration in the discourses outlined in EEE(DfE, 2016) - inclusion, improved standards for all and addressing disadvantage; recognising lower attaining groups are most typically populated with children from socially and economically disadvantaged backgrounds.

Through engagement with PfT, in support of enhancing children’s learning capacity, teachers also reported their teaching capacity had been enhanced. They had a clearer understanding of the individual needs, next steps, and barriers to learning for each child. In support of this, teachers also reported a re-invigoration for their work and agency to address challenges with current conceptions of professional identity which reify fixed ability grouping. Like Kemmis’ (2012) ‘dual purposes of education’ which effect both the individual and society positively, it can be claimed that enacting PfT, addresses the dual purpose of enhancing children’s learning capacity and teachers teaching capacity through creating the personal and cultural conditions for self-efficacy.

Equally, this study demonstrates that the core foci for change at The Wroxham School, towards PfT, reported by Peacock (2012), were extending freedom to learn for the children and rethinking learner relationships, were core outcomes for both teachers and children in this study. This suggest that by extending freedom and time for teachers and children to develop agency, the barriers to implementation can be overcome and core educational agendas (DfE, 2016) can be addressed successfully.

## 6.5 Recommendations for policy, practice, and future research

The findings, implications and contribution to knowledge presented in this thesis offer recommendations for policy at national level, practice in the context of schools and ITE, and suggest areas for future research.

### 6.5.1 Recommendations for education policy

Whilst acknowledging the neo-liberal agenda for education is unlikely to be revised, the findings from this study offers two recommendations which support the core agendas of EEE. Firstly, the study suggests that autonomy should be offered to all schools to explore and develop pedagogic approaches that seek to address inclusion, social mobility, and research-based practice. This could be achieved through ITE providers, offering to act as research leads, for the informal ‘TeachMeet’ initiatives already established. Equally, the ‘Intensive Training and Practice’ elements for ITE accreditation for 2024, could be utilised as a forum for research development, as these programme elements are intended to be co-created between schools and ITE providers.

This would expand the social research database for schools to draw upon to help inform their future practice. It would help schools move beyond the current emphasis on research with a bias towards positivist paradigms and balance this with research from naturalistic and interpretivist paradigms. Through social research, potentially based on action research and case study designs, contextualised insights would be provided for practitioners to draw upon, much like professional contributions in law and medicine. Contributions could be disseminated through the Chartered College of Teaching.

### 6.5.2 Recommendations for practice

The study shows that addressing social and emotional barriers to learning, can be a pre-cursor to addressing academic barriers to learning. By providing children with the option to choose the tasks they engage with, in co-agency with the teacher, self-efficacy and improved self-concept can be developed in individual learners. In doing this, teachers need to consider the language used in framing the children’s choices. Arguably, this is best achieved within a practice architecture where both children and teachers are trusted in their choices, but also one which challenges notions of fixed ability. Equally, through daily marking and subsequently re-grouping children according to their shared next steps in learning, teachers can address social and emotional barriers to learning caused by FATAP.

In the ITE context, the breadth of research sources used to validate or exemplify good practice needs to move beyond the learning from randomised control trials and draw upon divergent and naturalistic case study sources, to prompt and promote professional reflection and development of praxis. If ITE practitioners are involved as suggested in section 6.5.1, this might be more readily achieved, as well as maintaining the currency of their practice. Secondly, the findings suggest that opportunity should be provided for trainee teachers to bring to the surface implicit theories they hold in relation to notions of fixed ability and consider the basis of their validity. This could be developed as part of sessions reflecting on values and visions. Finally, within ITE for primary mathematics, positive mathematical identities for trainees need to be engendered through modelling participatory and mastery approaches within sessions. This would provide a framework for effective mathematical pedagogy and the opportunity to release future teachers from ‘psychological prisons’.

### 6.5.3 Recommendations for future research

Drawing on the barriers to implementation mentioned in section 6.2.1, further research could seek to explore teachers’ implicit theories about ‘ability’, how these were constructed and to what extent they determine their approaches to pedagogy, PfT or otherwise. It was also noted that further research is required to understand in which ways and to what extent teachers own mathematical identities were inhibiting factors in the implementation of PfT. Studies in both areas could be extended to find out more about the implicit theories students in ITE bring to their early learning.

To build upon the findings in this study, future study into the extent to which new practices and thinking were embedded and sustained, within individual and collective participant practice, could shed light on the longitudinal barriers and benefits of implementing PfT. This research was beyond the remit and scope of this study. Further to this, conducting similar studies across a different demographic of schools, such as schools with more than 200 students, schools with two form entry, schools in inner-city areas, which would expand the range of case studies for others to draw upon, and increase the possibility of interested practitioners finding a case similar contextual challenges and opportunities.

As gatekeepers to teachers’ choices, research into the perspectives of headteachers, MAT leaders, local authorities, or Ofsted, on the barriers and benefits of implementing PfT could be a future area of study. This would add clarity as to why, as yet, it has been difficult for PfT to gain widespread traction since its inception in 2004. Francis et al. (2017) have provided some insight but conducting research with education leaders directly would add understanding of specific cases. Understanding why some headteachers within the MAT involved in this study chose not to be involved could be an initial step.

## 6.6 The researcher’s doctoral journey – ‘making generous room’

As a school leader I consistently drew upon Dame Alison Peacock’s notion of ‘making generous room’ when encouraging the team in our school to see the barriers in children’s learning journeys as opportunities for us to develop our practice rather than as deficits in the child. In being creative in our practice we would ensure access to learning for each child - we could give them generous room to grow through new ways of learning and showing their learning that were meaningful to them.

As a researcher I sought to provide generous room for the participant: creating space and support for them to try new things, discuss what they had done, be open where they might be struggling, accept support from others and feel worthy enough to share their perspectives and solutions with others. Generous room allowed them to recognise that learning new things is never a smooth and untroubled path, that when we struggle, we learn, that there is not one way of doing things, that they know what is best for them and the children in their care and they have agency to make choices they know are important.

As a dad, I have always tried to provide generous room for my children to develop and grow, and to become the versions of themselves that they would like to be. This has involved accepting their mistakes, revelling in their questions, encouraging their enthusiasm, urging them to take risks and see the world through different eyes, to see that their potentiality is infinitely extendable.

This doctoral journey has helped me learn to give myself generous room I have tried to afford to others and accept that being in the second set does not mean you are not quite good enough, and not academic. I have learned that changing the world and challenging injustice is a lifelong endeavour which is achieved step by step, and one circumstance at a time. It is not the work and responsibility of one person but of many individuals each doing their part with commitment, compassion, and authenticity. I hope that the learning presented in this doctoral journey encourages others to create generous room for the children, the student teachers, and teachers in their care by trusting them, valuing their contributions, and seeking to work in partnership with them.

# Appendix A - Framework for Pedagogy for Transformability

Source: Swann et al. (2012:6)

# Appendix B – Project Invite

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear, or would like more information. Take time to decide whether or not to take part.

Study Title

The barriers and benefits of a ‘Pedagogy for Transformability’: teachers’ perspectives from the fault lines between discourses

**What is the purpose of the study?**

There are two keys purposes to this study:

* Provide insight into the opportunities and barriers facing teachers as they engage with, and develop, pedagogy related to challenging practices associated with fixed ability grouping in mathematics
* Provide an opportunity for participants to reflect on their own practice in a collaborative and supported environment

The study will support my doctoral research and potentially help to inform the development of pedagogy to challenge practices related to fixed ability grouping on mathematics and support of a Pedagogy of Transformability.

**Why have I been invited?**

Ultimately engagement and participation in this study is premised on your own self-selection. However, this opportunity has arisen following the Staffordshire University Academies Trust (SUAT) summer conference, where Dame Alison Peacock was a keynote speaker. She spoke about a Pedagogy of Transformability and the school leaders at the conference expressed an interest in finding out more. Your head teacher has since expressed further interest in exploring the possibilities around introducing this pedagogy in your school but recognise that this is likely to be more effective if it is developed within the school team.

It is acknowledged that many policies are introduced without the perspective of teachers being considered. This study seeks to gain your insight.

**Do I have to take part?**

Your participation in the study is entirely, voluntary. It is up to you to decide. I will describe the study and go through the information sheet, which I will give to you. I will then ask you to sign a consent form to show you agreed to take part. You are free to withdraw at any time, without giving a reason.

**What will happen to me if I take part? What will I have to do?**

At the start of the project you will be asked to complete a brief survey outlining your teaching experience to date and your current situation. This will be followed by a series of three CPD sessions related to Pedagogy for Transformability (PfT) and challenges to practices related to fixed ability grouping in mathematics. These sessions will be constituted of some of the ‘theoretical’ background to PfT, consideration of practical applications in the classroom, and sharing of practice with colleagues who currently strive to develop this approach to teaching and learning. Following these sessions there will be four meetings, between January and June, to engage in group discussions around significant moments in your practice related to challenging fixed ability grouping in mathematics. The study will end with a final individual interview to gather your perspective on the barriers and benefits of PfT.

The group discussions will be early evening (5:00 – 6:00pm) and will involve some refreshments. All interviews and discussions will be confidential. Additional meetings (at the group’s request) or support (at the individual’s request) can be arranged (as time and logistics allow). I have attached a project plan, which includes a timeline for data collection, with this information sheet.

**Incentives**

Unfortunately there is no provision for expenses, although there will be refreshments whenever we meet to discuss the project.

**What are the possible disadvantages and risks of taking part?**

As a result, of the initial survey and final interviews, and the four group discussions, there is an element of additional workload. However, most of what you do will be part of your regular practice within the classroom. Both the researcher and the head teachers of the schools from which participants self-select from will seek to mitigate the degree to which engagement creates an additional time commitment – eg. CPD and discussion sessions within/or instead of staff meetings, final interviews within the working day (although this cannot be guaranteed on every occasion it is a stated intention).

**What are the possible benefits of taking part?**

As a result of the group discussions and final interviews there is increased support for both your practice and reflections. It will also engage you in a strong peer-based network of support and practice development. I cannot promise the study **will** help **you** but the information we get from the study **will help** to increase the understanding of teacher perspectives on Pedagogy for Transformability.

**Data handling and confidentiality**

Your data will be processed in accordance with the data protection law and will comply with the General Data Protection Regulation 2016 (GDPR).

*All information which is collected about you during the course of the research will be kept strictly confidential, and any information about you which leaves the university will have your name and address removed so that you cannot be recognised.*

Your data will be stored safely:

A master list identifying participants to the research codes data will be held on a password protected computer accessed only by the researcher

* + hard paper/taped data will be stored in a locked cabinet, within locked office, accessed only by researcher
  + electronic data will be stored on a password protected computer known only by researcher
  + Data will only be used for analysis within this study and will not be shared beyond the confines of the study. Only the researcher and supervisor will ever have access.

The data will be retained for a minimum of 10 years and then will be disposed of securely

**Data Protection Statement**

The data controller for this project will be Staffordshire University. The University will process your personal data for the purpose of the research outlined above. The legal basis for processing your personal data for research purposes under the data protection law is a ‘task in the public interest’ You can provide your consent for the use of your personal data in this study by completing the consent form that has been provided to you.

**What if I change my mind about taking part?**

You are free withdraw at any point of the study, without having to give a reason. Withdrawing from the study will not affect you in any way. You are able to withdraw your data from the study up until27th July 2019, after which withdrawal of your data will no longer be possible due to the fact that the data would have been processed and anonymised

If you choose to withdraw from the study we will not retain any information that you have provided us as a part of this study.

**How is the project being funded?**

This is a self-funded doctoral research study and there are no external bodies involved in the funding or organisation of this work.

**What will happen to the results of the study?**

The results of the study will be published of part of my doctorate thesis. A doctoral thesis is unpublished but can/will be publicly available. The data from the study may be used for future academic writing such as journal articles, conference papers and conference presentations. You will not be identified in any form of publication unless your written consent is given.

**Who should I contact for further information?**

If you have any questions or require more information about this study, please contact me using the following contact details: phil.wright@\*\*\*\*\*\*\*\*\*\* or \*\*\*\*\*\*\*\*\*\*\*\*\* (this is the phone number for \*\*\*\*\*\* School)

**What if I have further questions, or if something goes wrong?**

If this study has harmed you in any way or if you wish to make a complaint about the conduct of the study you can contact the study supervisor or the Chair of the Staffordshire University Ethics Committee for further advice and information.

Study Supervisor: Dr \*\*\*\*\*\*\*\*\*

**Thank you for reading this information sheet and for considering taking part in this research.**

**Project Plan**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Dates** | **Actions** | **Who is responsible?** | **Where will it happen?** | **Milestones/outcomes** | **Risk management** | **Monitoring & Evaluation** |
| 28.11. | CPD (1)  Research & experiences related to fixed ability grouping  Communicate project outline | PW | \*\*\*\* | All possible participants attend & project outline shared | If interested schools unable to attend PW to facilitate alternative bespoke school visit | Opportunity for potential participants to raise questions about project plan and timeline  Request feedback from head teacher and staff  Adjust next session in light of feedback and as appropriate |
| Once ethical approval received | Distribute consent forms & initial surveys via email | PW | Case study sites | All participants understand nature & detail of study  Consent forms distributed  Initial surveys distributed | If email addresses unavailable, send vis school office address or as hard copy in the post | Request ‘read receipt’ on initial email or phone school to check hard copies arrived if necessary |
| 09.01. | CPD (2)  Pedagogy of Transformability – what, why & how?  Share ‘Spiral of Inquiry’ (Timperley, 2008)  Share ‘reflective tools’ and notion of ‘significant moments | PW | Case study site (1 & 2) | Consent forms collected  Participants identified  All participants attend & engage with CPD (2)  Participants understand process of Spiral of Inquiry & use of reflective tools | If interested schools unable to attend PW to facilitate alternative bespoke school visit | Request feedback from head teacher and staff  Adjust next session in light of feedback and as appropriate |
| 13.02. | Sharing practice discussion session (1)  Discussions promoted by core questions of reflective tool & recorded for later transcription | PW  Participants | Case study site (1 &2) | Initial discussion completed and data recorded.  PW start noting initial thoughts and emerging patterns considered | If participants withdraw consent, negotiate with remaining participants if/how groups are re-constituted | Determine feasibility and structure of discussion groups depending on numbers – adjust timings and locations for discussion groups as appropriate |
| 24.03. | Sharing practice discussion session (2)  Building upon previous session discussions promoted by core questions of reflective tool & recorded for later transcription | PW  Participants | Case study site (1&2) | Second discussion completed and data recorded.  PW start initial analysis of discussions, inputting extracts from initial discussions into analysis frame | If participants withdraw consent, negotiate with remaining participants if/how groups are re-constituted | Continue to reflect on balance with groups and the equitable distribution of ‘voice’ & perspectives  Are there changes to the session structure teachers would like to see? |
| 01.06. | Sharing practice discussion session (3)  Building upon previous session discussions promoted by core questions of reflective tool & recorded for later transcription | PW  Participants | Case study site (1&2) | Third discussion completed and data recorded.  Reflect upon any emerging patterns in analysis frame | If participants withdraw consent, negotiate with remaining participants if/how groups are re-constituted | Continue to reflect on balance with groups and the equitable distribution of ‘voice’ & perspectives  Are there changes to the session structure teachers would like to see? |
| W/B 08.07. | Final interviews  PW to interview participants individually at their place of work – interview recorded and transcribed at a later date | PW  Participants | Case study sites | All final interviews completed  Gratitude shared with participants | If school timetables unable to facilitate planned interviews, adjust and re-negotiate available alternative | Ensure time for all voices and perspectives to be heard – balanced with ethical integrity ‘not to cause harm’ by utilising too much teacher time |
| 18.09. | Meeting all participants, to share initial findings | PW | \*\*\* | Initial findings from the research shared and discussed  Consider if and/or how further exploration could/should be facilitated by SUAT | If invitees are unavailable to attend, seek alternative date or send draft written report. | To what degree are these findings fully formulated?  What is being learned from these initial findings? |

# Appendix C – Initial Survey

|  |  |  |
| --- | --- | --- |
| **Name:** | **School:** | |
| **Prof Qual:** | **Years of service:** | **No. of schools:** |
| **Current year group:** | **Specialist subject/s:** | |
| **Year groups taught:** |
| **Subject preferences (and rationale):** | | |
| **How would you describe yourself as a mathematician?** | | |
| **What is your view on fixed ability grouping in mathematics?** | | |
| **What do you understand the role of education to be?** | | |

# Appendix D - Initial Survey Collated Data

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Community of Practice Descriptors** | | | | | | | |
| **CoP 1**  **(Schools A – D)** | | Formed of four church, first schools, with numbers on role ranging between 45 – 150. Three schools within the CoP are part of the same federation – within these schools only Y3, Y4 or Y3/4 teachers participated (no EYFS or KS1). | | | | | |
| **CoP 2**  **(School E)** | | Formed of one church, first school. Teachers from all year groups participating. | | | | | |
| **School Descriptors (A-E)** | | | | | | | |
|  | **School Type** | | | | **Number on role** | | **Year groups involved** |
| School A | Community, Middle School, Urban | | | | 152 | | 1, 3, 4 |
| School B | Church, Middle School, Rural | | | | 57 | | 3/4 |
| School C | Church, Middle School, Rural | | | | 64 | | 3/4 |
| School D | Church, Middle School, Rural | | | | 45 | | 3/4 |
| School E | Church, Middle School, Semi-rural | | | | 161 | | Rec, 1, 2, 3, 4 |
| **Participant Descriptors (Pseudonym + School Anonymiser)** | | | | | | | |
|  | | **Year group taught** | **Experience**  **(Years)** | **Number of schools taught in** | | **Subject specialisms** | |
| AbiA | | 3 | SLT (23) | 2 | | Art | |
| BeckiA | | 4 | ET (14) | 9 | | Maths, PE & History | |
| CharlotteA | | 1 | ECT (2) | 1 | | English | |
| DanA | | 3 | ECT (1) | 1 | | Maths | |
| EllieB | | 3/4 | SLT (19) | 10+ | | English | |
| FlorenceB | | 3/4 | ECT (1) | 1 | | English | |
| GillianC | | 3/4 | SLT (26) | 4 | | English | |
| HannahD | | 3/4 | RQT (4) | 1 | | English & Humanities | |
| IzzyE | | 3/4 | ECT (1) | 1 | | Computing | |
| JoE | | 4 | SLT (16) | 1 | | English, SEND & Art | |
| KaroE | | 2 | SLT (30) | 7 | | Maths | |
| LizE | | 1/2 | RQT (4) | 2 | | English | |
| MorganE | | Rec | ET (20) | 7 | | Maths | |
| NoraE | | 1 | ET (16) | 2 | | Music & RE | |
| OliverE | | 3 | ET (9) | 1 | | PE | |

HeadA attended one session. HeadBCD did not attend any sessions. HeadE attended all sessions.

**Experience descriptors**

Newly Qualified Teacher (ECT): 1 -2 years of experience

Recently Qualified Teacher (RQT): 3 – 5 years of experience

Experienced Teacher (ET): 6+ years of experience

Senior Leadership Team (SLT): Assistant or Deputy Head Teacher (classroom based)

# Appendix E – Participant Consent Form

**RESEARCH PROJECT CONSENT FORM**

**Title of Project:** The barriers and benefits of a pedagogy for ‘transformability’: a teacher

perspective from the fault lines between discourses

**Researcher: Phil Wright**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I have read and understood the information sheet. | Yes |  | No |  |
| I have been given the opportunity to ask questions, and I have had any questions answered satisfactorily. | Yes |  | No |  |
| I understand that my participation in this study is entirely voluntary and that I can withdraw at any time without having to give an explanation, without this in any way affecting my treatment now or in the future. | Yes |  | No |  |
| I understand that the discussion group sessions and final interview will be audio-recorded | Yes |  | No |  |
| I consent that data collected could be used for publication in educational journals or could be presented in educational forums (conferences, seminars, workshops) or can be used for teaching purposes and understand that all data will be presented anonymously. | Yes |  | No |  |
| I agree that data will only be used for the project highlighted at the head of the consent form, although the data may also be audited for quality control purposes | Yes |  | No |  |
| All data will be sorted safely on a password protected computer (electronic data), or locked away securely (hard copies of data) for 10 years before being destroyed | Yes |  | No |  |
| I understand that I can withdraw my data from the project up to point of analysis without having to give an explanation | Yes |  | No |  |
| I hereby give consent to take part in this study | Yes |  | No |  |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name Participant (print) Date Signature

Phil Wright \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name Researcher Date Signature

# Appendix F - Final Interview Schedule

|  |
| --- |
| **How would you describe the social and emotional impact on children of challenging practices related to fixed-ability grouping?** |
| **How would you describe the academic impact on children of challenging practices related to fixed-ability grouping?** |
| **How would you describe your practice (the actions and thoughts behind the actions) at the start of this exploration of practice?** |
| **How would you describe any changes in your practice (the actions and thoughts behind the actions) since the start of this exploration of practice?** |
| **How would you describe the impact of the approach of the study on your practice?** |

# Appendix G – Presentation CPD 1

**Slide One:** The barriers and benefits of a pedagogy for ‘transformability’: a teacher perspective from the fault lines between discourses.

**Slide Two:** Intended outcomes

* Share the outline of the project
  + The goals of the project
  + The context of the project
  + The project plan
  + Look ahead to future sessions (possibly working as two groups?)

**Slide Three:** Pedagogy for Transformability

The choices we make help enhance or inhibit children’s learning capacity

Children’s learning capacity can be shaped by their identity as a learner– how they see themselves, how they are seen by their peers & how they are seen by their teachers

A child’s identity as a learner is created by their experiences – these are shaped by the choices we make and by the way they are spoken about

A pedagogy for transformability seeks to remove barriers to learning which might inhibit learning capacity –these are recognised as social, emotional & academic

**Slide Four:** Our children’s experience?

A long history of fixed ability grouping means our children have learning experiences which shape their identity.

Where has this come from?

* Government policies since the inception of the National Curriculum
* Reporting mechanisms
* Performance management
* Apprenticeship of observation (Lortie 1975)

Purely logically – if children have fixed ability, can we affect change?

**Slide Five:** Our children’s experience?

A child in the low ability maths group?

A child in high ability maths group?

A child in a middle ability group?

A ‘quiet’ or ‘shy’ child?

A ‘creative’ or ‘arty’ child?

A girl? A boy?

Middle class? Working class?

**Slide Six:** Our choices?

<https://www.youtube.com/watch?v=v-Dn2KEjPuc>

**Slide Seven:** The project plan

2 CPD sessions (or more) (with some reading if you’d like)

Initial survey

3 Discussion group sessions (aided by a reflective journal)

Final interview

Presentation of findings

**Slide Eight:** What next?

Engage with some reading?

* Francis et al. (2017) – considering the research evidence why is fixed-ability grouping so prevalent?
* Marks (2014) – how labelling frames children’s identity
* Hart et al (2004) – challenging notions of fixed-ability
* Florian (2013) – inclusive pedagogy

**Slide Nine:** Any questions?

# Appendix H – Presentation CPD 2

**Slide One:** The barriers and benefits of a pedagogy for ‘transformability’: a teacher perspective from the fault lines between discourses.

**Slide Two:** Intended outcomes

* Consider children’s experience of fixed ability grouping (Inspire)
* Review core concepts of Pedagogy for Transformability (Refresh)
* Develop ideas for adjusting pedagogy (Support)
* Children’s understanding of ability grouping

**Slide Three:** “All the 3bs go to the side of us, the 3Cs go in the middle and the 2As, they go to the end” (William, Year 4)

“Mrs Ellery puts us into different groups . . . This means you are good at maths, this means you are half good at maths, the blue table means you don’t have a clue!” (Kelly, Year 4)

Notice the ranking, the positioning, the identifiers . . .

**Slide Four:** Different experiences

Read the differences excerpts from Ability Grouping in Primary Schools by Rachel Marks (2016) Chapter 7

Feedback the three most salient points from your excerpt

* + General perspectives
  + ‘Top set’ perspectives
  + ‘Top set girls’ perspectives
  + ‘Bottom set’ perspectives
  + I wonder what the ‘middle sets’ would say?
* To what degree and in which ways do these pupils views resonate or sting?

**Slide Five:** Core principles of Pedagogy for Transformability

* Learning Capacity – constituting forces

**Slide Six:** Co-agency: what do you already do? What else could you try?

* Pupil choice (level of challenge)
* Self-assessment dialogue (alongside in the moment or post completion)
* Self-selection for support
* Paired talk (MKO) – development of reasoning, demonstration of understanding

**Slide Seven:** Everybody: what do you already do? What else could you try?

* Access to resources (expectation for all)
* TA deployment
* Pause for thought/celebration/reset/struggle
* Pupil choice
* Language and interactions that demonstrate the value of all
* Constructivist approaches to developing learning
* Focus on what children can do and rather than what they can’t
* Focus on next steps rather than end goals
* Focus on what is to be taught (and how) rather than who is learning it

**Slide Eight:** Trust: what do you already do? What else could you try?

* Demonstrate belief in each individual to be successful – celebrate the successes with all
* Pupil choice (including movement between levels of challenge)
* Self assessment (alongside in the moment or post completion)
* All children have the chance to explain their thinking
* Develop culture of ‘sharing the struggle’ rather than hiding weakness
* Deployment of TA support (short burst and return)

**Slide Nine:** Reflections and planned future actions

* How has your thinking been prompted?
  + What prompted your thinking?
* What will you implement? When? How?
* How, when will you note your evaluations?
  + Evaluation of academic progress? Evaluation of attitude to learning? Acknowledging different children making different journeys at different speeds from different starting points in terms of their attitude to the learning of others and themselves?

**Slide Ten:** Next steps -

Decision about whether to engage in the study?

* + Information sheet
  + Consent form
  + Fix dates for future discussions

Appendix I - Excerpts from Marks (2016)

**Experiencing top sets: it’s like a zoo**

Megan:  I think it’s more embarrassing for the people who are, who know, who are good at maths and they get something wrong, like today because Martha was doing the maths the other way she got the answer wrong and because she’s quite good at maths the class were going ooohhh and boooo.

Olivia:  Yeah and like, especially if you get an answer wrong then everyone shouts no, no, no and they go yes yes yes, it’s quite like, it’s like a zoo in the classroom it’s terrible.

Megan:  Yeah if you get an answer wrong everyone goes nooooo, it’s this, and everyone goes, yeahhhhh.

(Avenue Primary, Year 6, top set)

Likening the top set classroom to a zoo may seem melodramatic but it does epitomise some of the quite extreme behaviours witnessed in these groups. It should be noted however that this was not an issue of classroom management and the same teachers were viewed responding very differently with their main classes or other groups of children where such behaviours would not be allowed. This was about the teacher and children co-constructing a very particular top set culture where children had to be correct and where mocking, rather than supporting, peers was essentially encouraged. The following case study examines some of the consequences for some children’s learning that may arise from being within a potentially humiliating environment.

**Experiencing bottom sets: my friends think I’m dumb**

Bottom set placement also brought particular experiences and possible limitations to learning. As discussed in Chapter 5, a feature of bottom sets is the strong behavioural focus and the amount of time spent by the teacher in behavioural interactions. This did not go unnoticed by the children who brought this up when asked about the differences between the sets, focussing predominantly on what they saw as the over strict and controlling behaviour of the teacher rather than any focus on mathematical issues. Importantly, as with the allowed behaviours in the top set, the children suggested that the same teachers interacted very differently with the children in other (non-set) lessons.

As a result of the teacher’s perceived need to avoid behavioural issues, peer discussion and interaction was limited with children working on individualised tasks. An example was seen in the teacher’s reaction to the boys’ talk in the division task case study in Chapter 5, and Samuel explained how the teacher’s view that any noise must be negative removed the possibility of supportive peer discussion:

I don’t really know, he thinks me and Saul are like always bad, but we’re not sometimes bad, like if I get stuck on a question I ask him, Saul, what’s this, and he’ll think we’re talking, he doesn’t even let us speak, we say ‘he’s trying to help me’, but he doesn’t let us speak.

(Samuel, Avenue Primary, Year 6, bottom set)

For Samuel, other factors related to his bottom set placement also came together to limit his learning experience. The low-levelness of the tasks set and Samuel’s disapplication from the national tests – intended as a supportive action by the teachers – were viewed and experienced very differently by Samuel and his peers, limiting opportunities for Samuel to progress mathematically. Without being given access to higher-level work, without being given the opportunity to engage in mathematical discussion, and being disapplied from standardised testing, Samuel was never given the opportunity to make or show any improvement, something he was very aware of:

It makes me annoyed and sad and upset because I wanted to be top of the maths group, I always wanted to be when I was first into this school, but my wish didn’t come true, I’ve always been last in every maths group … I’ll just be low now in my next school too … Well I wanted to move, I wanted to move up, I wanted to move to up there, but I’m always there. I can’t move even when I want to … the teachers say I can’t do the test and my friends think I’m dumb for not being allowed to do the test. That’s how it works, I won’t do the test, it makes me unhappy and I can’t get better to get the tests to go up.

(Samuel, Avenue Primary, Year 6, bottom set)

Marks (2016) pp. 50-57

# Appendix J – Example of theme construction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data extract** | **Code** | **Coding description** | **Coding Cluster** | **Theme** |
| it has just been pure fluency and base number and unfortunately that mathematical diet can’t really consist of anything else | Pedagogic Interpretation | Demonstrating competence through pedagogic rationale | Proving competence | Competence |
| We do, but… I haven’t… let go quite as much | Relinquishing control | In the process of giving children agency | Loosening Control | Control |
| More able child, I will have to label them, is being challenged and is continually learning and moving on and they are not then just supporting the other child that is perhaps struggling | Professional priorities | Demonstrating competence though reference to current educational priorities | Proving competence | Competence |
| for that particular group there is only five of them I would say roughly they have almost had to go into an isolation in the sense of they have their own little island | It’s not that I’m not capable | Defending competence in face of impossible task | Defending competence | Competence |
| I understand that explaining to another child is part of learning and all of that but I also wouldn’t want to think that my child had spent their day… | Educational justice | Demonstrating competence putting children’s needs first | Proving competence | Competence |
| although I haven’t let go with maths yet erm I have been doing it more with my English | Relinquishing control | In the process of giving children agency | Loosening Control | Control |
| it is the biggest mess with my head I can imagine because it is just letting go and saying to them go and choose | They’re in control! Arghh! | Teacher turmoil related to changing role | Challenge to understanding of teacher’s role/Losing control | Control |
| they are pretty honest with themselves about what they can do, some of them what to push themselves | They can . . . | Emerging pupil competence to new expectations | Children proving competence | Competence |
| I have been talking more about so if you feel comfortable that you can do this really well and then think about trying to have a go at this | Considered language | Recognising the impact of language on framing challenges | Framing competence | Competence |
| I haven’t had my children sit in an ability group. I feel like I am making some kind of confessional | Prior thinking | Reflections on prior thinking and practice related to fixed ability grouping | Regaining control | Control |
| It is interesting to see which children can cope with different areas of maths because it is not always the same children | Same kids, new view | New understanding of children’s potential | Growing competence | Competence |
| … they feel like they have got the freedom to… do that… | Sense of control | Children have growing sense of agency | Increasing pupil control | Control |
| it is trusting them, and it is them having that knowledge that it is trust | Gotta have faith | Important to trust in the process | Developing confidence | Confidence |
| it is my language has to change, that has to come from me | It **starts** with me | Teacher ownership of responsibility to change | Loosening control | Control |
| I am really nervous about this which is fine, I am embracing it, but I am kind of like terrified at the same time | Teacher confidence | Reference to teacher confidence in exploring pedagogy | Teacher confidence | Confidence |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I think in their heads they have put barriers up and we try to… lower them, | Creating access | Adjustments to practice to enable children to access curriculum | Adjusting control | Control |
| I think literacy, in my mind, a calmer lesson and you seem… I am a control freak but it seems more manageable and with maths I think you have got so many possibilities that can happen within that lesson | Controlling the variables | Reference to classroom challenges of differing learning needs | Losing control | Control |
| talk about what a good choice would be. If you found that really easy, was that be best choice to have made today | Creating agency | Adjustments to practice to encourage children to make choices about their learning | Loosening control | Control |

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